THE SPETSES SUMMER SCHOOLS

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A Tribute to Marianne

On January 4, 2013, Marianne Grunberg-Manago passed away, two days before her 92nd birthday. She survived 13 difficult years, after she had suffered a terrible brain haemorrhage in March 2000 that kept her in hospital for the rest of her life.

Some details of her life and exceptionally important scientific contributions have been recognized in a recent FEBS Obituary [1] by her colleagues from the Institut de Biologie-Physicochimique in Paris. They finally state "... Marianne will always be remembered as a vibrant person with a great sense of humour."

Indeed, Marianne showed these qualifications in a further engagement of hers, namely in establishing the 'Spetses Summer Schools' in 1966. She became enthusiastic about the idea that young researches should be given an enduring opportunity to obtain thorough insights into the newly developing field of Molecular Biology. Thus the Spetses Summer Schools became well-known throughout the scientific community in Life Sciences, and anyone who ever attended one of these venues, will remember it enthusiastically. In 2006, the School celebrated its 40th Anniversary. It is mainly these ventures that document her restless dedication to all work she initiated for scientific welfare. Marianne was inviting me to many of her Schools and at other occasions. Her love for the island and the School culminated in her deep sorrow how to continue these annual enterprises after she had to stay in the hospital. At a visit there in February 2002, I promised her to care about Spetses as long I would be able to do so. I am aware that Marianne's death is a great loss not only for her family. It also touches the whole biochemical and molecular biology community. We all highly esteem her.

Founding and More than 40 Years of the School

The topics dealt with in the Spetses Summer Schools reflect important moments in the development of Molecular Biology over nearly half a century [for details, see ref. 2]. Thus, the intentions of these lecture courses of familiarizing young researchers with novel insights and recent advances in this field completely met those of the grant-giving institutions. While during the first years general molecular biology was taught, in later years the Schools concentrated on more specialized themes.

Marianne Grunberg-Manago started the International Summer Schools on Molecular Biology in 1966 and through her untiring initiative the Schools have been kept as a series of annual lecture courses. In her preface to the Proceedings of the NATO/FEBS Advanced Research Workshop held in 1988 [3], Marianne gave an account of this enterprise: "….there were a number of different events that contributed to the origin of this Institute. In the middle of the 1960's, there was a shortage of Advanced Study Institutes in Molecular Biology and NATO representatives approached me to organize one. They were keen on holding it in a country where molecular biology was not taught at the University. I thought the time was appropriate for an Institute on Molecular Biology and that it would be nice to organize it on a Greek island. I believed that a pleasant location would contribute to a successful School and I felt that the environment would help to attract the best lecturers and encourage them to stay the whole time at the School, around two weeks. They would be relaxed and in a mood to interact socially and scientifically with the students. *Leslie Orgel* encouraged me to organize it the way I thought and promised to help me."

Marianne then met *Thanos Evangelopoulos*, a Greek postdoc working at MIT with *Alex Rich.* Soon returning home, he wanted to do something to help science in his country. *E. Bricas*, another Greek working at that time in France, suggested the island of Spetses (Spetsai) as a place. The location

Geography of the Isle of Spetses

Spetses is the southern-most of the Saronic Islands and can be reached by fast boats from Piraeus in two and a half hours, which will land in *Dapia*, part of the main settlement on the island, Spetses Town. Smaller settlements are spread around the island and are connected by a ca 30 km long road tracing the perimeter of the island. The Old Harbour, or *Palio Limani*, at its eastern coast is a picturesque area with many bars and restaurants, but also the most magnificent of the traditional-styled villas and ship-builders' workshops. The highest point on the island is *Profitis Ilias*, at 285 m. It opens two spectacular views, to the North, of *Kosta, Porto Heli* and the *Dydima* mountains (on the Peloponnesus), and on the opposite side of the Argolicos Gulf, *Leonidio*, to the South. Spetses has rather little of natural water supply, so the island's needs are met by the water-tankers which unload at the *Dapia*. As Spetses is only some 3 km away from the main land, small boats are trafficking across the isthmus, to *Kosta*, and connecting Peloponnesus with the island.

The island is largely built from nummulitic limestone, thrust up from the sea about ten million years ago. Later in antiquity, the Mediterranean basin was flooded by the sea and the Aegean area sank by an estimated 3000 metres. The climate is typically Mediterranean, in July and August the mean temperature reaches around 26°C.

Two thirds of the island is covered with pine trees. On the terraces a few cereals, olive and almond trees are grown. Other trees and shrubs on the island are figs, pistachios, myrtle, oleander, the Chaste tree, and the evergreen Carob. Due to two terrible fires in 1990 and 2000, the once dense pine forests were damaged, at *Anargyri* and near *Zogheria* bay; thus untouched areas severely diminished. Despite this, the island retains its natural beauty: the pine woods and the wide variety of wild flowers and aromatic herbaceous plants.

Ancient and Modern History

Spetses is referred to by the 2nd century AD traveller *Pausanias* in his *Description of Greece*. According to *Pliny the Elder*, the island has been inhabited since ancient times. At the division of the Byzantine Empire, Spetses was given over to the rule of the Venetians, who were replaced by the Turks in 1460. Some time later came the Arvanite refugees from Athens and the Peloponnesus. Before the 18th century, the island was known as *Pityousa*, an Arvanite corruption of the Venetian "*Isola di Spezzi*", or "Isle of Spices".

During the 1821 Revolution, Spetses joined the Greek War of Independence, though the Spetsiots did not suffer great hardships under Turkish rule. Nevertheless, on 3 April they joined forces with a number of battle ships from other Greek islands like Hydra. A leading figure in this game was *Laskarina Bouboulina* (11 May 1771 - 22 May 1825), known as the Greek heroine. She was born in a prison in Constantinople as the daughter of a captain who had been imprisoned because he had taken part in the revolution of 1769-1770 against the Ottoman rule. After her father had died, the mother and the child returned to the island of Hydra, later the family moved to Spetses. When her second husband, *Dimitrios Bouboulis* was killed in a battle against Algerian pirates in 1811, *Bouboulina* took over his fortune and trading business and built four ships at her own expense. On 13 March 1821 *Bouboulina* sailed with eight ships to *Nafplion* and began a naval blockade, leading her own troops until the fall of the fort in November 1822. Later she took part in the naval blockade and capture of *Monemvasia* and *Pylos*. After independence, which erupted into a civil war in 1824, the Greek government arrested *Bouboulina* and she was exiled back to Spetses, but all of her fortune was gone. Every year in early September, the historic naval battle of Spetses (8 September 1821) is celebrated at the *ARMATA* festival, high-lighted by the burning of a Turkish battle ship. After *Bouboulinas* death in 1825, the Spetses merchant fleet prospered for another twenty years, but then it fell into decline.

A new chance for the island began with the return of *Sotirios Anargyrios* from the U.S. in the early 1920s. Realizing that the future for Spetses lie in tourism, he put his new-found wealth to the best possible use, constructing the road around the island, building the first hotel in the Greek islands (the *Possidonion*), and replacing the pine-forests of the island which had been depleted to facilitate the boat-building industry. Together with *Marinos Korgialenios* from *Cefhalonia*, he built the College which bears their names, and which for 60 years educated nobility from all over Greece.

looked ideal. There was a boys' college (*Anargyrios* and *Korgialenios* School) large enough to accommodate students, and a nice hotel (*Kasteli* Hotel) at a short distance from it both of them adjacent to a good beach. The island was small enough to facilitate contacts between students and professors and it was large enough to provide peace and quiet.

Marianne continues: "The first meeting (in 1966) was very successful: *Dr. Zervas* and *Dr. Pullman* (who previously organized two NATO Schools)….. acted as co-organizers. *Francis Crick* came on his boat as well as *Jacques Monod*, who introduced me to *Melina Mercouri*. The course immediately achieved a good reputation and was organized from that time on every year with three interruptions: 1967, 1968 and 1970 had to be exempted, because of the "colonels" [3, 4].

In **1969** *Francis Crick* together with *Mark Bretscher*, *Brian Clark* (all from Cambridge), and *Thanos Evangelopoulos* (Athens) organised the second Summer School. Needless to say that it exactly conformed to the 'rules' as set out by *Crick* in his article 'On running a summer school' [5]: It was held in a pleasant place and was well organized. The lecturers and lectures were of high quality, the schedule was not overcrowded (as it unfortunately turned out to become a tendency in later Schools), and enough free time was left for personal discussions among lecturers and students, for common enterprises and relaxation. Even the foible of Francis 'dancing in rather dimly light' was met: nearly every night the whole crew gathered on '*Blueberry Hill*', an open-air bar close to the *Kasteli* hotel, where three youngsters offered drinks and good music. Regrettably, during one of the ensuing Schools, the three gentlemen had a quarrel with the local authorities: one night they smashed all furniture and equipment on the dance floor. *Blueberry Hill* never resurrected!

In the year **1970**, *Hans Zachau*, professor at Munich University, had been asked to organize the third Spetses Summer School in order to bring in the Germans as a third party and to make the School an annual event. The directorship should from then on be rotated regularly between France, England and

Germany. However, an obstacle was that the unclear political situation in Greece had not changed. In fact, it was the students of the 1969 Summer School, who opposed the initiative to organize the next School in Spetses in order to put pressure on the current government. I remember a long night discussion on the terrace of the main building of the school lead by a tall Italian student, *A. Fantoni*, which resulted in a letter to Nature, containing a declaration that Summer Schools should not be organized in a country under a repressive political system. Also lecturers from Sweden, France and Switzerland refused to come to Spetses under such intolerable circumstances. Help came from Italian colleagues, mainly through *Alberto Monroy* from Naples: he suggested a priest's college in Erice (Sicily) as a location, which afforded the consent of *Antonio Zichichi*, who used this place for the meetings of the Italian nuclear physicists. So the 1971 (and also the 1974) School were run in this "exile". It was a nice place, located on top of a hill, some 900 m above sea level, but this location created some difficulty to reach the beach every day [2].
Thanks to their participation, aspects on fertilization and early development, morphogenesis, differentiation and mammalian cellular organisation could be included. A high-light was a discussion in the courtyard of the ancient castle at full moon, guided by *Paul Berg, Fred Sanger* and *Gordon Tomkins* on the three paradigm shifts initiating a revolution in Molecular Biology: the discovery and use of restriction enzymes (the Nobel Prize in Medicine or Physiology for the detection and characterization of restriction enzymes had been awarded to *Werner Arber, Daniel Nathans* and *H.O. Smith* in 1978); the utilization of recombinant DNA; and the necessity for developing methods allowing the determination of long DNA sequences, which had to follow principles different from the ones applied to the sequencing of RNA.
Paul Berg presented an overview on his experiments in which he and his collaborators had shown that recombinant DNA from *lambda gt* and SV40 was expressed in both systems. *Fred Sanger* talked on rapid methods for sequencing RNA, but in this discussion he speculated on similar methods applicable to DNA. He suggested to cut down large DNA molecules to tractable sizes by restriction endonucleases prior to sequencing, and his key paper reporting the 'enzymatic method' using dideoxynucleotides was published in 1977. The chemical method for sequencing DNA developed by *Walter Gilbert* and *Alan Maxam* was published the same year. In 1980, the Nobel Prize in Chemistry was awarded to *Berg, Gilbert* and *Sanger*.

The Summer Schools **1972** and **1973** came back to Spetses and preferably covered aspects of structure, biosynthesis, and control mechanisms of macromolecules, cell transformation and differentiation: membranes, oncogenic viruses, and egg development. For all participants one unforgettable event in 1972 must have been to see marine phosphorescence that spread over the isthmus at midnight and full moon. This was the only time throughout all the years the participants could watch this fantastic phenomenon.

In the year **1974**, the organizers of the 1971 School decided to hold the venue again at Erice, this time in an old monastery adapted to the needs of the group of Italian nuclear physicists, who met there every year and had kindly offered their hospitality. The themes dealt with in this course were very similar to the ones in 1971. After some unpleasant debates with the owners and other drawbacks, the organizers decided to give up Erice as a place for future 'Spetses' Summer Schools.

Back to Greece, where the political situation had consolidated, the **1975** Spetses Summer School was devoted to basic molecular biology emphasizing the structure, life cycle and biological effects of bacterial and animal viruses.

The School in **1976** focused on molecular interactions involved in the morphogenesis of cellular organelles and in cellular recognition. So the initial concentration on 'general' molecular biology was augmented by covering topical, fast developing subjects at a level not available elsewhere.

‘Genome Organisation and Function’ was the title given to the Summer School in **1977**. It covered aspects of DNA restriction enzymes; recombinant DNA research; complexity of nuclear and cytoplasmic RNA; DNA replication; structure of chromatin; histone interactions and histone modifications in the cell cycle; as well as cellular ageing. Though this title was kept for the venues in **1980, 1984, and 1988**, each time novel aspects and the most recent discoveries were presented. This notion also holds true for the Summer Schools around this time and in later years. Therefore, I just point out the new topics that were included, the students could hear about for the first time. Of course, novel developments in particular fields were not forgotten, but I avoid mentioning these repeatedly.

The **1978** Summer School ‘*Gene expression in uninfected and virally infected cells’* was primarily devoted to bacterial, animal, and plant viruses. To this end, modes in the organization of DNA sequences, chromatin structure and gene activity were discussed. Another focus was on heat shock genes and the heat shock response. For the first time, microinjection techniques were presented.

In **1979**, ‘*Protein-nucleic acid recognition and interaction’* focused on the selective recognition of nucleic acids by proteins: organization of the *Drosophila* genome and the globins genes were used as relevant examples. The students were also introduced into basic principles of recombinant technology vectors.

Regrettably, **1980** was the last year *Francis Crick* came as a lecturer. *Hans Zachau*, who felt that the audience was irritated by latecomers to the lectures, had positioned me at the main door to keep them quiet. Suddenly, an elderly gentleman in white suit and hat (!) tried to sneak in. I went out to convince him that there was no chance for visitors during the lectures. He grinned at me: “O boy!!” It was Francis, who had just arrived and whom I could only remember wearing Hawaii shirts at Spetses.

The **1981** venue concentrated on ‘*Control and processing in the biosynthesis of macromolecules’*: The students learned about co- and post-translational modifications of proteins; cell transformation and protein phosphorylation; expression of cloned genes in *E. coli;* molecular aspects of hormone action; proteolysis in biological regulation; synthesis and transport of mitochondrial proteins; and investigation of structure-function relationships by reverse genetics.

The School in **1982** was to present a bouquet of timely examples covering the *‘Regulation of gene expression in prokaryotes and eukaryotes’*: HGPRT locus; intervening sequences; viral oncogenes and cell transformation; plant viral genomes; nitrogen fixation (*Nif*) operons; decision making in the immune system; protein export in bacteria; protein synthesis and its control in reticulocyte lysates, a first indication of the cell cycle by *T. Hunt* (Cambridge).

From **1983** onwards, the directorship of the Spetses Summer School for some years included *Tom Caskey* (Houston TX) and *John Hershey* (Davis CA) from the US as well as *John McCarthy* (Manchester UK) to reach a more or less four-yearly rotation. The Institute in 1991 had to be cancelled, however, since the proposed organizers failed to put in applications to the grant giving institutions. 1983 was devoted to the *‘Molecular biology of animal cells’.* Experts in this novel field talked about gene transfer into mammals; recombination between DNA molecules microinjected into cultured mammalian cells; mammalian chimaeras; experimental genetics of the mouse embryo; manipulation of antibody genes; cellular oncogenes; enhancers as transcriptional control elements. Interesting reports were presented on RNA splicing and the molecular biology of gap junctions. This was the only time *Mario Capecchi* lectured at Spetses, but microinjection and site-directed gene replacement was already his theme. It took 25 years that his discoveries were awarded the Nobel Prize.

The venues between **1984** and **1990** took up the favourite topics of the respective organizers, though focusing on the most relevant and newest developments. In **1984** and **1988** the Summer Schools were again devoted to *'Genome organisation and function'* dealing with a multitude of examples such as higher order structures in chromatin; repetitive DNA; gene rearrangements; DNA methylation and differential gene expression; CpG islands as gene markers; molecular evolution; mobile elements; human lymphotropic viruses; *Drosophila* development; inherited defects of haemoglobin synthesis; genetic dissection of cancer; multifactorial diseases; mechanism of splicing in higher organisms; gene transfer into higher plants; and gene regulation by steroid hormones.

Novel issues were presented in *'Maturation and migration of proteins'* in **1985:** Tissue-specific expression in animals; protein glycosylation; intracellular transport; chloroplast proteins involved in photosynthesis; and bacterial membrane assembly.

The Summer School in **1986** *'Molecular genetics of microorganisms'* was exclusively devoted to timely topics in this field: the yeast spliceosome and its components; active transport systems in bacteria; microbial toxins; protein export; protein migration and maturation in biotechnology; heat shock response in *E.coli*; prokaryotic and eukaryotic vectors for gene expression; and intron-encoded proteins from mitochondria.

1987 was the second time that 'the Americans' organized the Spetses School entitling it ***'Molecular biology of development'.*** The lecture topics focused on technical aspects such as manipulation of the mouse genome via embryonic stem cells; gene replacement; gene transfer with retroviral vectors; retroviruses and insertional mutagenesis, as well as on aspects of development in particular model systems: antisense gene regulation; imprinting; homeobox genes and the control of development; differentiation of germ cells in mice; genes controlling mammalian differentiation and development; neurogenesis; and *Arabidopsis thaliana* as a model for the study of plant development.

The Summer School in **1989** entitled *'Protein engineering'* engaged in presenting genetic engineering methods for changing proteins as well as new methods of gene expression in protein production. The programme was completed by lessons on computer assisted graphics of design; use of data bases and model building; and the use of 2D and 3D NMR for solving protein structures. A special issue was how to humanise antibodies.

'Global regulation of gene expression in micro-organisms' in **1990** dealt with topics around this theme such as global destruction and resistance mechanisms in microbes; biosynthesis of antibiotics; regulation of nitrogen metabolism in *Rhizobium*; cyclic AMP as a regulator of gene expression; the SOS response; or selenocysteine in proteins. Novel insights in archeae and extremophiles and in the evolution of respiratory enzymes were included. Special lectures were devoted to the recently invented polymerase chain reaction, its methodology and research applications.

The Summer School in **1992** focused on *'Mechanisms in eukaryotic gene regulation'* for which many brand-new insights could be reported: NF-κB as a model for nuclear uptake control of transcription factors; the role of *pax* genes during mouse development; control of transcription by signal transduction cascades; gene regulation in the nematode *Caenorhabditis elegans; c*ircadian gene expression; and regulatory mechanisms in gametogenesis and in early embryogenesis. Discussions on human gene therapy, plant genetic engineering, and current genome projects were included in the programme. This Summer School was marked by a big technical trouble. The second day, electricity on the whole island was interrupted during the morning lectures. Air-conditioning and projection went off and no meals could be prepared in the kitchen. So the windows were opened and the lecturers had to use the old scratchy blackboard instead of slides or overheads. In the afternoon, electricity came back - but only for a very short time. We heard that an unlimited strike was the cause and that supply

of power would not be specified. Therefore, I decided to buy a generator to run at least the projectors. The Greek secretary's sun Elias took me to the mainland by car, where we found a device in a small shop: it was the last one available, because generators had completely been sold out to the locals. In fact, the course had to be continued with the help of this machine to its very end. Fortunately, I kept the generator for future unforeseen cases. Indeed, during the first lecture in 1996, electricity went down again, this time because of a defect in the local power supply which could be repaired after a few hours.
A more elating story was that *Walter Schaffner* had brought his travellers' *Alphorn* which he tried out at various locations throughout the island. Obviously, he found a most suitable place uphill from the students' dormitory, but he had not considered the fact that the students would protest to his performances as he preferred to play in the morning right after sunrise. He solved the problem by presenting them with a box of Suisse chocolates and gave an extra teaching hour in front of the college so that everyone could experience how difficult it was to blow. For him it was self-understood that each player had to put on the Suisse vest especially designed to be worn during a performance.

The **1993** venue *'Protein structure, function and design'* largely concentrated on structure, stability and folding of proteins using model proteins; structure of membrane proteins; structure prediction; rapid methods for protein purification; and metalloproteins.

The organizers of the School in **1994** introduced a very timely topic that had raised the interest of researchers, *'A world of RNA: structure and function'*. The lectures centred around methods for studying RNA structure in solution; introns in bacteria and bacteriophage; self-splicing introns; RNA-RNA interactions in the spliceosome; the evolution of catalytic RNAs; degradation of eukaryotic mRNA; and gene silencing - antisense transgenes and sense transgenes.

The venue in **1995** *'Post-transcriptional control of eukaryotic gene expression'* was organized by *John McCarthy* and *John Hershey*. Besides some general aspects, novel issues were discussed, such as cellular RNA export; RNA-protein interactions; processing of eukaryotic precursor rRNA; polyadenylation of mRNAs; nuclear transport; the role of the secretory pathway in regulating intracellular protein traffic; antisense RNA in prokaryotes and eukaryotes; and programmed proteolysis.

Though the **1996** venue was given the same title as that in 1992, *'Mechanisms in eukaryotic gene regulation'*, the participants learned about many scientific achievements that had accumulated in the past four years: The eukaryotic cell cycle; transcription activation by RNA polymerase II holoenzyme complex; locus-specific regulation of the globin genes; molecular analysis of the vertebral visual system development; B cell development; construction of a gene trap to identify mammalian developmental control genes; homeotic and gap genes in *Drosophila*; heavy metal-regulated gene expression in mammalian cells; adhesion molecules. A considerable part of the programme was reserved for discussions on genomic analyses of model systems (such as the nematode *Caenorhabditis elegans* or molecular genetic studies of the malaria mosquito), particularly giving attention to principles and methods of animal models of human disease, and prion diseases.

A high-light of this venue was a report presented by *Alex Rich* on the forthcoming Mars mission, for which he had developed a biology research programme.

The year **1996** also marked the 30th Anniversary of the first Summer School at Spetses, the organizers arranged for a three day Workshop to celebrate this event. Former organizers and lecturers of outstanding merit as well as 30 students were invited. As the authorities and the inhabitants of Spetses were proud and most grateful that they had been selected to host an International Course of

this calibre for so many years, all previous organizers were presented with a brass plaque by the Spetses Mayor to affirm their merits.

The last three Summer Schools of the 20th century offered a number of novel aspects among conventional topics. *'Biomolecular recognition'* in **1997** summarized structure and functions of the family of the G-proteins and gave an account from chaperones to minichaperones. Further aspects emphasized protein misfolding and amyloidosis; design of allosteric switches in proteins; affibodies; and telomeric DNA recognition.

In the **1998** venue *'Molecular basis of bacterial infection'*, the organizers aimed at presenting 'a full account' of microbial diversity, genetics of bacterial pathogenicity, differences between controls in gram-negative and gram-positive bacteria, and antibiotics - action and resistance. The utility of whole genome sequences was postulated to explain the diverse strategies used by pathogenic organisms.

The **1999** School focused on *'Structure and function of macromolecular complexes'*, for example, function and biosynthesis of snoRNAs; polio virus; 3'-end processing of eukaryotic mRNA precursors; topogenesis of proteins of mitochondria; as well as structure and assembly of the 26S proteasome.

In the **new century**, the programmes of the Summer Schools became devoted to more specialized topics but generally included aspects of human disease and ageing or pathogenic infections. These venues also introduced a couple of new organizers: *Marianne Grunberg-Manago,* suffering from the consequences of a stroke had asked *Pascale Cossart* from the Paris Pasteur Institute to care about the future French part. *Peter Herrlich* from Karlsruhe kindly agreed to take over the German share.

The new era was introduced by the School in **2000**, *'Molecular mechanisms of development and disease'*. It was a colourful bouquet of presentations centring around this theme: Mechanisms in the development of zebra fish; specification of the body plan; master control genes in morphogenesis and evolution of the eyes; brain development; cortex development and organogenesis; expression patterns of imprinted and non-imprinted genes; innate immunity and malaria; chronobiology - from cynobacteria to man; tumor suppressor genes; programmed cell death; and drug resistance in cancer cells.

In **2001**, the School *'Protein biology: from synthesis to function and disease'*, put aberrant proteins into the focus of disease, lectures dealing with protein synthesis and macromolecular mimicry; folding and quality control; targeting and trafficking; recognition and degradation; proteomics and bioinformatics; and misfolding and disease.

The **2002** School, *'Molecular biology of bacterial infections'*, again became devoted to interesting and novel aspects of various pathogens: Regulation in invasive bacteria; protein export and secretion in bacteria; intra-vacuolar pathogens; genomics and post genomics of pathogenic bacteria; bacterial toxins; organisation of virulence genes; evading the host defence systems; evading hostile environments; and antiphagocytosis.

Topics of the **2003** School, *'Molecular mechanisms in homeostasis and disease'*, were similar to the ones discussed in the year 2000 but now taking into account different aspects of molecular medicine. Thus the following issues were covered: Cellular and organismic processes; organ development and organizer centres in vertebrates; pattern formation in embryonic development; left-right asymmetry in vertebrates; lipid rafts and cell polarity; wound healing and skin remodelling; metalloprotease deficiencies; patterning of the colon epithelium; neurodegenerative diseases; intervention in cancer progression; and mechanisms of ageing.

2004 was completely exempted from any Spetses activity, since too much interference with the visitors of the Olympic Games in Athens had to be expected.

In all, the ensuing Summer Schools put more and more emphasis on aspects that affiliated molecular biology to molecular medicine. This became evident in **2005** with the venue called *'Protein misfolding, protein modification and age-related diseases'*, in which the following topics dominated: Cryoelectron tomography; intracellular protein degradation; cellular and molecular basis of ageing; DNA damage and senescence; elastic proteins; therapeutic intervention; clusterin/apolipoprotein J as a novel biomarker; proteasome function during human ageing; and DNA repair deficiencies in human premature ageing.

Also the School in **2006** *'Molecular basis of bacterial virulence and survival within infected hosts and in the environment'* emphasized the medical aspects of bacterial pathogenicity.
Prior to this venue, *Brian Clark* and I organized a three-days Workshop at Spetses Hotel to celebrate the 40th Anniversary. It was again a wonderful occasion that so many old companions were to meet, many of whom had not seen each other for nearly 40 years.

The School in **2007**, '*Molecular Mechanisms of Regeneration'*, explicitly devoted most of the lectures to aspects of molecular medicine and to currently burning issues: Stem cells and their biology; mechanisms of transcriptional regulation during neurodegeneration and cancer; environmental alterations limiting cell function; organogenesis and organ restoration; as well as oxidative stress.

For the School in **2008**, solely the title '*New Developments in Quantitative Molecular Bioscience*' and the chief organizer, *John McCarthy* (UMIST Manchester), could be listed.

In **2009**, *Alan Fersht* acting as the chairman of the British organizing committee since 2005, run the Spetses Summer School '*Proteins and Their Networks - From Specific to Global Analysis*'. The following top themes were presented: protein-protein interactions in the cell; structural bioinformatics; transcriptional regulatory networks; whole cell tomography; ubiquitin systems in biology; high-throughput fluorescence microscopy for systems biology; chromatin and telomere structure; mass spectrometry of protein complexes; and a human protein atlas.

How Spetses Summer Schools Were Run

The principles of organizing the Spetses Summer Schools have largely been maintained throughout the years. The organizers were responsible for inviting financial support by putting in applications to grant-giving institutions, to choose the timeliest topics in Molecular, Cellular and Developmental Biology, to select appropriate lecturers, as well as students from the incoming applications.

At the beginning, the Schools lasted for twelve days, but since the year 2000 the duration had to be cut down to some eight or nine days, as the supporting institutions felt that nearly two weeks were too much. Since the first Schools, the backbone was a fixed schedule comprising 5-6 h lectures/day including discussions, in which the 20 to 25 invited lecturers presented the selected topics in three lectures in the mornings and two (to three) in the evenings. As suggested by *Crick* [5], introductory lectures were followed by reports on the lecturers' own research.
Common lunches and evening meals (the latter in nearby restaurants) encouraged good interaction between teachers and students. Very soon, discussion groups on particular topics among groups of students and several lecturers were offered in supplement (during the afternoon intervals), mostly in shadowy places or during short boat trips. Tutorials (one lecturer taking care of about 8 students) were installed to intensify mutual interactions.

Poster sessions followed by discussions were set up, every participant bringing a poster. Six of the most compelling posters were selected by their fellow-students for oral presentation. At least one free afternoon was devoted to an extended boat-trip around the island. Thus anyone had a chance to see the marvellous prospect of the island, to inspect the famous cave in *Anargyri* and to take a swim in the open sea. A highlight was always an excursion to the famous sites on Peloponnesus: the archaeological site of Mycenae, the ancient resort of Epidaurus with its huge amphitheatre, and Nafplion, the old Greek capital, with its strong fortification '*Palamidi* castle'. In the early years, the excursion ended in visiting a Greek play in the Epidaurus amphitheatre performed at night by actors from Athens. Regrettably, since several years, performances are no longer offered in September.

The student participants were accommodated in two buildings of the Anargyrios College, which had served to host the boys of the boarding school. Hence, these had a rather Spartan equipment without air-condition. Toilets and showers (run with brackish water) were in common rooms (one for males and one for females). Thus, the organizers always emphasized that accommodation was 'dormitory style'. Breakfast and lunches (the lecturers were expected to eat lunches together with the students) were served in the refectory of the main building; a small cafeteria with an open air sitting place was available. The lectures took place in an air-conditioned lecture hall in which some 130 people could be seated. Posters had to be pinned on black-boards in several class-rooms; they could be exposed for the entire time of the course.

The lecturers were put up in a nearby hotel. During the first years, this was *Kasteli* Hotel, which offered air-conditioned rooms at the main building as well as small bungalows up-hill on the same grounds. Service, however, was sub-optimal. I remember that getting breakfast was a time-consuming enterprise. One day, *Francis Crick*, who wanted not to miss the first lecture, went into the kitchen to get hold on some toast and fried sausages. Marianne was shocked, but all the more as at this moment, a huge painting not well fixed to the wall came down on her. Over the years, the hotel was completely run down by the proprietor, as he never invested a penny for refurbishing it. Later the hotel was taken over by another company and restored but grew enormously expensive and finally had to be closed in 2006. Fortunately, a new hotel, Spetses Hotel, opened close to the college in 1973, so that the lecturers from then on could be accommodated in more comfortable surroundings.

While this latter arrangement lasted for many years, a change occurred, when the Board of Trusties of the College and the Greek Government decided to apply to the EU for money that could be invested into the school's redevelopment. This measure was urgently required to improve the facilities, because the organizers wanted to meet the steady criticism of the participants. Also, the Board eventually grasped that the buildings remained empty most of the time of the year, and should be used for educational purposes other than the Spetses Summer Schools or similar courses. However, the school facilities remain open for foreign courses during certain times of the year. Apparently, the money was not enough to refurbish more than two of the five buildings. Among other improvements, the lecture hall received a new air-conditioning, modern technical equipment and comfortable chairs (the old chairs suited for children had always been a torture to sit on). The sanitary installations of the main building and of two of the dormitories were improved as well as the refectory and the kitchen. In all, the students of the Summer Schools have continued to complain about many insufficiencies, but

all of them tend to state that they would love to come back. Indeed, the place is still ideal because of its location in a huge park, near the shore, and its quietness.
During recent years, the British and the French organizers preferred to hold the School at Hotel Spetses: the owner had built a lecture hall with sufficient technical equipment, and up to a hundred participants can be accommodated in double (or triple) bedrooms. Nowadays, the prices for rental are similar to those at the College. So, some 80 students at maximum can be accepted per course. As the students of each year had no chance to experience and compare both possibilities, they appreciate the 'hotel solution'. This became also true for courses organized by colleagues, who realized that this location offers an ideal place. Even the 'mixed solution' has been practised through many years, for example, by Dutch organizers of courses in 'Membranes and Signal Transduction'.

Financing the Spetses Summer Schools

Initially, the Schools were sponsored exclusively by NATO (Scientific Affairs Division). The processes for application and accounting were extremely tedious for the organizers, but once an Institute had been accepted, support was always rather generous. One of NATO's demands, namely that the goals and achievements of every Institute should be documented in a book publication could successfully be circumvented. The way out for the organizers was to produce a booklet of abstracts, which was distributed to the participants and also half-heartedly accepted by NATO. The organizers felt that information available in most recent publications and monographies should not be repeated elsewhere. In fact, volume 169 in the Life Sciences, Series A, as mentioned above [3], was an exception.

On the other hand, NATO's strict rules, to only finance lecturers and students coming from NATO countries soon caused the organizers to apply for further grants, from EMBO (sponsor since 1972), and from FEBS (sponsor since 1981), as to allow to invite and support lecturers and students from Non-NATO countries. In this respect, NATO accepted co-sponsorship. Within the years up to 1983, the number of students who came from universities of the Eastern block was modest, three or four each year. Mainly, these participants were resident in Poland, Hungary, former Yugoslavia, etc. It may well be that many more post-doctoral fellows from these countries were admitted, who had found a position in Western countries, since their names point to a provenience from an Eastern country. Russians who applied and were accepted mostly met difficulties to obtain their visa; during the time of German separation, students from the DDR (*Deutsche Demokratische Republik*) were never allowed by their authorities to apply. Due to political relaxation after 1989, increasing numbers of students from Eastern countries were accepted and supported through the FEBS Youth Travelling Fund [see ref. 6].
In 1998/99, a big change occurred in NATO's policy: contrary to former restrictions against Eastern countries, the rules now demanded to invite at minimum one co-organizer from an Eastern country and to admit some 40 percent of the students from these countries. As the organizers of the Summer School in 2000 felt this unacceptable, they decided to give up NATO support and to rely on financial support from EMBO and FEBS only. Thanks to the co-operation and generosity of these latter organisations financing did not greatly suffer. Moreover, the organizers were able to again raise the number of students from Eastern countries.

At the beginning, nearly everyone being accepted among the 120 or so student participants received a fellowship. Over the years, due to the shortage of organisational income, the organizers considered that ever more students coming from 'rich' countries should be asked to apply for financial support from their home institutions. None the less, the organizers kept two principles in selecting the participants: (i) a reasonable national and geographical proportion, (ii) a documented motivation and personal abilities of the student to follow the course successfully. To this end, a written application (in form of a questionnaire asking about training, personal interests, publications, future projects, etc.) and one or two letters of recommendation were obligatory.

Past and Future of the Spetses Summer Schools

The facts show that over the past 45 years more than 500 (different!) renowned lecturers came to the island to teach nearly 5000 young pre- and post-doctoral researchers. There is also no lack of illustrious names among the scientists who lectured at Spetses [2]. These numbers immediately disprove the steady criticism of discontent colleagues who blackened the Spetses Summer Schools to be a 'club'. Of course, some of the lecturers have been invited to come back several times for a number of reasons: they offered interesting subjects, presented good lectures, had excellent experience in interacting with the students, and were prepared to stay for the whole venue.

Marianne, Brian and Thanos created the '*Bouboulina* Prize' that was yearly given to three lecturers (or organizers) who had most successfully supported the Spetses Summer Schools. An absolute devotion towards the aims of the Summer Schools was rather decisive, because I remember the many difficulties that arose, when lecturers would commit themselves for only a few days or even disappeared after a couple days of stay: the organizers as well as the students felt these attitudes incompatible with the aims of a Summer School. Moreover, the organizers ran into trouble with the grant-giving agencies.

More satisfactorily then, one can realize that all participants to the courses until to date feel like a community, and that they keep good reminiscences of these venues and of the island. Even there is still contact among some of the students who attended one of the Schools several years back. Remarkably, former students became lecturers once they had advanced in their own research. A further positive effect of the close interactions between students and lecturers was that many of the participants found a post-doctoral position in one or the other lecturer's lab under good conditions.
Most helpful in the organisation were the secretaries mostly coming from the institutions of the respective organizers. For more than 30 years, *Morfo Houlis* (the former secretary of Professor *Zervas* from Athens), served the Schools as a Greek and English speaking secretary, facilitating the contacts with the personnel of the college. *Dimitris*, her husband, as well as their children, *Liane* and *Elias*, also helped with organisational matter. It was *Dimitris* who provided 200 chairs from Athens to equip the lecture hall with new furniture in 1996.

From 2010 on, the name "Spetses Summer Schools" as a collective course programme has largely been dropped. Several problems appear to play a role: (1) The principal former organizers who tried to keep the format of the Summer Schools have retired meanwhile. (2) The number of applications was recessive, as potential student participants became aware that the Schools were designed in a way different from meetings or workshops. This is partly due to the fact that money from their home institutions fell shorter and that they therefore preferred to apply for more specialized courses or meetings. (3) Financial support from EMBO and FEBS became restricted, so that the organizers had to invite (additional) money from other grant-giving institutions.

On the other hand, Spetses as a location to organize Lecture Courses, though with specialized topics and of shorter duration, has by no means lost its attractivity. I have realised that during the last years many course organizers chose Spetses - not only those who experienced the atmosphere of the Spetses Summer Schools. The 'older generation' of organizers is respecting the 'new' developments and encouraging younger colleagues in a way to keep the tradition of the Spetses Summer Schools. I am convinced that their engagement will pay out for future training of young scientists. I am sure the people of Spetses will enthusiastically welcome any type of scientific clientele – as much as serious tourists.

In summary, as a frequent 'visitor' to this wonderful island, I promise anyone coming to this place a pleasant stay and a long-lasting benefit from it. May Spetses prosper and flourish!

References

[1] FEBS obituary for Marianne Grunberg-Manago

[2] http://biochemie.web.med.uni-muenchen.de/Spetses/

[3] Evolutionary Tinkering in Gene Expression (Grunberg-Manago, M., Clark, B.F.C. and Zachau, H.G., eds.) NATO ASI Series, Series A: Life Sciences, Vol. 169, Plenum Press, New York and London, 1988.

[4] Correspondence. Molecular Biology at Spetsai. Nature 223 (1969) 1186. (Reprint in ref. [1])

[5] Crick, F.H.C. (1968) On running a summer school. Nature 220, 1275-1276. (Reprint in ref. [1])

[6] http://www.febs.org

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SPETSES SUMMER SCHOOLS: MORE THAN 40 YEARS (1966 - 2009)

This compilation of 'Spetses Summer Schools' is dedicated to late Professor Dr. Marianne Grunberg-Manago, Paris. In 1996, it was 30 years since these renowned Summer Schools in Molecular and Cell Biology came into existence largely through the initiative of Mme. Grunberg-Manago. Following the first Advanced Study Institute in 1966 held on the Island of Spetsai, Summer Schools devoted to topics of current interest were organized annually. These courses have had great success over the years, because they attracted internationally acclaimed scientists as lecturers as well as excellent student participants from all over the world. The relaxed and pleasant atmosphere always fostered fruitful discussions and social interactions between the students and the lecturers. In 2006, we could celebrate the 40th Anniversary of the Spetses Summer Schools.
I apologize for any mistakes as well as spelling or typing errors of names. It was scarcely impossible to trace back all items as listed in the original Course Brochures.

Horst Feldmann

View to the Anargyrios and Korgialenios School, Spetsai (courtesy: Dr. Zachau)

Programmes and Participants through the Years

SPETSAI 1966 (3rd Advanced Study Institute)

July 4 - 16, 1966

MOLECULAR BIOLOGY OF THE CELL

Organizers: M.Grunberg-Manago (Paris)(chairman), A.E. Evangelopoulos (Athens), B.Pullman (Paris), L. Zervas (Athens)

Lecturers:

B. N. Ames (Bethesda), H. Boedtcker (Cambridge, MA), M. Bretscher (Cambridge), E. Canellakis (Yale), B. F. C. Clark (Cambridge), M. Cohn (Univ. Pennsylvania), F.H.C. Crick (Cambridge), P. Doty (Cambridge, MA.), A. Garen (Yale), M. Grunberg-Manago (Paris), I.C. Gunsalus (Urbana), R. Langridge (Boston), U. Z. Littauer (Rehovot), A. M. Michelson (Paris), R. Monier (Marseille), A. Peterkofsky (Bethesda), D. Photaki (Athens), B. Pullman (Paris), A. Rich (Cambridge, MA), J. Richardson (Paris), M. F. Singer (Bethesda), J. D. Watson (Cambridge, MA), H.G. Zachau (Cologne).

Lectures: Main aspects of the chemistry of heredity

1. Problems of the structure of nucleic acids and proteins. Chemistry of peptides. Some aspects of the electronic structure of macromolecules. Secondary structure of model polynucleotides. RNA (transfer, messenger, ribosomal). DNA structure and properties of polypeptides and proteins in solution.

2. Mechanism of polynucleotide synthesis: DNA-and RNA-polymerase. Viral RNA replicase. Polynucleotide phosphorylase. Methylases, role of methylated bases.

3. Mechanism of protein synthesis - Genetic Code - Suppressors.

4. Mechanism of enzyme synthesis regulation: regulatory units in bacteria. Biochemical mechanisms of regulation in bacteria. Biological importance of nucleases.

5. Metabolism of the nerve cell.

Participants:

J.N.Abelson (Cambridge,MA), J.Anderson (Cambridge), A.Argoudelis (Upjohn Co.), G.Augusti-Tocco (Naples), S.Avrameas (Villejuif), Argyrakis (Athens), E.Baulieu (Paris), A.Beltchev (Paris), T.Berman (Israel), K.Bhargava (S.Diego), M.Billeter (Zürich), S.A.Bonanou (London), L.Borda (S.Diego), Y.Brans (Louvain), H.Bremermann (Berkeley), P.Bretscher (Cambridge), W.Brill (Mass.USA), K.Cammack (Salisbury), R.Cape (Montreal), P.J.Chaprnan (Hull), H.Chiarucci (France), P.Claverie (Paris), L.Cole (San Francisco), N.S.Constansas (Athens), J.M.Cox (Cambridge), L.Christodoulou (Athens), S.B.Dahlberg (Chicago), M.Davidson (Glasgow), A.M.De-Recondo (Villejuif), G.Dietz (Paris), L.Dimitrievic (Paris),R.Djurtoft (Copenhagen), P.Douzou (Paris), S.Dube (Cambridge.UK.), J.P.Ebel (Strasbourg), F.Eckstein (Göttingen), R. Esnault (Paris), D.P.Fan (Cambridge),i.Ferris (S.Diego), A.Flemming (Athens), P.Friedman (Columbia),

W.Flygare (Urbana), A.Garen (Yale), J.Garrier (Orsay), M.Garstens (Washington), S.G.Georgopoulos (Athens), N.Glansdorff (Brussels), J.Georgatsos (Thessaloniki), R.Gomes (Rio deJaneiro), P.Gaaloul (Paris), H.Goodman (Cambridge), P.Granboulan (Gif-sur-Yvette), D.E.Griffiths (Warwick), W.Guschlbauer (Saclay), J.Heedegaard (Paris), C.Helene (Paris), J.Hindley (Bristol), G.Holme (Montreal), A.Jacquemin-Sablon (Villejuif), H.C.Kaerner (Heidelberg),P.Karatzas (Athens), C.Kittel (Berkeley), K.Kleppe (Oslo), C.Klutchko (Paris), C.Krimbas (Athens), M.Kogut (London), A.Kovoor (Paris), G.Kreil (Vienna), B.Labouesse (Orsay), J.Labouesse (Orsay), N.Ledinko (Bennington), Y.Le Gal(Paris), J.B.Leigh (Cambridge), C. Letendre (Paris), F.Levin (Villejuif), G.Levis (Athens), A.Lovlie (Oslo), D.McKenzie (London), A.McMullen (Buffalo), P..Magee (Gif-sur-Yvette), P.Mandel (Strasbourg), J.Mantzos (Athens), L.Marcaud (Paris), L.Margaritis (Athens), D.B.Millar (Bethesda), Y.Moule (Villejuif), C.A.Niavis (Athens), G.Pagoulatos (Paris), G.Pantazis (Athens), C.Paoletti (Villejuif), A.Parmeggiani (Göttingen), J.Paul. (Glasgow), A.Peterkofsky (Bethesda), I.Photakis (Athens), L.Pica (Naples), D.Pluznik (Rehovot), F.Pochon (Paris), E.Preddio (Bronx), J.Quertier (Brussels), D.H.Rammler (Palo Alto), H.Robertson (New York), R.Rownd (Paris), C.Saccone (Bari), I.Schechter (Rehovoth), H.K.Scheit (Göttingen), M.Schott (Paris), L.Shapiro (Bronx), E.Signer (Cambridge, MA), R.Simard (Villejuif), D.Stathakos (Athens), M.Stewart (Glasgow), I.Svensson (Uppsala), J.Taylor (Athens), T.Uchida (Tokyo), K.Vakirtzi-Lemonias (Athens), M. van Montagu (Gent), S.Varron (Naples), U.Wagner (Rehovot), J.Weil (Strasbourg), U. Wintersberger (Vienna), M. Winzerith (Strasbourg), I. Yannis (Cambridge MA), C. Zioudrou (Athens).

SPETSAI 1969 (4th Advanced Study Institute)

July 6 - July 19

NUCLEIC ACID AND PROTEIN INTERACTIONS

Organizers: F.H.C. Crick (Cambridge) (chairman), M.S. Bretscher (Cambridge), B.F.C. Clark (Cambridge), A.E. Evangelopoulos (Athens).

Lecturers and Lectures:

P. Berg (Stanford): Activating enzyme - tRNA system, oncogenic viruses.
M.S. Bretscher (Cambridge): Protein synthesis - chain initiation, chain termination.
B.F.C. Clark (Cambridge): Classif ication and composition of cellular nucleic acid species.
F.H.C. Crick (Cambridge): An introduction to embryology.
A.E. Evangelopoulos (Athens): On enzyme, anti-enzyme and substrate interaction.
M. Grunberg-Manago (Paris): Polynucleotide phosphorylase, reconstituion of ribosomes.
U. Henning (Tübingen): Colinearity and protein structure. Control of enzyme function.
R. Knippers (Konstanz): Structure of viruses.
A.M. Michelson (London): Components of nucleic acids, structure and function.
L.E.Orgel (La Jolla): Prebiotic chemistry.
D.C. Phillips (Oxford):X-ray analysis of protein crystals: methods of isomorphous replacement and anomalous scattering. Resolution and interpretation of image. Direct methods of analysis and extension to larger molecules and molecular systems.
A. Rich (Boston): The structure of nucleotides and polynucleotides.
R.Russel: Control of gene expression.
M. Singer (Bethesda): DNA-dependent DNA polymerase, DNA-dependent RNA polymerase. RNA-dependent RNA polymerase, DNA ligase. Characterization and function of DNases.
J.D. Smith (Cambridge): Missense and chain terminating mutants and the mechanism of their suppression. Host controlled modification and restriction of DNA.
A. Tissieres (Geneva): Introduction to protein synthesis. Ribosome structure -RNAs and proteins.
H. G. Zachau (München): tRNA structure, minor nucleosides, multiplicity of tRNA recognition sites.

Participants:

B.Acharia (Paris), G. and J.Akoyunoglou (Athens), H. Anderson (Copenhagen), C.O.Argoudelis (Urbana), P.Avner (Coventry), D. Bartosik (Shrewsbury), P..M.Bayley (Oxford), K.Beaucamp (Tutzing), S.Berry (Paris), P.Besmer (ZUrich), S.Bohun (New York), C.Bordier (Geneve), A.P.Bretscher (Cambridge), C.J.Bruton (Cambridge), C.R. and L.Cantor (New York), A.Caratzas (Athens), A.Cashmore (Cambridge), S.Chang (Cambridge), P.Cole (New Haven), R.Cotter (London), R. Cox (London), T.Delovitch (Montreal), C.Dimitropoulos (Athens), R.M.Dittgen (Heidelberg), S.Dolfini (Milan), G.A.Donovan (Texas), A.Efstratiadis (Athens), H.P.Erikson (Cambridge), A.Fantoni (Rome), H.Feldmann (München), J.E. Flatgaard (Tübingen), M.Fried (London), M.L.Gefter (Cambridge), K.Geider (Heidelberg), J.G.Georgatsos (Thessaloniki), R.Giegé (Strasbourg), P.Gilbert (Cambridge), A.N.Granitsas (Thessaloniki), D.Grierson (Edinburgh), R. Hehlmann (München), P. Henson (Oxford), M.Herzberg (Rehovot), J. Hindley (Bristol), N. Hogg (Oxford), M.L.Hooper (Cambridge), T.Igo-Kemenes (München), M. Ikeda (Copenhagen), M.Issidoridis (Athens), D.R.James (London), W. Kabsch (Heidelberg), J.Kallos (Montreal), T.Kalogerakos (Athens), A.Kalogeropoulos (Athens), A.Kappas (Athens), G.Keith (Strasbourg), D.Kettlewell (Bristol), M.A.Koblinsky (New York), T.A.Krulwich (New York), P.M.Leighton (Edinburgh), C.Lemonias (Athens), G.Leonidopoulou (Athens), K.Letnansky (Vienna), M.Levis (Athens), M.Levitt (Cambridge), R.Lohrmann (La Jolla), C.Jacobs-Lorena (Cambridge MA), D.B.Malcolm (Edingburgh), J.Mantzos (Athens), F.H.Martin (Cambridge), F.Mazza (Rome), A.H.Mehler (Milwaukee), L.Miller (Oxford), P.S.Miller (Illinois), J. Mitchison (Cambridge), P.J. Oriel (Midland), J.Papadimitiou (Thessaloniki), F.Papetin (Tübingen), I.Patramanis (Athens), D. Paulin (Paris), J.M. Pesando (New York), P.Philippsen (München), G. Pieczenik (New York), R. Porter (London), P.M Pithova (Paris), E.H.Prizant (London), M.P.Rathbone (Hamilton), B.J.Reger (Oak Ridge), D.Rickwood. (Birmingham), P.Rigby (Cambridge), P.Ringrose (Cambridge), G.Rosenbaum (Heidelberg), J.P.Rossier (Brussels), F.Salvatore (Naples), M.L.Sartirana (Milano), M.Schoentjes (Liege), G.Schulz (Heidelberg), U.Schwarz (Tübingen), D.Serman (Zagreb), D.Scoutas (Urbana), P.R. Sharma (Geneva), A.E.Sippel (Würzburg), A.Smith (Cambridge), K.Smith (Carnbridge), V.Ssymank (Göttingen), D. Stjepan (Paris), R.Taglang (Gif-sur-Yvette), J.O.Thomas (Cambridge), J.W.Thorner (Boston), J.Tsibris (Urbana), A.Vaheri (Helsinki), V.Vomvoyanni (Athens), V.Vondreijs (Prague), H.P. Vosberg (Giessen), J.N. Vournakis (Cambridge), R.C. Warrington (Vancouver), N.L.Webb (Cambridge), S.Weil (Cambridge), F.R. Williams (Gif-sur-Yvette), S.Zadrazil (Prague).

Planned: SPETSAI 1970

July 19 - July 31

Organizers: H.G.Zachau (München)(chairman), F.H.C.Crick (Cambridge), A.E. Evangelopoulos (Athens), H.Feldmann (München), P.H.Hofschneider (München).

Postponed to 1971

ERICE 1971

July 27 - August 9

MOLECULAR AND DEVELOPMENTAL BIOLOGY

Organizers: F.H.C. Crick (Cambridge), M. Crippa (Naples), H. Feldmann (München), P.H. Hofschneider (München), A. Monroy (Naples), H.G. Zachau (München) (chairman).

Lecturers and Lectures:

P. Berg (Stanford): Tumor viruses. Suppression.
M.L. Birnstiel (Zürich): Molecular aspects of chromosome organization in eukaryotes. Chromomeres and genes. News about hybridization.
J. Brachet (Rhode-St-Genese): Nuclear cytoplasmic interactions in animal and plant cells. Extranuclear DNA.
M.S. Bretscher (Cambridge): Cell membranes.
F.H.C. Crick (Cambridge): Patterns of the insect cuticule.
M. Crippa (Naples): Oogenesis. Gene amplification.
F. Gros (Paris): Regulatory mechanisms at the transcriptional level in prokaryotic systems.
M. Grunberg-Manago (Paris): Protein synthesis. Reverse transcriptase.
U. Henning (Tübingen): Membrane bound enzymes in bacteria (dehydrogenases, active transport, reconstruction experiments in model systems). Bacterial morphogenesis.
P.H. Hofschneider (München): DNA dependent DNA replication, RNA dependent DNA replication.
R. Levi- Montalcini (Rome): Growth control mechanisms of the sympathetic nervous system. Patterns of nerve-growth *in vitro* in long-term cultures of invertebrate nervous tissue.
P.A. Marks (New York): Erythroid cell differentiation and control of hemoglobin biosynthesis.
A. Monroy (Naples): Ultrastructure and molecular analysis of fertilization and early development.
A. Moscona (Chicago): Morphogenetic cell interactions.
M. Nomura (Aarhus): Ribosome structure, function and assembly. General presentation of colicines and new experiments.
L. Orgel (London): Chemical evolution, model systems of biological evolution.
K. Rajewsky (Cologne): Outline of the cellular immune system, cell interactions in immune response.
M. Revel (Rehovot): Control mechanisms in the translation of mRNA, bacterial and mammalian systems, brief notes on control by interferon.
F. Sanger (Cambridge): Sequencing methods for RNA. Structure of bacteriophage RNA and functional implications.
M. Siniscalco (Leiden): Mammalian cell hybrids.
G.Tomkins (San Francisco): Principles of regulation in higher organisms, enzyme induction, hormone action.
H.G. Zachau (München): Recognition of tRNAs by aminoacyl tRNA synthetases.
W. Zillig (München): Structure and function of bacterial DNA dependent RNA polymerases. Regulation of bacterial transcription as studied in vitro, transcription in eukaryotes.

Participants:

T.Ahern (Sussex), G.M.Air (Cambridge), F.Auricchio (Naples), B.R.Balda (München), N.G.Baptist (Cambridge), J.D.Baxter (San Francisco), K.Beaucamp (München), W.Bender (Cambridge), P.R.Bishop (New York), W.Bonner (Oxford), M.S.Bretscher (Cambridge), M.Campo (Edinburgh), L.Casola (Naples), M.Cazillis (Villejuif), S.E.Chang (Cambridge), B.F.C.Clark (Cambridge), M.J.Clemens (London), G.Cognetti (Palermo), M.J.Coll (Madrid), J.C. Da Costamaia (Paris), J.E.Dahlberg (Madison), D.Dina (Naples), J.E.Edström (Stockholm), H.Falter (München), B.Fedecka-Brunner (Nogent-sur-Marne), L.Felicetti (Rome), M.S.Fischer (Madison), F.Fittler (München), H.Friedman (Cambridge), J.A.Fuchs (Stockholm), P.Fuchs (Ness-Ziona), J.H.Galey (London), M.Geisert (Mainz), D.M.Glover (London), G.Giudice (Palermo), G.Goldin (Johannesburgh), H.Grosjean (Rhodes-St.-Genese), I.C.Gunsalus (Urbana), W.Henning (Tübingen), G.Högenauer (Vienna), T.Hovi (Helsinki), L.A.Isaksson (Umea), E.Jacob (München), M.Jaquet (Paris), B.R.Jordan (Marseille), E.Jost (Berlin), G.Keith (Strasbourg), R.Konings (München), K.Koschel (Würzburg), G.Kraus (Stöckheim), B.Küppers (Göttingen), T.Landau (Rehovot), A.Larsson (Stockholm), B.Lebleu (Paris), G.Lecatsas (London), R.Levi-Montalcini (Rome), J.Loeb (Villejuif), W.Loh (Erlangen), A.Lövlie(Oslo), F.Mangia (Rome), P.A.Marks (NewYork), E.Mattoccia (Rome), D.McConnell (Dublin), M.E.Mirault (Lausanne), B.Moav (Tel Aviv), K.Mölling (Tübingen), J.Morrow (Naples), I.Nardi (Pisa), W.Neupert (München), J.S.Normark (Umea), R.Nucci (Naples), E.Parisi (Naples), G.Peters (Edinburgh), B.de Petrocellis (Naples), M.Petrova (München), A.J.Pittard (Paris), J.H.va den Pol (Utrecht), Ponzy Lu (Göttingen), A.Quintero-Ruiz (Paris), J.S.Raisman (Naples), M.Revel (Rehovot), M.Rosbash (Cambridge MA), L.Rymo (Göteborg), D.V.Santi (Santa Barbara), W.Schiebel (München), D.Schneider (Göttingen), R.Schwarz (Giessen), D.Solter (Zagreb), U.Sparren (Oslo), C.Taddei (Naples), U.Theze (Paris), R.Thiebe (München), V.D.Vaquier (La Jolla), V.Vomvoyanni (Athens), K.Wanner (München), R.M.Warn (Oxford), J.Wartiovaara (Helsinki), J.Weymann (Ludwigshafen).

SPETSAI 1972

August 16 - August 29

ORGANISATION AND FUNCTION OF SUPRAMOLECULAR STRUCTURES

Organizers: B.F.C. Clark (Cambridge) (chairman), M.S. Bretscher (Cambridge), A.E.Evangelopoulos (Athens), L.E. Orgel (La Jolla).

Lecturers and Lectures:

M.L. Birnstiel (Edinburgh): DNA of higher organisms.
S. Brenner (Cambridge): Genetic analysis in eukaryotes.
M.S. Bretscher (Cambridge): Arrangement of lipids and proteins in biological membranes: the red blood cell plasma membrane. Cell surfaces and contact inhibition.
J. Cairns (Cold Spring Harbor): DNA synthesis in bacteria.
B.F.C. Clark (Cambridge): Bacterial protein synthesis: elongation and initiation of protein synthesis.
H. Huxley (Cambridge): The organisation of the protein components in muscle. Structural changes in muscle during activity.
R. Kornberg (Cambridge): Arrangement of lipids and proteins in biological membranes: bilayers.
B. Müller-Hill (Cologne): Control mechanism in bacteria: *lac* and *ara* systems. Protein-nucleic acid recognition.
D. Northcote (Cambridge): Cellular supramolecular structure of chromosomes. Motile systems in cell structure.
L.E. Orgel (La Jolla): Cellular ageing, termination.
F.H.C.Crick (Cambridge): Chromosomal models.
M.Grunberg-Manago (Paris): Reverse transcriptase. Biosynthesis in prokaryotes.
K. Rajewsky (Cologne): Cell-cell recognition and antibody formation: differentiation of the cell surface in T and B lymphocytes. B cell activation.
J. Roberts (Harvard): RNA synthesis in bacteria. Bacteriophage *lambda*.
R.E. Stephens (Waltham Mass.): Primitive mobility and the role of actin-like filaments. The biochemistry of microtubular systems.
G. Tomkins (San Francisco): Macromolecular synthesis and control mechanisms in eukaryotes. General growth control in mammalian cells.
H.G. Zachau (München): Components of chromosomes, chromatin structure and function.

Participants:

J.H.Akoyonoglou (Athens), J.R.Arrand (Bristol), F.J.Barrantes (Buenos Aires), R.Barzilai (Jerusalem), R.Berezney (Freiburg), G.Bonatsos (Athens), N.Brewin (Cambridge), C.Bruton (Cambridge), P.Babu (Cambridge), J.Capleton (New York), A.Charitou (Athens), A.Cihak (Prague), N.Constantinidou (Athens), P.A.Costello (Aberdeen), G.Deho (Milan), C.Dimitropoulos (Athens), J.E.Donelson (Cambridge), J.M.Dothie (Cambridge), M.Epiphaniou (Athens), D.E.Evangelidis (Patras), H.Feldmann (München), S.A.Fuhrmann (La Jolla), C.Gabrielidis (Athens), D.Galanopoulou (Athens), U.Gehring (San Francisco), C.Georgopoulos (Geneva), E.J.Griffiths (Coventry), M.D.Griswold (Middleton Wisc.), F.Hamilton (Larqs Scotl.), B.A.Hamkalo (Oak Ridge), J.Humbert (Lausanne), B.Jarry (Marseille), R.Joho (Zürich), T.Kalogerakos (Bures-sur-Yvette), A.Kalogeropoulos (Athens), J.N.Karli (Athens), K.Katsiris (Athens), T.P.Keneklis (Lausanne), S.Kim (Cambridge), A.Kindelis (Illinois), C.Kleir (San Francisco), K. Klein (Cologne), K.K.Kotinis (Thessaloniki), H.Kröger (Berlin), P.E.Kyriakopolou (Athens), J.Ladner (Cambridge), P.Laggner (Graz), S.Lavi (Rehovot), J.J.Lawrence (Grenoble), H.Lazarus (Jerusalem), H.Leffler (Göteborg), J.R.Lillehaug (Bergen), C.Lossow (München), D.Loukopoulos (Athens), Ponzy Lu (Göttingen), A.Maelicke (Göttingen), N.G.Makris (Thessaloniki), E.A.Mamalaki (Athens), H.Manor (Rehovot), F.Marx (Heidelberg), J.P.Mather (La Jolla), C.G.Mesologites (Athens), K.Mölling (Berlin), H.Murer (Zürich), P.McAthey (Newcastle-upon-Tyne), D.J.McConnell (Dublin), C.Norris (London), M.Ombach (Warsaw), A.Orgel (La Jolla), O.Ozier (Orsay), E.Papadopoulou (Thessaloniki), G.Papageorgiou (Athens), P.R.Parham (Middlesex), J.Patzer (Warsaw), G.Pepe (Bari), F.D.Petrogiannis (Athens), P.Philippsen (München), A.Pihl (Oslo), G.Pirro (Modena), A. Platel (Gif-sur-Yvette),V.Popovic (Zemun), P.M.Price (New York), C.L.Prives (Rehovot), P. Puigdomenech-Rosell (Barcelona), M.Renz (Tübingen), P.W.J.Rigby (Cambridge), M.O.Savas (Helsinki), H.Savaki (Athens), P.J.Seely (Henley-on-Tharnes), T.Sensky (London), D.Shields (London), G.R.Smith (Geneve), N.Smolar (Uppsala), M.A.Sodd (Washington), H.Söderlund (Helsinki), E.Solomon (Paris), J.Speirs (Edinburgh), R.Sperling (Cambridge), E.Starnataki (Athens), S.A.Stewart (Aberdeen), R.E.Streeck (München), M.Suh (Vienna), Q.S.Tahin (Kibutz Kabri), C.Tavouxoglou (Athens), R.S.Taylor (Cambridge), A.Therwath (Lausanne), W.J.Todd (Colorado), C.Tsamandanis (Patras), H.Tsirimonaki (Athens), I.von Zabern (Heidelberg), L.P.G.Wakelin (Cambridge), J.E.Wheeler (Tuscon Ariz.), T.H.Yeo (Newcastle-upon-Tyne), H.M.Zacharis (Göteborg).

SPETSAI 1973

July 19 - July 31

MOLECULAR AND DEVELOPMENTAL BIOLOGY

Organizers: M.Grunberg-Manago (Paris)(chairman), F.Chapeville (Paris), A.E.Evangelopoulos (Athens).

Lecturers:

J.-M. Ashworth (Leicester), S. Benzer (Pasadena), G. Bernardi (Paris), M.S. Bretscher (Cambridge), P. Chambon (Strasbourg), F. Chapeville (Paris), B.F.C. Clark (Cambridge), P. Ebel (Strasbourg), A. Evangelopoulos (Athens), M. Gefter (Cambridge MA), W. Gilbert (Cambridge MA), F. Gros (Paris), J.B. Gurdon (Cambridge), H.Kornberg (Leicester), C.G. Kurland (Uppsala), M.

Grunberg-Manago (Paris), P.A. Marks (New York), A.M. Michelson (Paris), R. Monier (Villejuif), L. Sachs (Rehovot), R. Shulman (New Jersey), M. Siniscalco (Naples), A. Smith (London), J.A. Steitz (New Haven), R.Stöffler (Berlin), A. Weiss (London), H.G. Zachau (Munich).

Lecture Topics:

1. Aspects of structure, biosynthesis, and control mechanisms (nucleic acids, proteins, ribosomes, chromosomes).

2. Cell transformation and differentiation: membranes, oncogenic viruses, and egg development.

3. Evolution of oxygen activating systems.

4. Genetic approach to behavioural problems.

Participants:

N.L.Anderson (Cambridge), F.Andronico (Naples), P.Argoudelis (Kalamazoo), S.Artavanis (Cambridge), R.Astier (Bordeaux), B.S.Baliga (Cambridge MA), M.Barbacid (Madrid), K.Barnoux (Paris), J.Baxter (San Francisco), J.P.Beck (Paris), K.Beckingham-Smith (London), F.R.Bem (Athens), G.Bennet (Lafayette), O.Bernard (Paris), E.Bikoff (Cambridge MA), G.J.Brahenhoff (Amsterdam), St.Bram (Paris), R.Buckingham (Paris), M.Buckingharn (Paris), K.Burridge (Cambridge), G.Carrara (Rome), L.Carrasco (Madrid), D.Christodoulou (Thessaloniki), E.Collatz (Berlin), A.Coutnho (Stockholm), A.P.Czermilofsky (Vienna), Devauk (Paris), C.Dimitropoulos (Athens), G.Dimitriadis (Patras), B.S.d'Udine (Leiden), Y.Ergelborghs (Leuven), G.Falcoff (Paris), L.Ferguson (Oxford), W.Fitschen (Cape Town), N.P.Franks (London), Z.Frot-Coutaz (Villeurbanne), R.Gebert (New York), P.Giorgi (Newcastle-upon-Tyne), R.Goth (Tübingen), G.Guarneros (Geneva), T.Haeptle (Poznan), J.P.Henry (Paris), I.Hirsch (Prague), B.Hohn (Basle), G.Huszar (Cambridge MA), M.T.Imaizumi (Lausanne), V.Ingram (Cambridge MA), J.Isaakidou (Athens), G.Jullien (Athens), T.Kalogerakos (Athens), A.Varnava-Kalogerakos (Athens), M.Kanje (Göteborg), J.G.Kaplan (Ottawa), A.Karoylias (Edinburgh), E.Katz (Jerusalem), G.Kaufmann (Rehovot), J.Keidling (Copenhagen), A.Kohn (Tel Aviv), A.Kortsaris (Salonica), K.Katsizis (Athens), K.Kotinis (Salonica), T.Kozelj (Ljubljana), M.Kress (Villejuif), C.Lacombe (Poitiers), C.Lane (Cambridge), E.Lapan (New Haven), M.C.Lechner (Oeiras), M.Lex (Liverpool), E.Long (Geneva), A.Loyter (Jerusalem), R.Martin (Stockholm), O.Michelsen (Copenhagen), S.Mitra (Göteborg), G.Moore (Berlin), YoMory (Rehovot), S.Olsnes (Oslo), M.Patillor (Paris), B.Pearse (Cambridge), S.Perzynski (Warsaw), M.Petrova (Munich), C.D.Platsoucas (Patras), P.Pohjanpelto (Helsinki), V.Popovic (Zemun), H.Prinz (Göttingen), F.Rieger (Paris), J.M.Rossignol (Villejuif), G.M.Rubin (Cambridge), L.Sadzinska (Gliwice), H.C.Schaller (Tübingen), R.Schindler (Berlin), C.Schneider (Saclay), H.P.Seeburg (Tübingen), C.Self (Tübingen), T.Sensky (London), V.Serra (Naples), G.St.Sligar (Urbana), Th.Sotiroudis (Athens), G.Sperk (Vienna), D.Steinemann (Tübingen), R.Tanguay (Stockholm), D.Thiele (Saclay), S.Tzartos (Athens), C.Vaquero (Paris), L.Varesio (Torino), M.Wable (Berlin), G.Walter (Poitiers), R.Whalen (Paris), A.Wolffe (Washington), J.Wood (Coventry), S.Zagorska (Warsaw), D.Zouzias (New York).

ERICE 1974

August 1 - August 14

MOLECULAR AND DEVELOPMENTAL BIOLOGY

Organizers: H.G. Zachau (München)(chairman), H. Feldmann (München), G. Giudice (Palermo), A. Monroy (Naples).

Lecturers and Lectures:

E.K.F. Bautz (Heidelberg): RNA polymerases of prokaryotes and eukaryotes.
H.D. Berendes (Nijmegen): Structure and function of polytene chromosomes.
G. Bernardi (Paris): The organization of the eukaryotic genome.
M.L. Birnstiel (Zürich): The organization of the eukaryotic genome, molecular hybridization, multiple gene copies, intermediate repetitive DNA.
F. Bonhoeffer (Tübingen): Replication of the DNA in prokaryotes and eukaryotes.
E.M. Bradbury (Portsmouth): Chromatin structure, histones, and control of mitosis.
A. Gierer (Tübingen): Hydra as experimental model for morphogenesis: theory of pattern formation.
F. Gros (Paris): Biochemistry of muscle differentiation.
U.Z. Littauer (Rehovot): Differentiation of neuroblastoma cells and their surface membrane.
B. Mach (Geneva): The genetic control of antibody diversity. Immunoglobulin chains. Hybridization studies for gene dosage.
A. Monroy (Naples): Essentials of early development.
A.A. Moscona (Chicago): Morphogenetic interactions of embryonic cells.
K. Murray (Edinburgh): Nucleotide sequence determination in DNA. Restriction and modification enzymes as new tools in nucleic acid biochemistry.
L.E. Orgel (La Jolla): Prebiotic chemistry. Ageing.
J. Paul (Glasgow): Chromatin, non-histone proteins and chromosome structure.
N. Ringertz (Stockholm): Cell fusion and cytoplasmic control of nuclear activity.
F. Ritossa (Bari): Basic genetic techniques in Drosophila and the genetists' view of the eukaryotic chromosome.
M. Siniscalco (New York): Somatic cell genetics, mRNA.

H.G. Zachau (München): Chromatin.

Participants:

C.Alonso (Madrid), R.Appels (Stockholm), S.Austin (Brighton), N.Avdalovic (Zagreb), P.R.Avner (Paris), B.R.Balda (München), H.Blüthmann (Tübingen), R.Beier (München), J.R.Brocklehurst (London), H.Bünemann (Braunschweig), M.Bustin (Rehovot), R.Caizzi (Bari), A.Cihak (Prague), I.Claeys (Geneva), P.M.Clissold (London), G.Cognetti (Palermo), H.Cooper (Manchester), J.C.Courvalin (Kremlin-Bicetre), A.Cupello (Göteborg), J.C.Daniel (Chicago), O.H.J.Destree (Amsterdam), J.C.J.Eeken (Nijmegen), G.Eggertson (Reykjavik), W.A.Elmer (Atlanta), F.L.Enea (New York), A.E.Evangelopoulos (Athens), R.S.Feldberg (Waltham Mass.), K.Foerst (Berlin), J.Forstova (Prague), F.Gissinger (Strasbourg), E.Grabczewska (Warsaw), E.Haakansson (Uppsala), K.Harbers (Montreal), E.Harms (Berlin), P.Harrison (Glasgow), I.Hartmann-Goldstein (Sheffield), D.Helland (Bergen), J.Houben (Nijmegen), M.Huet (Paris), T.Igo-Kemenes (München), R.Jargus-Smith (London), B.Johnson (Aarhus), J.K.Keski-Oja (Helsinki), J.F.Koninkx (Nijmegen), G.Kreysing (Göttingen), M.Kröger (Göttingen), S.Kühn (Freiburg), P.Laget (Angers), M.Laval (Villejuif), M.R.Levine (London), K.Lindahl-Kiessling (Uppsala), S.Longacre (San Francisco), U.Lönn (Stockholm), F.Machicao (München), R.Mandel (Waltham Mass.), P.Manduca (Naples) M.Manson (Edinburgh), J.Marvaldi (Marseille), H.R.Matthews (Portsmouth), H.Mayer (Braunschweig), D.McConnell (Dublin), M.Meisler (Buffalo), I.Melchers (Köln), R.Meneghini (Stanford), G.Milanesi (Pavia), C.A.Morrison (Berlin), P.Mounts (Edinburgh), P.Müller (Braunschweig), B.Murray (London), G.Parry (London), B.Perles (Villejuif), R.L.Pictet (San Francisco), G.Pirro (München), J.W.Pollard (London), D. Rekosh (London), D.Riesner (Hannover), J.A.Roper (Sheffield), D. Rungger (Geneva), J.Satava (Szeged), F.Scalenghe (Bari), N.Schechter (Rehovot), M.F.G.Schmidt (Giessen), M.Schwärzler (Bern), S. Seaver (Strasbourg), G.Siwert (Berlin), R.Solomon (Rehovot), C.Spadafora (Naples), M.Stefanini (Pavia), M.Steinmetz (München), P.Suau (Barcelona), I.Sures (Marburg), A.Tolun (Uppsala), F.Turnowsky (Vienna), A.Ullrich (Heidelberg), E. Ullu (Rome), R.L.van Etten (Lafayette Ind.), R.Voss (New York), K.Zänker (München), E.J.Zöllner (Mainz), F.Zucco (Naples).

SPETSAI 1975

August 21 - September 3

THE MOLECULAR BIOLOGY OF VIRUSES

Organizers: B.F.C. Clark (Aarhus)(chairman), M.S.Bretscher (Cambridge), A.E. Evangelopoulos (Athens), A.E. Smith (London).

Lecturers:

D. Baltimore (Cambridge MA), J. Cairns (London), F. Cuzin (Nice), S. Fazekas de St. Groth (Basle), F. Gros (Paris), M. Grunberg-Manago (Paris), A. Huang (Cambridge MA), N.O. Kjeldgaard (Aarhus), R. Kornberg (Cambridge MA), R. Monier (Villejuif), L. Philipson (Uppsala), P. Reichard (Stockholm), L. Sachs (Rehovot), K. Simons (Heidelberg), J. Tooze (Heidelberg), K. Weber (Göttingen), C. Weissmann (Zürich), R. Williamson (Glasgow).

Lecture Topics:

1. Basic molecular biology, with emphasis on the comparison of prokaryotes and eukaryotes.

2. Structure and life cycle of bacteriophages (lambda and Qß).

3. Structure, life cycle and biological effects of animal viruses (polio, DNA and RNA tumor viruses).

Participants:

S.Adams (Bethesda), K.Alitalo (Helsinki), J.Almond (Cambridge), F.Angelatou (Athens), E.Barbarese (Quebec), P.Baudy (Paris), P.Beaudry (Paris), D.Becker (Giessen), J.Bell (London), E.Bloffquist (Uppsala), T.K.Bradshaw (Coventry), F.Brunel (Glasgow), W.Büsen (Tübingen), C.E.Castro (Lubbock), J.Chroboczek (Warsaw), F.H.Crick (Cambridge), F.Cochran (New York), H.-H.Dahl (Aarhus), L.Dimitrijevic (Paris), P.D.Dixon (Cambridge), K.Dunker (New York), T.Dzieglielewski (Poznan), A.Epiphaniou (Athens), G.Evangelatos (Attiki), F.Fernandez-Madrid (Detroit), W.Ferreira (Lisboa), I.Fiser (Vienna), D.Frisby (High Wycombe), E.Gallori (Firenze), K.Gausing (Aarhus), J. Gee (Oxford), S. Glass (Cambridge), T.Haertle (Poznan), R. Hauptmann (Vienna), M.Hunter (Cambridge), S.Inglis (Cambridge), G.Isaksson-Forsen (Lund), U.Jellinghaus (Heidelberg), K.Johansson (Uppsala), R.Kaempfer (Jerusalem), M.Kaerlein (Würzburg), K.Kaltoft (Aarhus), M.Kaparianos (Patras), C.Karahdlios (Attiki), K.Katsiris (Athens), J.C.S.Kim (Michigan), A. Klein (Tel-Aviv), B.Koller (Martinsried), P. Kontomichalou (Athens), H.Kornberg (Leicester), K.Kotinis (Thessaloniki), H.Kroath (Graz), C.Krüger (Berlin), D.Labuda (Poznan), H.Langbeheim (Rehovot), E.Larsson (Uppsala), A.Lazar (Jerusalem), Z.Lev (Haifa), L.Liebes (Detroit), T.Lund (Aarhus), H.Lövdahl (Bergen), E.Mansur de Oliveira (Rio de Janeiro), G.Margomenou-Leonidopoulou (Athens), C.Martinet (Orsay), L.Martinussen (Aarhus), S.Mastronicoli (Athens), N.Matsokis (Patras),.R.Michalides (Springfield), W.Min Jou (Gent), A.Morabito (Torino), N.Moschonas (Athens), A.Neer (Haifa), N.Oikonomakos (Athens), D.Orphanoudaki (Athens), S.Ovrebo (Bergen), M.Papamichail (Athens), R.Patient (Birmingham), A.Pawson (London), B.Pearse (Cambridge), M. Petkevich (Oxford), P.F.Pignatti (Paris), P.Piper (Aarhus), B.Ponder (London), H.Potuzak (Vienna), D.Rekosh (London), W.Rhode (Giessen), C.Ross (Aberdeen), L.Roux (Geneva), W.G.Röwekamp (Heidelberg), L.Sarnson (London), D.Sheiness (Edinburgh), S.Scherneck (Berlin), D.Schiffmann (Würzburg), S.Sevall (Lubbock), B.Sjdberg (Göteborg), C.Smith (New York), N.Sonenberg (Rehovot), T.Sotiroudis (Athens), D.Stathakos (Aghia Paraskevi), H.G.Suarez (Villejuif), C.Syrett (Beckenham), D.Talbot (Sutton), D.Tapper (Winthrop. Mass.), V.Tate (High Wycombe), M.N.Thang (Paris), S.Tzartos (Athens), A.Ullrich (Heidelberg), J.Vacqier (California), H.van Ormondt (Leiden), M.Vasseur (Paris), W.Wolf (Tutzing).

SPETSAI 1976

August 23 - September 3

MOLECULAR INTERACTIONS INVOLVED IN THE MORPHOGENESIS OF CELLULAR ORGANELLES AND IN CELLULAR RECOGNITION

Organizers: M. Grunberg-Manago (Paris)(chairman), F. Gros (Paris), A.E. Evangelopoulos (Athens).

Lecturers and Lectures:

G. Bernardi (Paris): General discussion on chromatin.
P. Douzou (Paris): Dynamics of intermolecular forces in systems of genetic translation.
J.P. Ebel (Strasbourg): Interaction of ribosonial RNAs with ribosomal proteins.
M. Feldman (Rehovot): Interactions in immunology: (i) lymphocytes recognition of cell surface antigen, (ii) interactions between lymphocytes and tumor cells.
F. Gros (Paris): Gene expression and recognition during myogenesis.
M. Grunberg-Manago (Paris): The role of metal ions and protein factors in ribosomal subunit association.
I.C. Gunsalus (Urbana): Component organization of peripheral systems.
E. Kellenberger (Basle): Phage head assembly.
A. Klug (Cambridge): Assembly of tobacco mosaic virus. Structure of viruses and other macromulecular assemblies.
M. Lazdunski (Nice): Organization of the axonal membrane and molecular aspects of nerve conditioning.
U.Z. Littauer (Rehovot): Differentiation of neuroblastoma cells and their surface membrane.
V. Luzatti (Gif-sur-Yvette): Structure of biological membranes.
A.M. Michelson (Paris): Component organization of a bioluminescent organelle.
J.H. Miller (Geneva): DNA interaction with altered *lac* operon repressor.
A.A. Moscona (Chicago): The role of cell recognition in morphogenesis and differentiation.
R.N. Pelham (Cambridge): Quarternary structure in biological macromolecules. Subunit interactions in multi-enzyme complexes.
S.N. Timasheff (Waltham Mass.): Self-association of tubulin: monomer, microtubules, and other structures.
G. Warren (Cambridge): How membrane structure is designed to regulate the function of membrane proteins.
K. Weber (Göttingen): Microtubules and microfilament structures in vivo.
C.W. Wu (New York): Molecular interactions involved in gene transcription. (i) The key-enzyme: DNA-dependent RNA polymerase, (ii) regulatory proteins: *lac* repressor and cAMP receptor.
J.Wyman (Rome): Assembly of giant proteins: (i) general relations regarding the control of molecular assembly, (ii) examples.
H.G. Zachau (München): Chromatin.

Participants:

R.Arche (Madrid), L.Backman (Umea), D.Bennet (London), M.Bellard (Strasbourg), M.Bevan (Cambridge), A.Bienvenue (Paris), B.Blazy (Toulouse), T.C.Boghansen (Copenhagen), R.Bori (Madrid), M.Bradley (New York), A.van Broekhoven (Antwerpen), M.Buckingham (Paris), R.Buckingham (Paris), M.J.Butler (Oxford), X.Carlier (Fresnes), S.Cary (Urbana), M.Castagna (Villejuif), L.Dibbelt (München), M.Dorizzi (Paris), S.Dowsett (New York), R.L.Drake (Cambridge Mass.), R.van Driel (Basel), I.Economidi (Thessaloniki), L.Eisenstein (Urbana), Escudero (Madrid), F.Esposito (Pisa), M.Ferrer (Toulouse), A.Filipic (Ljubljana), A.Flavell (London), E.Fries (Heidelberg), A.Frisch (Jerusalem), G.Gasperi (Pavia), M.J.Gething (London), R.E.Glass (Edinburgh), M.Goppelt (Hannover), I.Gozes (Rehovot), M.Greil (München), G.Gross (Heidelberg), P.Hansen (Copenhagen), E.Hakansson (Uppsala), J.Heedegaard (Copenhagen), C.Henderson (Cambridge), R.Jacob (Tübingen), T.Kalogerakos (Paris), T.Karemifillos (Thessaloniki), M.Kalimi (New York), C.Katsiri-Evangelopoulos (Athens), G.Kessler (Rehovot), J.Klareskog (Uppsala), C.Komitopoulou (Athens), S.Kougianou (Athens), A.Kovoor (Paris), A.Krol (Strasbourg), C.Krüger (Berlin), A.Lambeir (Louvain), M.Lasser (Rehovot), A.Lax (London), M.Sousa-Lechner (Oeiras), E.M.Lilius (Turku), M.Lindsay (Basle), O.Leoncini (Tübingen), J.Lever (London), J.Lotem (Rehovot), F.Lustig (Göteborg), M. da Conceicao Duque Magalhaes (Oeiras), A.Malacrida (Pavia), J.Mallet (Paris), K.Marx (Edinburgh), N.McGregor (Oxford), G.McMaster (Lausanne), S.Metafora (Naples), M.Meurnier-Rotival (Paris), T.Moss (Portsmouth), K.Müller (Graz), D.Nachkov (Sofia), C.R.S.Naylor (Oxford), T.Nishihara (New York), X.Onorato (Basle), S.Paglin (Rehovot), A.K.Pandey (New York), C. Pangalos (Athens), I.Papasotiriou (Thessaloniki), Pardo (Marseille), M. Paturneau-Jouas (Mont Saint Aignan), H.U.Petersen (Paris), T.Pfeuty (Fontenay-aux-Roses), G.Philipps (Strasbourg), D.Phillipides (Cambridge), R.Pichon (Marseille), R.Pranab (Calcutta), Y.Prives (Rehovot), L.Rabbani (New York), A.Rafalski (Poznan), M.Rafalzki (Poznan), D.Raulston (Houston), T.Reid (New Haven), E.Reisler (Rehovot), L.S.Rodriguez (Madrid), M.Rossi (Naples), G.Roizes (Montpellier), Rubin (Uppsala), E.Runger-Brandle (Geneva), L.Rylander (Stockholm), N.Sandler (Jerusalem), P.Sau (Portsmouth), A.H.Sarris (New Haven), J.Schaefer (Strasbourg), D.Schmid (Tübingen), J.Schurch-Rathgeb (Basle), S.Schwartz (Santa Cruz), W.Schwarz (München), J.Skorve (Bergen), S.Sligar (Urbana), D. Spandidos (Toronto), J.Stanley (Strasbourg), M.Steinmann (Tübingen), M.Steinmetz (München), L.Swennen (Wilrijk), H.Szain (Göteborg), A.Vincent (Paris), C.Vola (Marseille), Wasylik (Strasbourg), J.C.Weill (Paris), D.Wachter (Zürich), J.Wehland (Göttingen), E.Whitehead (Rome), P.Wilairat (Bangkok), P.Wright (Torino), F.Y.H.Wu (New York), H. Yamanaka (Nagoya), E.Yefenof (Stockholm), K.Zanker (München), A.Ziemiecki (Heidelberg), H.P. Zingsheim (Göttingen).

SPETSAI 1977

August 21 - September 3

GENOME ORGANIZATION AND FUNCTION

Organizers: H.G. Zachau (München)(chairman), A.E. Evangelopoulos (Athens), H. Feldmann (München).

Lecturers and Lectures:

G. Bernardi (Paris): Density gradient centrifugation as a method for studying the eukaryotic genome. The mitochondrial genome of yeast.
E.M. Bradbury (Portsmouth): Histone interaction and histone complexes. Histone modifications and the cell cycle.
C.R. Cantor (New York): Fluorescence techniques. Ribosome structure, eukaryotic RNA polymerase and problems of chromatic transcription.
B.F.C. Clark (Aarhus): Polypeptide chain elongation. Polypeptide chain termination.
M. Eigen (Göttingen): How does information originate?
D.J. Finnegan (Edinburgh): Studies on *Drosophila.*
M. Grunberg-Manago (Paris): Initiation of protein synthesis and translation of phage and viral mRNA in prokaryotic and eukaryotic systems.
A. Klug (Cambridge): The protein disk of tobacco mosaic virus and specificity in the RNA recognition and packaging. Physical studies on the structure of chromatin.
K. Murray (Edinburgh): Making use of phage lambda in recombinant DNA research. DNA restriction enzymes and their uses.
N. Murray (Edinburgh): Structure and biology of phage lambda. Expression of prokaryotic genes inserted into lambda and comparative aspects of lambda and plasmids.
L. Orgel (La Jolla): Cellular ageing: an outsider's view of the neutralist selection controversy.
J. Paul (Glasgow): The complexity of nuclear and cytoplasmic RNA. Control of erythroid maturation in the Friend cell.
P. Reichard (Stockholm): DNA replication.
A. Rich (Cambridge Mass,): Biosynthesis of protein hormones. Protein-nucleic acid interactions.
W. Schaffner (Zürich): Repeated genes: the histone gene cluster of the sea urchin Psammechinus miliaris. Surrogate genetics, or how to learn more about regulatory sequences in eukaryotes.
P.Starlinger (Cologne): Transposable DNA elements. The structure of the bacterial chromosome.
J.R.Tata (London): Hormones and gene expression. Biological systems for studying gene expression during development.
H.G. Zachau (München): Chromatin. Repetitive DNA.

Participants:

J.Akam (Oxford), M.Allan (Glasgow), F.Amalric (Toulouse), A.D. Argoudelis (Kalama Mich.), N.A.van Arkel (Eindhoven), F.Azorin (Barcelona), A.Bär (München), B.R.Balda (München), A.Barta (Vienna), I.B.Barthelmess (Hannover), J.D.Baxter (San Francisco), K.Beaucamp (Tutzing), A.S.Berkower (New York), J.C.Boothroid (Edinburgh), C.D.Boyd (Tygerberg SA), I.Bozzoni (Zürich), R.Brambilla (Basle), T.Bryngelsson (Lund), J.Burckhard (Zürich), H.Sustan (Jerusalem), G.F.Crouse (Stanford), J.R.Daban (Barcelona), L.J.Degennaro (San Francisco), A.Depicker (Gent), C.Dierks-Ventling (Basle), I.Doxiadis (München), W.Dunnick (Cambridge), F.C.Eden (Bethesda), B.Edvardsson (Uppsala), E.Egyhazi (Stockholm), J.Engberg (Copenhagen), J.D.Fabricant (Paris), M.G.Farace (Rome), W.Filipowicz (Warsaw), K.Fink (Copenhagen), N.Furgac (Göttingen), F.Gannon (Strasbourg), A.C.Garapin (Paris) M.Geiser (Basel), E.Gilboa (Rehovot), R.Gjerset (Paris), A.P.van Gool (Louvain), H.M.Goodman (San Francisco), J.Hackstein (Tübingen), H.Hameister (Freiburg), H.Hartmann (Braunschweig), H.Hauser (Konstanz), K.Henco (Darmstadt), H.A.Henriksson (Göteborg), C.Hentschel (London), R.Herrmann (Düsseldorf), H.van Heuverswyn (Gent), R.P.Hjelm (Portsmouth), T.Hofstätter (Tübingen), M.Horowitz (Rehovot), M.Ryniewicz (Warsaw), L.S.L. Hsu (London), U.Hübscher (Zürich), T.Igo-Kemenes (München), H.Jakubowski (Poznan), K.E.Jörstad (Bergen), J.L.Jocarno (Berlin), B.L.Kellas (London), S.Kidd (London), J.R.Kinghorn (Bern), S.Klenow (Copenhagen), T.Klopotowski (Warsaw), H.Klump (Eugene Ore.), A.Konieczny (Poznan), I.Kucan (Zagreb), Z.Kucan (Zagreb), W.Kuhn (Würzburg), J.J.Lawrence (Grenoble), B.Leber (Tübingen), B.Levy (Calgary), S.Löfdahl (Uppsala), H.Martin-Bertram (Karlsruhe), H.R.Matthews (Portsmouth), R.Mohun (London), U.Müller (Heidelberg), C.C.de Nava (Mexico), M.A.Nelson (Naples), M.Neuberger (London), M.C.Nguyen Huu (Berlin), K.M. O'Hare (Edinburgh), G.N.Pavlakis (New York), P.Pennequin (Bicetre), G.Peter (München), J.G.L.Petersen (Copenhagen), M.Philipp (Baltimore), M.Pirre (Villejuif), J.Pierre-Hebert (Villejuif), L.J.Polder (Groningen), A.Pühler (Erlangen), A.Quintero-Ruiz (Mexico), H.P.Ramjoue (Basle), A.Reisfeld (Rehovot), B.Robert (Paris), E.Rocha-Perez (Barcelona), M.Salden (Nijmegen), C.Schäfer-Nielsen (Copenhagen), G.Scherer (Freiburg), A.I.Scovassi (Paris), T.Seebeck (Bern), B.H.Sells (St. Johns Can.), P.J.Southern (Edinburgh), C.Spadafora (Strasbourg), M.Steinmetz (München), P.G.Stockley (Cambridge), F.Thomas (Zürich), C.D.Triantaphyllidis (Thessaloniki), A.Ullrich (San Francisco), J.Vielkind (Giessen), J.Vuust (Aarhus), E.F.Wagner (Innsbruck), E.Wawra (Vienna), M. Wickens (Stanford), W.R.Willems (Giessen), K.R.Willison (Cambridge), L.Willmitzer (Braunschweig), R.Winkler (Göttingen), B.Wittig (Berlin), T.Zarvalis (Thessaloniki).

SPETSAI 1978

August 28 - September 3

GENE EXPRESSION IN UNINFECTED AND VIRALLY INFECTED CELLS

Organizers: B.F.C. Clark (Aarhus) (chairman), A.E.Evangelopoulos (Athens), N.O..Kjeldgaard (Aarhus), L. Philipson (Uppsala).

Lecturers and Lectures:

D. Baltimore (Cambridge MA): Small animal RNA viruses.
M. Buckingham (Paris): Myogenesis as a model system for the study of terminal differentiation.
H. Bujard (Heidelberg): The transcriptional process and its regulation in prokaryotic systems.
J.E. Celis (Aarhus): Search for assays to assess tumorigenicity at the cellular level in non-virally transformed cells. Microinjection of suppressor tRNAs into somatic cell mutants.
B.F.C. Clark (Aarhus): Polypeptide chain elongation and termination.
S.G.Clarkson (Zürich): Organisation of DNA sequences. Microinjection. Transcriptional and post-transcriptional controls.
B. Daneholt (Stockholm): Balbiari ring 2 - a model system for analysis of a specific gene and its activity in a eukaryotic cell.
H. Feldmann (München): Organisation of DNA sequences.
W. Gehring (Basle): Genome organisation and transposable elements in *Drosophila*. The heat shock genes of *Drosophila melanogaster.*

H. Goodman (San Francisco): Recombinant DNA.
M.Grunberg-Manago (Paris): Initiation and regulation of protein synthesis in prokaryotic and eukaryotic systems.
P.R. Harrison (Glasgow): The friend cell as a model for cell differentiation.
A.S. Huang (Boston): Complex RNA viruses.
F. Kafatos (Harvard): The chorion of insects as a model system for the study of cell differentiation and molecular evolution.
N.O. Kjeldgaard (Aarhus): On the control of RNA synthesis in bacteria.
A. Klug (Cambridge): Structure and superstructure of chromatin.
M. van Montagu (Gent): RNA phages. Plant tumors.
N.E. Murray (Edinburgh): Bacteriophage lambda. Recombinant DNA.
L. Philipson (Uppsala): Transcription and processing of RNA.
A.E. Smith (London): Small DNA tumor viruses. Control of viral protein synthesis in eukaryotes.
N. Wilkie (Glasgow): The organisation and expression of genes in Herpes simplex virus. Herpes simplex virus and transformation.
M. Yaniv (Paris): Chromatin structure and gene activity. Replication and transcription of viral chromosomes.
J. Zeuthen (Aarhus): Higher levels in the organisation of chromatin. Application of cell fusion experiments for studies on genetic regulation. Somatic cell hybrids with lymphoid cells. The Epstein-Barr-Virus and its interaction with host cells.

Participants:

E.P.Amann (Berlin), P.Andersen (Aarhus), K.Andersson (Stockholm), A.Arellano-Castillo (Braunschweig), C.Aulelah (Tübingen), C.Baglioni (New York), S.Barlati (Pavia), K.E.Batley (Vienna), C.Benicourt (Paris), C.Benoist (Strasbourg), I.Bikel (Boston), C.Brüschke (Freiburg), M.Busslinger (Zürich), M.S.Campo (Edinburgh), M.Caravatti (Zürich), C.Casimir (Glasgow), R.Castro (Madrid), Y.C.Chong (Cambridge), G.Clinton (Boston), P.Clissold (London), A.Cohen (Paris), S.Corbett (Portsmouth), W.Crumpton (Coventry), P.Daubas (Paris), J.Devine (London), N.Din (Copenhagen), L.Dixon (Edinburgh), P.Donner (Berlin), J.L.Drocourt. W.Earnshaw (Cambridge), M.G.Farace (Rome), V.Garnulin (Zagreb), F.Gautier (Braunschweig), S.D.Georgatsos (Athens), G.Giannopoulos (Patras), L.Gissmann (...), H.Goodman (San Francisco), E.Gounaris (Thessaloniki), O.Grau (La Plata), I.Grummt (München), A.Guialis (Athens), L.U.Güresci (Izmir), M.L.Hammarskjöld (Stockholm), M.Harson (London), R.Harvey (London), P.Hellung-Larsen (Copenhagen), W.G.Hesselink (Nijmegen), B.Hoffmann-Liebermann (Rehovot), M.Holsters (...), J.Holtlund (Oslo), B.M.Honda (Cambridge), J.Imbert (Marseille), M.Innis (Nutley NJ.), T.C.Jarnes (London), D.Johnson (Edinburgh), F.Johnston (Calgary), M.D.Jones (Aarhus), K.Kaiser (Edinburgh), E.Katsoris (Patras), P.Katsoris (Patras), I.Kessel (Kiel), B.Knibiehler (Marseille), C.Kotinis (Thessaloniki), E.Krajewska (Warsaw), T.Kristensen (Oslo), C.Krüger (Berlin), B.E.Lachmi (Ness Ziona), C.Lane (London), J.Langenakens (St.Genesius-Rhode), A.Lazarou (Athens), A.Levine (Princeton), C.P.Lichtenstein (Cambridge), D.Liebermann (Rehovot), J.Luka (Stockholm), L.Lundberg (Göteborg), A.Maresca (Naples), B.Marian (Vienna), E.Markert (Lyngby), S.Maxwell (Paris), P.Melius (Auburn Ala.), A.Mellor (London), G.Meneguzzi (Nice), S.Michel (Berlin), A.Minty (Paris), A.Misra (Kahashwaranagar India), D.Morello (Paris), F.Müller (Zürich), P.O'Farrell (San Francisco), M.Olsson (Uppsala), D. Palmer (London), R.Pangiotidou (London), E.Paucha (London), G.Pavlakis (New York), A.Person (Paris), P.Pierandrei Amaldi (Rome), C.B.Post (San Diego), L. Potts (Coventry), R.Ralph (Auckland), T.Reiter (München),C.Reuveni (Windsor Ont.), W.Reynolds (Davis Cal.), R.Sarmons (Birmingham), S.G.Sanders (Glasgow), S.Saragosti (Paris), E.Schwarz (Freiburg), R.Sharma (New Delhi) P.Shaw (New York), H. Shure (Rehovot), A.Smith (Cambridge), D.Spandidos (Toronto), N.K.Spurr (London), E.Szczesna (Warsaw), U.Szybiak (Poznan), N.Tsadaroglou (Athens), I.Ulmanen (Helsinki), I.S.Villadsen (Lyngby), D.V.Volsky (Jerusalem), E.Vuorio (Turku), S.Waddingharn (Ann Arbor Mich.), G.Wagner (Uppsala), B.Wasylyk (Strasbourg), J.Weber (New York), S.West (Newcastle-upon-Tyne), I.Weygand (Zagreb) W.Wolf (Tutzing), W.Zagorski (Warsaw), T.Zarvalis (Thessaloniki).

SPETSAI 1979

August 20 - September 2

PROTEIN - NUCLEIC ACID RECOGNITION AND INTERACTION

Organizers: M. Grunberg-Manago (Paris)(chairman), M.E. Buckingham (Paris), A.E. Evangelopoulos (Athens).

Lecturers and Lectures:

H. Bujard (Heidelberg): Promoter-polymerase interaction: physical mapping. Kinetic studies on function of RNA polymerase.
C. Cantor (New York): Cross-linking studies: structural sites on ribosomes. Fluorescence techniques: applications to nucleosomes.
P. Chambon (Strasbourg): Active chromatin. Ovalbumin genes.
B.F.C. Clark (Aarhus): tRNA interaction with elongation factor. tRNA interaction with the ribosome.
B.S. Cooperman: Ribosomal sites for antibiotic binding. Affinity labeling with application to ribosomes.
H. Delius (Basle): Heteroduplex mapping. Visualization of nucleic acid and protein complexes.
J.P. Ebel (Strasbourg): Ribosomal RNA and protein interactions. tRNA interaction with aminoacyl tRNA synthetase.
W. Gilbert (Cambridge Mass.): Sequencing methods for DNA and RNA.
D. Glover (Oxford): Organization of the *Drosophila* genome. rRNA genes in *Drosophila*.
F. Gros (Paris): Multiple gene families of the contractile proteins. Hu protein.
M. Grunberg-Manago (Paris): Components and sequence of initiation steps in prokaryotes - localization on ribosomes of initiation factors. Mechanism of selection of mRNA by ribosomes.
C. Weline (Paris): Functional groups in proteins and nucleic acids. Mechanism of quenching of aromatic aminoacid fluorescence in protein nucleic acid complexes.

J. Hershey (Davis Cal.): The mechanism of action of eukaryotic initiation factors. Translational control mechanisms in mammalian cells. Radioimmune assays. Preparation and use of antibodies.
P.H. von Hippel (New York): Structural features potentially useful in protein-nucleic acid interactions. Thermodynamic parameters and molecular properties of the *lac* repressor operator inducer DNA system. Interactions of nucleic acids and helix destabilizing proteins.
A. Klug (Cambridge): Nucleosome structure and its relation to higher order foldings. Interactions between TMV RNA and capsid protein.
P. Little : Globin gene organization.
M. Ptashne (Harvard): Lambda phage regulatory signals.
A. Rich (Cambridge MA): Different theories on the selective recognition of nucleic acids by protein. Gene 5 protein interaction with deoxynucleotides.
R.J. Roberts (Cold Spring Harbor): Adenovirus 2: gene organization and processing. Restriction enzymes.
S. Steitz (Yale): Ribosomal RNA precursors.
T. Steitz (Yale): Crystallographic methods with application to the structure of the repressor.
V. Sgaramella (Pavia): Transposons - expression of *E.coli* genes in *B.subtilis*. DNA ligases.
G. Stöffler (Berlin): Ribosome architecture.
C. Weissmann (Zürich): Vectors - plasmids. Interaction of Qß replicase with Qß RNA. Lambda. Cosmids. Yeast. SV40.
H.G.Zachau (München): Chromatin domains. Repetitive DNA sequences.

Participants:

no list available

SPETSAI 1980

August 30 - September 12

GENOME ORGANIZATION AND FUNCTION

Organizers: H.G. Zachau (München)(chairman), A.E. Evangelopoulos (Athens), H. Feldmann (München).

Lecturers and Lectures:

G. Bernardi (Paris): Sequence organisation of the eukaryotic genome.
M.L. Birnstiel (Zürich): Surrogate genetics in the *Xenopus* oocyte. Promoter elements of tRNA and 5S RNA genes. Promoter elements of mRNA genes.
B.F.C. Clark (Aarhus): General features of protein biosynthesis. The ribosome. Decoding and miscoding.
F.H.C. Crick (La Jolla): Supercoiled DNA. Selfish DNA.
M. Eigen (Göttingen): Criteria for determining evolutionary kinship relations. Mechanisms of template instructed polymerization. An attempt to reconstruct early evolutionary events from present experimental facts.
H. Feldmann (München): Organization and expression of tRNA genes. Mobile genetic elements. What is interesting in yeast?
G. Felsenfeld (Bethesda): Probing nucleosome structure. The forces of promoter stabilisation. Structure of transcriptionally active chromatin. The higher order structure of chromatin: physiochemical studies.
R.A. Flavell (London): The structure and sequence organization of globin genes. Expression of globin genes *in vitro*.
H.M. Goodman (San Francisco): Gene isolation, sequencing, and structure. Evolution of mammalian polypeptide hormon genes. Introduction of new genes into mammalian cells.
A. Klug (Cambridge): Chromatin I: nucleosome structure. Chromatin II: higher order structures.Three-dimensional structure determination of biological macromolecules by electon microscopy. The structure and mechanism of assembly of tobacco mosaic virus.
B. Müller-Hill (Cologne): Point mutations and the functional analysis of proteins. Gene fusions and the functional analysis of proteins. Construction of point mutations, deletions and gene fusions by manipulation of DNA *in vitro*.
K. Murray (Heidelberg): Comparative aspects of prokaryotic vectors. DNA transfer in eukaryotic cells. Hepatitis B virus and its molecular biology.
N. Murray (Heidelberg): Bacteriophage lambda. Applications of recombinant DNA technology to the molecular genetics of prokaryotes.
V. Pirotta (Heidelberg): *Drosophila* chromosomes. Development.
P. Reichard (Stockholm): DNA replication. Genome organization.
R. Roberts (Cold Spring Harbor): DNA sequence analysis. Restriction endonucleases. Adenovirus2: gene organization and RNA processing.
A. Tait (Edinburgh): Organisms, disease and the application of basic biological investigation. The genomes of parasites. Gene regulation and organization.
H.G. Zachau (München): Some facts on repetitive DNA and heterochromatin. Special aspects of chromatin. Immunoglobulin genes.

Participants:

O.Amster (Rehovot), V.Arnzel (Baltimore), N.A.van Arkel (Eindhoven), E.Back (Freiburg), B.W.Baer (Stanford), H.Bagci (Ankara), M.Bienz (Zürich), D.Blaas (Vienna), W.Block (Hannover), M.Blumenfeld (St.Paul Minn.), M.G.Bovida (Lisboa), S.Bodary (Geneva), R.K.Booth (Uppsala), D.Bramhill (Newcastle-upon-Tyne), A.M.C.Brown (Edinburgh), D.Büchel (Cologne), K.J.Burger (Würzburg), M.Bywater (Uppsala), J.Caraindros (Patras), Z.Carvalho (Oeiras), P.Charray (Paris), M.Choder (Rehovot), Y.W.Chooi (Bloomington Ind.), E.Ceglarz (Poznan), R.Clerc (Zürich), H.Cooke (Edinburgh), K.R.Dahlberg (Lincoln Neb.), A.Deggerdal (Oslo), A.Dollery (Salisbury), J.Drouin (San Francisco), C.Elsner (Berlin), M.Enigün (Istanbul), B.Felber (Bern), R.Frunzio (Naples), L.C.Fuith (Innsbruck), H.Gadler (Stockholm), A.Garel (Villeurbanne), N.Geisler (Göttingen), E.Gilson (Vincennes), A.Goldfarb (München), F.Gossard (Montreal), E.G.Gounaris (Thessaloniki), M.Grez (Berlin), R.Grosskopf (München), L.Hall (Glasgow), A.Haslinger (Vienna), H.Haymerle (Cambridge), R.Heierma.nn (Bochum), G.Heinrich (Basle), N.Heisterkarnp (Groningen), J.Höchtl (München), E.Hornes (Oslo), V.von Hoyningen (Giessen), M.A.Innis (Wilmington Del.), J.Jongstra (Basel), A.H.Jung (Cologne), A.Kalogeropoulos (Orsay), O.Kalogeropoulos (Gif-sur-Yvette), B.Kan (Istanbul), S.Kearsey (Oxford), H.S.Khan (Ankara), D.Kioussis (London), B.Kirdar (Istanbul), A.J.Kool (Amsterdam), K.K.Kotinis (Thessaloniki), J.Kurjan (Eugene Ore.), P.Labhart (Zürich), O.de Lapeyriere (Marseille), A.G.Larsen (Oslo), A.Lassar (St.Louis Miss.), A.La Volpe (Naples), M.Leitner (Rehovot), P.Levantis (London), A. Levy (Basel), I.Di Liegro (Palermo), W.Lindenmaier (Berlin), E.Livneh (Rehovot), B.Löwkvist (Lund), R.H.Lovell-Badge (Cambridge), Luo Zhong Xun (Rome), C.A.Maack (London), D.P.Matthopoulos (Ioannina), S.Mellon-Nussbaum (New-York), K.R.Mitchelson (Portsmouth), G.L.Norman (Los Angeles), G.J. & B. van Ommen (Amsterdam), B.A.Oostra (Groningen), M.L.Osorio Almeida (Olivais), F.Perrin (Strasbourg), F.Peters (Nijmegen), M.Philip (Basel), J.M.Pipas (Baltimore), L.Rat (Paris), B.Rexer (Tutzing), T.J.Richmond (Cambridge), I.Riede (Tübingen), H.Roiha (London), R.M.Ruiz-Vazquez (Berlin), S.Ruszoni (Zurich), M.Schäfer-Ridder (München), J.Schröder (Cologne), H.Schröter (Braunschweig), K.I.Seferiadis (Ioannina), C.K.Shewmaker (London), R.J.Shott (Glasgow), C.Sinogas (Oeiras), G.R.Smith (Eugene Ore.), G.Somme (Paris), J. Sonnenbichler (München), D.H.Spathas (Patras), L.Stefani (Glasgow), P.B.Suhr-Jessen (Copenhagen), G.Symonds (Rehovot), L.Thelander (Stockholm), S.H.Thorbjarnadottir (Reykjavik), S.T.Tjia (Cologne), A.Ullrich (San Francisco), A.J.Vandenberghe (Antwerpen), H.P.Vogt (Nijmegen), Y.Wang (München), A.Weydert (Paris), G.Widera (Braunschweig), R.Winkler-Ostwatitsch (Göttingen), D.E.Woods (London), J.M.Wower (Berlin), T.A.Zarvalis (Thessaloniki).

SPETSAI 1981

August 30 - September 12

CONTROL AND PROCESSING IN THE BIOSYNTHESIS OF MACROMOLECULES

Organizers: B.F.C. Clark (Aarhus)(chairman), A.E.Evangelopoulos (Athens), N.O.Kjeldgaard (Aarhus), A.E.Smith (London).

Lecturers and Lectures:

H. Bujard (Heidelberg): Control of transcription in prokaryotes.
B.F.C. Clark (Aarhus): Elongation and termination of protein biosynthesis. Ribosome structure.
P. Cohen (Dundee): The neutral and hormonal control of glycogen metabolism. Protein phosphorylation and the co-ordinated control of cellular activities by hormones.
J.G. Demaille (Montpellier): Phosphorylation and contractility: (i) Phosphorylation in the control of Ca^{++} fluxes through plasma and reticular membranes. (ii) Ca^{++}/ calmodulin - and cAMP-dependent phosphorylation of contractile and regulatory proteins.
B. Dobberstein (Heidelberg): Co- and post-translational modifications of proteins.
R.L. Erikson (Denver): RNA tumor viruses. Cell transformation and protein phosphorylation.
H. Feldmann (München): Structure and expression of mitochondrial DNA.
W. Fiers (Gent): RNA bacteriophage as model system in molecular biology. Expression of cloned genes in *E.coli*. The human fibroblast interferon gene.
M. Grunberg-Manago (Paris): Initiation and regulation of prokaryotic protein synthesis. Initiation of mammalian protein synthesis. Translational control of gene expression in prokaryotes.
R. Kamen (London): Trancription in eukaryotes.
N.O. Kjeldgaard (Aarhus): The transcription and its control in prokaryotes. The molecular biology of retroviruses.
A.Klug (Cambridge): The structure of the nucleosome and the folding of chromatin. Chromatin and DNA structure probed by nuclease digestion.
P. Kourilsky (Paris): Structural organization of eukaryotic genes.
A.J. Levine (Stony Brook): Viral transformation - DNA tumor viruses.
G. Marbaix (Rhodes-St-Genese): Studies on the translation of mRNAs microinjected into *Xenopus* oocytes.
R. Palmiter (Seattle): Molecular aspects of hormone action.
D.A. Peattie (London): Chemically probing RNA sequences, conformations, and intermolecular interactions - experimental results and methodology.
T.E. Petersen (Aarhus): Proteolysis in biological regulation.
G. Schatz (Basle): Synthesis and transport of mitochondrial proteins.
A.E. Smith (London): Eukaryotic viruses as models for cellular regulation.
H. Soreq (Rehovot): The use of microinjected *Xenopus* oocytes for the expression of scarce mRNA species directing the synthesis of biologically active proteins.
G. Tocchini-Valentini (Rome): Transcription of eukaryotic tRNA genes.
C.Weissmann (Zürich): Isolation and characterization of eukaryotic genes. Investigation of structure-function relationships by reverse genetics.

Participants:

E.Ackerman (Cambridge), A.Adarns (London), A.Aitken (Dundee), S.Alonso (Paris), P.Andersen (Aarhus), N.Axelsen (Copenhagen), R.E.Baker (München), M.Bernöng (Lund), J.Biard (Grenoble), J.Bingdong (Cold Spring Harbor), C.Birchmeier (Zürich), C.R.Birkett (Canterbury), E.Bock (Copenhagen), H.J.Brüning (Braunschweig), J.Buchanan (London), M.N.Carin (Istanbul), I.N.Clarke (Coventry), S. Compere (Seattle), K.G.Cook (Newcastle upon Tyne), N.Courty

(Athens), H.H.Dahl (London), O.Danos (Paris), K.Dawidowitz (Caracas), G.Dimitriadis (Athens), A.Dmochowska (Warsaw), H.Domdey (Lausanne), M.Dumont (New Haven), N.Eberhardt (San Francisco), P. Favrizio (Rome), J.Favaloro (London), D.Ferbus (Paris), L.Firetti (Pavia), P.Filetici (Basel), A.Fjose (Bergen), G.Galli (Zürich), A.Garcia (Paris), I.Garcia (Paris), D.Gardner (San Francisco), T.Giannakouros (Thessaloriki), P.Giardina (Naples), K.Giesecke (Berlin), I.Giraudat (Paris), S.Goelz (Basel), G.Görtz (München), J.Gould (Edinburgh), E.Gounaris (Thessaloniki), A.Gozdzicka-Jozefiak (Poznan), R.Harvey (London), N.Hay (Rehovot), N.Hernandez (Heidelberg), B.van Heuverswyn (Brussels), P.Hjorth (Aarhus), A.Hradilek (Prague), T.Ingebritsen (Dundee), M.Innis (Berkeley), K.D.Jentsch (Aarhus), S.J.Johnson (Calgary), O.Kämpe (Uppsala), D.Kalderon (London), N.Kalkkinen (Helsinki), K.Kannan (London), L.Kayrin (Ankara), N.Kecskemethy (Bochum), R.Koren (Rehovot), K.Kotinis (Thessaloniki), G.I.Kristjansson (Uppsala), A.Larnouroux (Orsay), N.Lan (San Francisco), A.Laskaridou (Athens), E.Lazar (Strasbourg), A.R.Leal Lino (Lisboa), M.A.A.Lebrero (Madrid), A.Levi (Rehovot), A.Levinson (San Francisco), H.Lorberboum (Jerusalem), T.Maassen (Leiden), G.Marbaix (Rhodes-St-Genese), F.Maschat (Paris), G.J.Matlashewski (Ontario), P.Matthias (Heidelberg), D.P.Matthopoulos (Ioannina), M.Mazon (Madrid), J.McVey (Glasgow), S.Merten (Strasbourg), M.Michelinakis (Patras), F.D.Miller (Alberta), J.A.Mitlin (London), R.Monk (Philadelphia), M.D.Morch (Paris), J.Morris (Cambridge), E.Müller (Vienna), L.Nelles (Wilrijk), M.H.M.Noteborn (Groningen), C.O'Reilly (Dublin), E.M.Palla (Pavia), J.Panourgias (Athens), A.Papahajopoulou (Patras), M.Patrinou-Georgollas (Athens), D.Peattie (London), T.E.Petersen (Aarhus), M.Podravec (Zagreb), S.Raftopoulos (Patras), T.Rapoport (Berlin), C.Rodrigues-Pousada (Oeiras), J.C.L.Sanjuan (Madrid), T.Sclaviadis (Thessaloniki), Z.Scouras (Thessaloniki), K.Seferiadis (Ioannina), E.Sheybani (Geneva), A.L.Sivertsen (Copenhagen), H.Slegers (Wilrijk), T.Smith (Amersham), H.Soreq (Rehovot), M.Streiff (Basel), M.Stupar (Futog), D.Stüber (Heidelberg), C.Swirrmer (Stony Brook), U.Szybiak (Poznan), K.Szyfter (Poznan), M.Tenniswood (London), R.Terracol (Paris), J.Thompson (Amherst Mass.), K.K.Thomsen (Aarhus), T.Trangas (Athens), A.S.Tsaftaris (Thessaloniki), M.Urban (Cologne), C.Urbanke (Hannover), M.Varsanyi (Bochum), M.R.Vasconcelos (Lisboa), T.M.Veldman (Amsterdam), C.Watson (London), I.Weygand (Zagreb), B.Will (Edinburgh), H.Witkiewicz (Innsbruck), W.Wolf (Tutzing), J.Zarkadis (Patras), D.Zevin-Sonkin (Rehovot).

SPETSAI 1982

August 30 - September 11

REGULATION OF GENE EXPRESSION IN PROKARYOTES AND EUKARYOTES

Organizers: M. Grunberg-Manago (Paris)(chairman), A.L. Haenni (Paris), E. Brody (Paris), A.E.Evangelopoulos (Athens).

Lecturers and Lectures:

J. Abelson (San Diego): A role for the intervening sequence in the biosynthesis of yeast tyrosine tRNA. Mechanism of ligation during tRNA splicing.
D. Baltimore (Cambridge Mass.): Decision making in the immune system. Viral oncogenes and cell transformation.
C. Blasi (Naples): Regulation by attenuation in bacteria.
E. Brody (Paris): Bacteriophage-coded regulators of transcription. Selfrecognition and protection of bacteriophage DNA.
T. Caskey (Houston): Phenotypic reversion at the HGPRT locus as a consequence of gene amplification. Molecular alterations in the HGPRT locus of rodents and man.
B.F.C. Clark (Aarhus): The elongation step of protein biosynthesis.
D. Dixon (Brighton): Regulation of the expression of the nitrogen fixation (Nif) operons.
J.P. Ebel (Strasbourg): The structure of transfer RNA and its interaction with elements of the translation machinery. Structure and function of ribosomes.
R.A. Flavell (London): Structure and expression of haemoglobin genes. Structure and function of the genes encoding the major histocompatibility complex (MHC) of the mouse.
R. Gesteland (Salt Lake City): The role of tRNA in the regulation of gene expression.
M. Grunberg-Manago (Paris): Regulation of gene expression of translational components of bacteria.
R. Gumport (Urbana Ill.): Site-specific mutagenesis.
A.Haenni (Paris): Plant viral genomes.
T. Hunt (Cambridge): Protein synthesis and its control in reticulocyte lysates.
T. Igo-Kemenes (München): Structure of chromatin and chromosomes. Active chromatin.
W. Keller (Heidelberg): Transcription and RNA processing in eukaryotes. Transcription and RNA processing by the tumor viruses.
U.Z. Littauer (Rehovot): Control of the diversity of micotubule proteins during nerve outgrowth and differentiation.
M. Rosenberg (Bethesda): Protein-nucleic acids interactions involved in transcription activation. Using the *E.coli* galactokinase gene to study prokaryotic and eukaryotic gene control elements.
M. Schwartz (Paris): Protein export in bacteria.
P. Slonimski (Gif-sur-Yvette): The interplay of maturases and signal sequences of split mitochondrial genes.
A. Ullmann (Paris): Regulation of catabolic operons in *E.coli*.
C. Weissmann (Zürich): Functional analysis of eukaryotic genes by reversed genetics.

Participants:

J.Ackroyd (Brighton), H.D.Andersen (Aarhus), A.Athanassiadou (Patras), R.Bernander (Lund), E.Boel (Baksvaerd), U.Bonas (Cologne), S.Bray (Cambridge), P. Britton (Cambridge), G.Bugaisky (Paris), L.Bugaisky (Paris), D.W.Burt (Leicester), A.Cano (Madrid), O.Capasso (Naples), A.Carrasco (Basel), M.Cazillis (Orsay), C.Chapon (Paris), S.Chladek (Detroit), N.Coppard (Aarhus), F.Creusot (Paris), R.Crkvenjakov (Belgrade), M.David (Castanet-Tolosan), A.M.Degener (Rome), D.Denicourt (Rhodes St.Genese), C.Edelist (Orsay), P.Ferrara (Paris), J.Finidori (Creteil), E.Firpo (Buenos Aires), S.Forss (Heidelberg), M.Frangou Lazaridis (Ioannina), A.Frisch (Tel Aviv), J.Frydenberg (Aarhus), H.Galski (Jerusalem), T.Geller (Rehovot), R.Gentz (Heidelberg), R.Gesteland (Salt Lake City), P.Giacomoni (Villejuif), E.Grelland (Oslo), L.Guang-Di (München), M.L.Guerinot (East Lansing), A.Guialis (Athens), R.Gumport (Urbana), J.F.Hasson (Paris), P.Haliotis (Kingston Can.), L.Hellman (Uppsala), M.Henry (Grenoble), C.Hughes (Würzburg), I. Ioannou (Athens), T.Jakubowicz (Lublin) D.J.Jeenes (Gwynedd), J.Jensen (Brighton), L.K.Jolliffe (Piscataway NJ), D.J.Joslyn (Camden), M.Joannaud (Paris), S.Kagan (Norwich), C.A.Komly (Joinville), Z.Koukolikova-Nicola (Basle), M.Kröger (Freiburg), G.Langsley (Edinburgh), I.Lazaridis (Ioannina), K.A.W.Lee (Montreal), C.Levy (Basle), M.Lewis (Cambridge), M.Lipoldova (Prague), I.Malec (Salzburg), G.de Martinoff (Bussels), J.McCafferty (Glasgow), P.Melancon (Madison), D.Melloul (Rehovot), H.I.Miller (Rockville), S.Morley (Cambridge), N.Moschonas (Athens), K. Nagai

(Cambridge), Y.Ohyama (Tokyo), C.Oker-Blom (Helsinki), H.Pannekoek (Amsterdam), G.Pande (Rome), C.Parsot (Paris), E.Pashnina (Rehovot), J.C.Patte (Orsay), E.Patzelt (Vienna), A.J.Perlman (New York), H.U.Petersen (Aarhus), J.Piette (Brussels), F.Poirier (Orsay), D.Przybyl (Freiburg), R.Rappuoli (Siena), S.M.H.Richardson (Dundee), H.Riedel (Heidelberg), F.Robbiati (Milan), A.Rosenthal (Jerusalem), V.Russo (Berlin), T.R.Rutherford (Oxford), C.Sacerdot (Paris), Santos Lemos (Porto), T.Samuelsson (Göteborg),. H.Schnabel (München), R.Schnabel (München), U.Schomburg (Hamburg), M.Sikorski (Berlin), V. de Simone (Naples), J.Skouv (Copenhagen), D.Smith (Cambridge), M.Soria (Pavia), R.Sprengel (Heidelberg), P.Stanssens (Gent), A.Steinmetz (Strasbourg), P.Stiegler (Strasbourg), N.Strandberg-Pedersen (Copenhagen), M.Streuli (Zürich), L.Symington (Glasgow), D.Synetos (Patras), P.Szafranski (Warsaw), P.Terpstra (Rotterdarn), J.J.Toulme (Paris), R.Villaroel-Mandolia (Gent), D.Vogel (Berlin), D.Weichenhan (Oldenburg), W.Werr (Cologne), S.W.White (Berlin), S.Whitehouse (London), S.Wright (London), Z.Xian-Yang (München), P.Zabel (Wageningen), T.A.Zarvalis (Thessaloniki).

SPETSAI 1983

August 28 - September 10

MOLECULAR BIOLOGY OF ANIMAL CELLS

Organizers: C.T. Caskey (Houston)(chairman), J. Hershey (Davis Cal.), J. Paul (Glasgow), A.E.Evangelopoulos (Athens).

Lecturers and Lectures:

P.Borst (Amsterdam): The mechanism of antigenic variation in trypanosomes. Gene rearrangements controlling differentiation.
E.M. Bradbury (Davis Cal.): Chromatin and chromosome structure.
M.E. Buckingham (Paris): Skeletal muscle myogenesis as a model system for the study of terminal differentiation. Actin and myosin coding sequences: their genomic structure, organisation, and expression.
M.R. Capecchi (Salt Lake City): Studies of recombination between DNA molecules microinjected into cultured mammalian cells. Informational suppressors in cultured mammalian cells.
C.T. Caskey (Houston): Selection and characterization of induced mutations and gene amplification in cultured cells. The HPRT locus - structure, mutations, and gene transfer.
A. Efstratiadis (New York): The structure, evolution and expression of preproinsulin genes. DNA conformation of eukaryotic promoters.
H. Feldmann (München): Structure and expression of mitochondrial DNA. Organizational patterns and expression of eukaryotic tRNA genes.
W.W. Franke (Heidelberg): Cytoskeleton: the insoluble proteinaceous architectual framework of the mammalian cell. The desmosome - an example of a specific membrane-filament complex.
J.W.B. Hershey (Davis Cal.): The mechanism and control of protein synthesis in mammalian cells. The role of initiation factors in translational control.
L.H. Hood (Pasadena): Antibody genes. Genes of the major histocompatibility complex.
K. Illmensee (Geneva): Mammalian chimeras. Experimental genetics of the mouse embryo.
C. Kedinger (Strasbourg): Eukaryotic promoter control. Sequence elements controlling the transcription of adenovirus protein coding genes.
C.J. Marshall (London): The transformed cell. Cellular oncogenes studied by DNA mediated gene transfer.
R.D. Palmiter (Seattle): Transcriptional control in mammalian systems. Gene transfer into mammals.
J. Paul (Glasgow): Unorthodox aspects of globin gene transcription. Normal and abnormal gene expression.
L. Philipson (Heidelberg): Control of adenovirus gene expression. Region E1A-mediated control of early adenovirus gene expression.
R.G. Roeder (New York): *In vitro* analysis of the mechanism and regulation of transcription of class III genes. *In vitro* analysis of the mechanism and regulation of transcription of class II genes.
W. Schaffner (Zürich): Enhancer sequences.
D.S. Secher (Cambridge): Monoclonal antibodies. Interferon purification and assay.
C. Weissmann (Zürich): RNA splicing - an overview. RNA splicing - analysis by
classical and reverse genetics.
K. Willecke (Essen): Molecular biology of gap junctions - organelles for intercellular communication. Oncogenes derived from normal and tumorigenic cells.

Participants:

R.Abulafia (Rehovot), C.Agelidis (Ioannina), R.L.Allgren (Stanford), G.Almis-Kanigur (Istanbul), J.Alves (Hannover), A.Anagnostopoulou (Patras), A.M.Aragay (Barcelona), J.Arendes (Mainz), A.Ashworth (London), V.Attadia (Naples), E.Barbanti (Naples), H.Z.Barbera-Saldana (Strasbourg), G.Barsh (Seattle), P.J.R.Barton (Paris), D.P.Bazett-Jones (La Jolla), G.Bengha (Cluj-Napoca), F.Broders (Paris), M.L.Cardoso de Almeida (Cambridge), S.L.Carrol (Houston), W.K.Cavenee (Salt Lake City), M.Ciangriglia (Siena), W.Craigen (Houston), U.Danesch (Heidelberg), B.R.Davis (El Toro Cal.), B.Devaux (Paris), P.de Vilee (Leiden), L.Dirckx (Leuven), B.Distel (Amsterdam), B.Ek (Uppsala), J.Engelbrecht (Copenhagen), S.Eriksson (Stockholm), J.Feigon (Cambridge Mass), J.P.Gagner (Montreal), A.Gal (Gif-sur-Yvette), R.Galler (Heidelberg), T.Gerster (Heidelberg), J.A.Grifo (Cleveland), R.A.Grymes (Stanford), K.Gustafsson (Uppsala), K.Hammarstrom (Uppsala), O.C.Hansen (Copenhagen), D. Hartley (London), Y.Hassan (Beer-Sheva), A.Hatzopoulos (Evanston Ill.), M.M.Heck (Baltimore), I.A.Hope (Edinburgh), G.Huber (Basle), M.Hulethel (Beer-Sheva), E.Ioakimidis (Berlin), D.A.Jackson (Oxford), H.Jacobsen (Heidelberg), S.B.Jakowijew (Strasbourg), A.Jalanko (Helsinki), M.W.Kilimann (München), T.Kleinberger (Rehovot), A. Kramer (Heidelberg), E.M.Lafer (Cambridge Mass.), C.Lasserre (Paris), R.Lathe (Strasbourg), M.Laughrea (Montreal), R.Layden (London), T.Leandersson (Basle), G.Levi (Rehovot), M.Levi-Strauss (Paris), R.Lewis (New Haven), A.Lopo (Davis Cal.), A.Freytag von Loringhoven (München), K.H.Lundström (Helsinki), G.Macgregor (Brighton), F.McCormick (Berkeley), D.Majiecko (Warsaw), R.Male (Bergen), C.Malet (Kremlin-Bicetre), J.Marynski (Brussels), G.Mengod (Basle), R.Mortara (Cambridge), N.R.Movva (Geneva), A.S.Muel (Paris), M.Müller (Cologne), S.Müller (Strasbourg), E.J.Murray (London), J.L.Nahon (Gif-sur-Yvette), S.Nasi (Rome), M.Ozguc (Ankara), I.C.Pangiotidis (Thessaloniki), A.Papachatopoulou (Patras), E.Paulssen (Oslo), L.Peltonen (Oulu), B.Pentecost (Calgary Alb.), G.de Petro (Pavia), D.Phillips (London), B.Piechulla (Göttingen), T.Pieler (Berlin), L.Pitto (Pisa), S.E.Plon (Cambridge Mass.), G.A.Rappold (Heidelberg), J.K.V.Reichardt (Stanford), K.Robson (Oxford), U.B.Rosenberg (Tübingen), U.Rüther (Cologne), M.Schmidt (Würzburg), C.Schneider (London), D.L.Simmons (Edinburgh), D.Spathas (Patras), H.Storchova-Grunnerova (Prague), K.Strub (Zürich), V.Subramanian (Hyderabad), K.Takkinen (Helsinki), J.Taljanidis (Budapest), V.M.Taylor (Cambridge), C.Tyler-Smith (Edinburgh), A.Utterlinder (Rijswyk), N.V.Ursini (Naples), K.Vass (Glasgow), M.Verhoyen (Gent), T.F.Vogt (Philadelphia), U.H.Weidle (Tutzing), T.Williams

(London), A.P.Wolffe (London), L.Yaneva (Sofia).

SPETSAI 1984

August 30 - September 12

GENOME ORGANIZATION AND FUNCTION

Organizers: H.G. Zachau (München)(chairman), A.E. Evangelopoulos (Athens), H. Feldmann (München), T. Igo-Kemenes (München).

Lecturers and Lectures:

D. Baltimore (Cambridge Mass.): Immunoglobulin genes. Viral oncogenes.
P. Borst (Amsterdam): Gene amplification and other forms of gene rearrangements. Gene rearrangements and modification controlling antigenic variation in trypanosomes.
B. Daneholt (Stockholm): Higher order structures in chromatin. Formation and transport of hnRNP particles. The Balbiani ring genes - an example of satellite-like evolution.
M. Eigen (Göttingen): The optimization of genes and their products.
H. Feldmann (München): Organizational patterns and expression of eukaryotic tRNA genes. Organization and function of mitochondrial genomes.
G.R. Fink (Cambridge Mass.): *Cis*- and *trans*-acting elements in *HIS4* regulation in yeast.
M. Grunberg-Manago (Paris): Translational factors. Regulation of gene expression of translational components in prokaryotes.
P. Gruss (Heidelberg): Enhancers as transcriptional control elements. Transcriptional aspects of the differentiation of terato-carcinoma stem cells.
T. Igo-Kemenes (München): The structure of chromatin: nucleosome phasing. Active chromatin.
F. Kafatos (Harvard): The chorion of insects as a model system for the study of cell differentiation and molecular evolution.
S. McKnight (Seattle): Expression of genes in transgenetic mice. Mechanisms of steroid hormone action.
F. Melchers (Basle): T Lymphocyte-dependent and independent B lymphocyte activation to proliferation and immunoglobulin secretion. Development of B cells from stem cells.
K. Murray (Edinburgh): The present generation of phage lambda vectors which allow direct selection of recombinants. Molecular biological approaches to the study of viral hepatitis. Genetic manipulation in industrial biology.
R. Roberts (Cold Spring Harbor): Application of computers to research on nucleic acids. Structure and function of the adenovirus 2 genome. Structure and function of restriction enzyme genes.
G.M. Rubin (Bethesda): Transposable elements in *Drosophila*. Genetic transformation of *Drosophila*. Molecular genetics of the *white* locus.
B. Shilo (Rehovot): Viral and cellular oncogenes. Human tumor oncogenes. Drosophila cellular oncogenes.
M. Steinmetz (Basle): Molecular genetics of the major histocompatibility complex.
C. Weissmann (Zürich): RNA splicing. Interferon genes and their expression.
R. Winkler (Göttingen): Comparative sequence analysis.
H.G.Zachau (München): Repetitive DNA. Structure and expression of immunoglobulin genes.

Participants:

D.Aghib (Milan), M.D.Amaral (Lisboa), P.Angel (Karlsruhe), A.Avni (Rehovot), T.Barlow (Stockholm), A.Bartoszek (Gdansk), K.Beaucamp (Tutzing), C.Berger (Basle), M.Bergman (Stockholm), J.Bernheim (Brussels), B. Berse (Warsaw), B.Bienz (Rehovot), M.Bourouis (Strasbourg), S.Burckhardt (Cologne), N.Busso (Villejuif), Shing Chang (Emeryville Ca), T.Christensen (Aarhus), M.H.Citterich (Rome), P.M.Couble (Villeurbanne), D.H.Coucheron (Trondheim), N.C.P.Cross (Cambridge), I.Davidson (Glasgow), J.L.Degen (Basle), S.J.Degen (Basle), J.L.N.Derbyshire (Cambridge), J.J.Devlin (Cambridge), H.Dinter (Braunschweig), R.M.Duvoisin (Geneva), P.Eckes (Cologne), L.Ettinger (Jerusalem), A.Fontaine (Geneva), M.D.Ford (London), F.V.Fuller-Pace (Edinburgh), M.L.P.Galego (Oeiras), C.Galup (Nice), A.Ganguly (Calcutta), I.Garner (Paris), S.M.Gasser (Geneva), A.Gautier (Geneva), P.Ghazal (Edinburgh), M.Gessler (Giessen), M.I.S.Gomes (Lisboa), D.R.Greaves (London), P.Hantzopoulos (New York), B.Herrmann (Heidelberg), A.Hill (Oxford), C.S.L.Höög (Stockholm), A.L.Jörgensen (Aarhus), C.Kessler (Tutzing), E.Kjeldsen (Aarhus), W.Klump (München), B.König (Frankfurt), B.Korczak (Toronto), A.Koromilas (Thessaloniki), A.Kretsovali (Paris), G.Krupp (New York), I.Kryspin-Sörensen (Gentofte), A.Kumar (Washington), S.Lambert (Cambridge), P.Landolt (Fribourg), B.Lapeyre (Toulouse), F.E.Leichtfried (Vierna.), L.Lemieux (Nice), Y.Lemoine (Strasbourg), E.Lötscher (München), D.E.Lohr (Tempe Arz.), C.Lougovoi (Thessaloniki), D.G.Lowe (Toronto), B.Lüscher (Zürich), S.Luria (Rehovot), V.Maksimovic (Belgrade), R.S.Mann (Cambridge Mass), A.Maouri (Thessaloniki), A.Marmenout (Gent), NI.C.Martinez-Gomes (Barcelona), I.Mason (London), J.F.Mastronardy (New Jersey), M.J.McLean (Birmingham), B.Mertens (Leuven), H.Meunier (London), S.E.Millar (London), K.Moses (Cambridge), C.R.Müller (Würzburg), B.S.Munro (Cambridge), S.Muyldermans (Saint-Genesius-Rhode), I.Nikas (Glasgow), G.Nilsson (Umea), A.Bzer (Istanbul), K.E.O'Neill (Cold Spring Harbor), C.A.Pangiotidis (New Haven), K.Paulsen (Freiburg), P.Pfeiffer (Strasbourg), S.P.Mungio (Barcelona), I.Puff (Würzburg), V.Raymond (Oxford), U.Rdest (Würzburg), P.Ricciardi-Castagnoli (Milan), A.Riccio (Naples), A.Di Rienzo (Rome), R.Rigler (Stockholm), M.J.Rogers (Birmingham), S.Rosahl (Cologne), P.Ruzicska (Szeged), S.Schiebel (München), C.Schmutzler (Würzburg), B.J.Scholte (Amsterdam), Z.Scouras (Thessaloniki), K.Sege (Uppsala), A.Sette (Rome), A.Sidoli (Oxford), A.Simeone (Naples), F.Sinangil (Omaha Ne), C.Sorbas (München), A.Spandidos (Glasgow), G.Spyrou (Stockholm), C.Stein (Rehovot), M.D.Strathearn (Urbana), B.Straubinger (München), K.Strebel (Heidelberg), B.Suri (Basle), D.Tautz (Cambridge), B.Timmerman (Gent), K.Tyc (Warsaw), M.Uhlen (Stockholm), E.Vakalopoulou (München), C.L.Verweij (Amsterdam), H.Vogelsang-Wenke (München), N.Warburton (High Wycombe), F.Weber (Zürich), U.H.Weidle (Tutzing), G.Weisinger (Rehovot), M.Wende (Berlin), R.F.J.de Winter (Portsmouth), H.Wolfes (Hannover), B.Wulff (Copenhagen), Y.Yarden (Rehovot), D.Zajchowski (Strasbourg), I.Zarkadis (Patras), T.Zarvalis (Thessaloniki).

SPETSAI 1985

September 1 - September 14

MATURATION AND MIGRATION OF PROTEINS

Organizers: B.F.C. Clark (Aarhus)(chairman), A.E. Evangelopoulos (Athens), G. Schatz (Basle).

Lecturers and Lectures:

B.F.C. Clark (Aarhus): Protein biosynthesis.
J. Davis (Geneva): Biotechnology.
R.L. Erikson (Cambridge. Mass.): Functional significance of post-translation modification of proteins. Does reversible protein phosphorylation play a role in the regulation of cell growth or malignant transformation?
A.E. Evangelopoulos (Athens): Control of cellular activity by protein phosphorylation- dephosphorylation processes.
M. Grunberg-Manago (Paris): Regulation of gene expression of translational components in prokaryotes. Aminoacyl-tRNA synthetases.
R. Henderson (Cambridge):
G. Koehler (Freiburg): Monoclonal antibodies.
C. Kurland (Uppsala): Tuning the ribosome.
D. Louvard (Paris): Development of cell polarity using an established epithelial cell-line *in vitro*. Organelle-specific antibodies as probe to study intracellular transport.
D. Meyer (Heidelberg): Translocation of nascent peptides across the membrane of the endoplasmic reticulum: Step one in intracellular transport. Cotranslational events in peptide secretion: the translocation system of rough endoplasmic reticulum.
N. Nelson (Nutley. NJ.) : Biogenesis and assembly of protein complexes in energy-transducing membranes.
E.de Robertis (Basle): Tissue-specific expression.
J.-D.Rochaix (Geneva): Biosynthesis and assembly of chloroplast proteins involved in photosynthesis. Synthesis, assembly and properties of two important chloroplast polypeptides.
J. Sambrook (Cold Spring Harbor): Transport of viral proteins in mammalian cells.
G. Schatz (Basle): The biogenesis of mitochondria: background. The biogenesis of mitochondria: How proteins are imported into specific intra-mitochondrial locations.
M. Schwartz (Paris): The secretion of proteins by bacteria. The use of Petri dishes and mice to study the structure of a membrane protein.
T.J. Silhavy (Princeton): The use of gene fusions to study protein localization. Intragenic information specifying export of lambda to the outer membrane of *E.coli*. Genetic identification of cellular components of the export machinery.
K. Simons (Heidelberg): The life cycle of an enveloped virus in its host cell. The use of enveloped viruses to study the biogenesis of cell surface polarity in epithelial cells.
W. Tanner (Regensburg): Protein glycosylation: (1) The pathways of protein N- and O-glycosylation. (2) Possible role of carbohydrate moieties of glycoproteins.
B. Wickner (Los Angeles): Mechanisms of bacterial membrane assembly.

Participants:

S.Alexson (Stockholm), P.Andersen (Aarhus), J.Armstrong (Warwick), P.Baeuerle (Martinsried), G.Banting (London), J.Barbas (Madrid), A.Baroin (Gif-sur-Yvette), M.Berger (Giessen), Y.Berko-Flint (Rehovot), N.Bilgin-Aktar (Istanbul), J.Blenis (Cambridge. Mass), O.Blingsmo (Oslo), A.Boukla (Thessaloniki), G.van den Broeck (Gent), T.Buerglin (Basle), N.Campos (Barcelona), J.Cavallius (Aarhus), C.Chia (East Lansing. Michigan), V.Citovski (Jerusalem), M.Courtney (Strasbourg), S.Cox (Canterbury), A.Delahodde (Gif-sur-Yvette), I.Diamantis (Basle), G.Dinos (Patras), G.Durso (Seattle), P.Ferreira (Porto), V.Feys (Gent), P.Fragapane (Rome), G.Fumagalli (Milan), A.Futerman (Rehovot), M.Gallagher (Dundee), P.Gallagher (Cold Spring Harbor), R.Gentz (Basle), T.Giannakouros (Thessaloniki), Y.Gibson (Leicester), P.Gluschankof (Paris), E.Gormley (Dublin), C.Halpin (Warwick), E.Hatzivassiliou (Thessaloniki), R.Hengge (Konstanz), D.Henning (Giessen), D.Henrique (Oeiras), M.Herruer (Amsterdam), M.Hortsch (Heidelberg), L.Honberg (Valby), M.Ioannou (Patras), E.Jackson (Valby), G.S.Jensen (Aarhus), J.Lipp (Heidelberg), M.E.Lloyd (Edinburgh), C.Lougovoi (Thessaloniki), I.R.Lund (Copenhagen), S.Macintyre (Tübingen), B.Maier (Freiburg), A.Maouri (Thessaloniki), P.Mariottini (Rome), P.Martinez (Barcelona), C.Martins de Sa (Paris), N.Matta (Kurukshetra), A.Mitraki (Orsay), J.Mulholland (Aachen), N.Nikolakaki (Thessaloniki), L.Nilsson (Stockholm), O.Nybroe (Copenhagen) P.Oudshoorn (Amsterdam), A.Pantazaki (Thessaloniki), H.Pahverk (Uppsala), G.Patey (Gif-sur-Yvette), E. Paulssen (Oslo), H. van Pelt-Heerschap (Leiden), B.Petridou (Paris), N.Pfanner (Munich), L.Popolo (Milan), C.Prody (Rehovot), S.K.Rhee (Seoul), J.Roitelman (Tel Aviv), I.Sadler (Munich), F.Schirmaier (Basle), H.Semb (Umea), L.Severinsson (Uppsala), D.Simmons (Edinburgh), D.Sofianos (Athens), U.Stochaj (Cologne), J.Struck (Berlin), I.Suominen (Turku), S.Tapio (Uppsala), J.Tavernier (Gent), R.Tipirdamaz (Ankara), R.Valle (Paris), U.Weidl.e (Tutzing), H.Wikström (Uppsala), C.Witte (Basle), T.Zarvalis (Thessaloniki), J.Zeleny (Prague).

SPETSAI 1986

August 31 - September 13

MOLECULAR GENETICS OF MICROORGANISMS

Organizers: M. Grunberg-Manago (Paris)(chairman), A.E. Evangelopoulos (Athens), J.P. Lecocq (Strasbourg), M. Schwartz (Paris).

Lecturers and Lectures:

W. Boos (Konstanz): Active transport system in bacteria.

P. Boquet (Paris): Microbial toxins.
P. Borst (Amsterdam): 1.Discontinuous transcription of protein-coding genes in trypanosomes and related protozoa. 2.Gene rearrangements and gene modification controlling antigenic variation in trypanosomes and in bacteria.
E. Brody (Paris): l.Yeast nuclear pro-mRNA splicing. 2.The yeast spliceosome and its components.
L. Bosch (Leiden): Gene organization and expression of prokaryotic and eukaryotic elongation and termination factors.
B.Chassy (Bethesda): 1.Molecular biology of lactic acid bacteria. 2.Application of lactic bacteria in food technology, agriculture and industry.
J. Davies (Paris): Protein migration and maturation in biotechnology.
H. Feldmann (Munich): 1.Eukaryotic tRNA genes as a model for expression and its control.
2.Repetitive transposable elements in yeast: organisation and function.
C. Georgopoulos (Geneve): l.Bacteriophage lambda - E.coli interactions. 2.The heat shock response in E.coli.
M. Grunberg-Manago (Paris): 1.Translational autoregulation of threonyl-tRNA synthetase expression. 2.Mechanism of regulation of translational initiation factors expression.
J.W.B. Hershey (Davis Ca.): 1.Regulation of prokaryotic translation and the synthesis of ribosomes. 2.Translational control in eukaryotic cells.
M. Holland (Davis Ca.): 1.Regulation of mRNA and rRNA synthesis in *Saccharomyces cerevisiae.* 2.Regulation of expression of yeast glycolytic genes.
F.Imamoto (Wako Jap.). Molecular structure and transcriptional control of the two tRNA(fMet) species.
D. Kaiser (Stanford): Social cells and intercellular communications.
J.-P. Lecocq (Strasbourg): l.Prokaryotic and eukaryotic vectors for gene expression: which one and when? 2.Molecular biology and rabies: a step to a "comeback" of vaccinia virus among vaccines.
R. Losick (Cambridge Mass.): RNA polymerase heterogeneity. 2.Genetics of endospore formation.
M. van Montagu (Gent): Regulation of gene expression in plants.
W. Neupert (Munich): How mitochondria import proteins from the cytoplasm and how these proteins are correctly distributed within mitochordria.
T. Platt (Rochester): 1.Gene regulation by transcription termination in prokaryotes. 2.Gene regulation by transcription termination in yeast and higher eukaryotes.
M. Schwartz (Paris): 1.Protein export. 2.The secretion of proteins by bacteria.
P. Slonimski (Gif-sur-Yvette): Intron encoded proteins from mitochondria: key elements of gene expression and genomic evolution.
W. Szybalski (Madison): Anti-termination of transcription and novel regulatory circuits.
A. Toussaint (Rhode-St.-Genese): 1. Mobile genetic elements of bacteria and their mechanism of transposition. 2. Mu and transposons as genetic tools in gram bacteria.
A. Ullmann (Paris): 1.Cyclic AMP in bacteria: catabolite repression. 2.Cyclic AMP and bacterial virulence.

Participants:

L.B.Abrahamsen (Stockholm), P.F.de Almeida (Oeiras), P.Ameloot (Gent), C.R.de Andrade (Recife), P.P.de Andrade (Recife), E.Arikan (Diyarbakir), M.C.Arikan (Ankara), A.Banerjee (New-Dehli), I.G.A.M.Bakkeren (Basel), K.Bauer (Konstanz), P.Bertin (Louvain-la-Neuve), C.Bibus (Basel), C.Bourgouin (Paris), A.Brändli (Basel), Y.Brun (St.Foy C.), P.Bruneau (Charbonnieres), S.Brunet (Aulnay-sous-Bois), S.Butler (Rochester), I.M.C.Calvente de Barahona (Oeiras), A.Campbell (London), A.Carattoli (Rome), M.Cardarelli (Rome), P.Caspers (Basel), M.Chiurazzi (Naples), B.Cirakoglu (Geöze), K.Clare (London), T.Collet (Sommerville Ma.), J.Conley (New Haven Conn.), K.D.Cromie (Brighton), H.S.Cummings (Davis Ca.), M.K.Dahl (Konstanz), W.Dalemans (Leuven), M.G.Dominguez (Leon), M.Dziegiel (Kalundborg), C.d'Enfert (Paris), N.Ekaterinaki (Glasgow), J.Ericson (Umea), I.Fijalkownska (Warsaw), D.Fox (New York), T.Gaal (Budapest), J.Gebert (Konstanz), D.Gennimata (Thessaloniki), F. Habib Shah (Bangi), J.Haarmans-Stoorvogel (Leiden), K. Harmak (Aarhus), C.Hatt (Southampton), M.Hentze (Bethesda), P.-P.C.Henze (Berlin), N.Homatidis (Thessaloniki), W.Hönerlage (Harnburg), J.Houmard (Paris), P.Huber (Zürich), H.Hug (Zürich), L.Isaksson (Uppsala), A.Khan (Edinburgh), M.Kiremitci (Ankara), K.Korpela (Espoo), H.P.J.Krisch (Geneva), W.M.A.von Krüger (Rio de Janeiro), J.Kulik (Warsaw), M.Latta (Joinville-le-Pont), Y.Lemoine (Strasbourg), M.van der Linden (Groningen), D.d.S.Lobo (Rio de Janeiro), B. Lapeyre (Toulouse), M.Lobocka (Warsaw), M.Lynch (Edinburgh), W.Meijer (Groningen), R.Medici (Naples), S.Metzger (Jerusalem), U.Michelsen (Erlangen), S.Milburn (Davis Ca.), P.Moller Sorensen (Paris), B.Müller (Zürich), W.Musters (Amsterdam), S.Mazan (Toulouse), J.R.McCormick (Rochester), H.Neuhaus (Freiburg), H.Nielsen (Copenhagen), I.d.S.Nogueira (Oeiras), S.Nyström (Umea), M.L.Osorio-Almeida (Monte da Caparica), M.Ouellette (Boul Can.), U.Patel (Portsmouth), B.Pavlovic (München), C.Persson (Uppsala), B.Pisan (Basel), I.Plavec (Zürich), P.Poulsen (Copenhagen), T. Raabe (Basel), P.Raeymaekers (Wilrijk), A. Richter (Uppsala), J.Robert-Baudouy (Villeurbanne), S.Rokem (Jerusalem), L.Ruohonen (Helsinki), M.Ryden (Uppsala), K.Schörgendorfer (Graz), H.Schwelberger (Graz), A.Spalding (Canterbury), H.Sychrova (Prague), N.Samuelov (Jerusalem), B.Sandahl-Sorensen (Aarhus), K.Schnetz (Fribourg), A.Senelonge (Lyon), P.Shiels (Glasgow), M.Skrzypek (Warsaw), J.Sobczak (Paris), J.Soppa (Martinsried), S.Sperka (Tutzing), J.Stockhaus (Copenhagen), A.Tanuri (Rio de Janeiro), C.Taschke (Heidelberg), M.Todorova (Sofia), M.-P.E.Tranchant (Madrid), A.Trivedi (London Can.), S.Tsirka (Thessaloniki), S.Vamvakas (Würzburg), S.Vanhanen (Espoo), G.Vancanneyt (Cologne), E.Vanmechelen (Antwerpen), A.C.de Vera (Sevilla), A.C.P.Vicente (Rio de Janeiro), Y.Vizirianakis (Thessaloniki), H.Vogelsang-Wenke (Martinsried), A.Vonshak (Sede Boqer Campus), G.Wagner (Uppsala), K.Wang (Gent), M.Wehrmann (Hannover), T.Wells (London), K.C.Williams (London), S.Williamson (Midlothian), C.M.Williamson (Berkshire), O.Yarden (Rehovot), D.Zerbib (Toulouse), T.Zimmermann (Visp), T.Zusman (Tel Aviv).

SPETSAI 1987

August 30 - September 12

MOLECULAR BIOLOGY OF DEVELOPMENT

Organizers: C.T. Caskey (Houston)(chairman), A.E. Evangelopoulos (Athens), W.J. Gehring (Basel), J. Hershey (Davis).

Lecturers and Lectures:

S. Artavanis-Tsakonas (New Haven): 1. & 2. Neurogenesis in *Drosophila*: a genetic and molecular approach.
A. Bradley (Houston): Manipulation of the mouse genome via embryonic stem cells modified in culture.
C.T. Caskey (Houston): 1.Gene replacement. 2.Antisense gene regulation.
V.N. Chapman(Buffalo): 1.X-chromosome regulation in mammalian development. 2.Gametic imprinting and its effects on embryonic gene development.
A.E. Evangelopoulos (Athens): l.Control of cellular activity by protein phosphorylation-dephophorylation processes. 2.Glycogen metabolism in smooth muscle-chicken gizzard phosphorylase kinase.
W.J. Gehring (Basel): 1.Homeotic genes: the homeobox and the control of development. 2.Designing and redesigning of the fruitfly.
H.M. Goodman (Boston): l.*Arabidopsis thaliana* as a model for the study of plant development. 2.Isolation of developmentally important genes from *Arabidopsis thaliana*.
P. Gruss (Göttingen): l.Strategies for the identification of genes controlling mammalian differentiation and development. 2.Enhancers as tissue-specific transcriptional control elements.
J.W.B. Hershey (Davis): 1.The molecular biology of sea urchin early development. 2.Translational control of gene expression during sea urchin development.
M. Lenardo (Cambridge Ma.): 1.Leukemogenesis by the *abl* gene. 2.Control of antibody gene transcription.
A.L. McLaren (London): 1.Gonadal sex determination in mammals. 2.Differentiation of germ cells in mice.
G. Morata (Madrid): 1.Genetic specification of the body plan of *Drosophila*. 2.Genetic structure of the *bithorax* complex of *Drosophila*.
P.A. Overbeek (Houston): 1.Alterations in development and tissue-specific oncogenesis in transgenic mice. 2. Dominant and recessive developmental disorders in transgenetic mice: Cataracts and fused phalanges.
R.A. Palmiter (Seattle): 1.Tissue-specific gene expression in transgenic mice. 2.Transgenic oncogenesis.
R.A.Phillips (Toronto): 1.Genetic manipulation of hematopoietic stem cells. 2.Retinoblastoma as a model for recessive oncogenes and their role in differentiation.
D.A. Sassoon (Paris): 1.The actin and myosin multigene families. 2.Actin and myosin gene regulation during myogenesis.
W. Schaffner (Zürich): 1.Enhancers and viral gene expression. 2.The modular structure of DNA sequences controlling cell type-specific transcription.
P. Soriano (Cambridge Ma.): 1.Retrovirus and insertional mutagenesis. 2.Retroviruses as chromosomal markers and as insertional mutagens.
I. Sulston (Cambridge UK.): l.The cell lineage of *Caenorhabditis*. 2.Construction of a genome map for *Caenorhabditis*.
E.F. Wagner (Heidelberg): 1.Gene transfer with retroviral vectors into embryonic and hemopoietic stem cells of the mouse. 2.Oncogene expression in transgenic mice.
D.J. Wolgemuth (New York): 1.Development of the mammalian germ cell lineage. 2. Developmental stage specific expression of cellular oncogenes and homeobox-containing genes in mammalian germ cells.

Participants:

A.Aysel (Antalya), E.Agar (Atakum), M.Adamczewski (Freiburg), M.Al-Ubaidi (Houston), H.Amerein (Zürich), A.J.Baekgaard (Aarhus), A.Barberis (Zürich), H.A.Barrera-Saldana (Monterrey), M.M.R.Baroso (Oeiras), K.Basler (Zürich), S.Bhandari (Cambridge), M.Sodner (La Jolla), M.Boissinot (Quebec), I.Busseau (Aubiere), P.Callaerts (Leuven), P.S.L.B.Campo (Lisboa), B.Cardinali (Rome), M.Caserta (Rome), C.Cerri (Vienna), J.Chester (Glasgow), B.F.C.Clark (Risskov), V.Colot (Cambridge), F.Cutruzzola (Rome), R.L.Davis (Seattle), A.de Basturia (Madrid), M.de Lorenzi (Zürich), F.J.de Mayo (Houston), A.Derventzi (Thessaloniki), V.de Simone (Heidelberg), Z.Dominski (Warsaw), P.Einat (Rehovot), M.Fabre (Castanet-Tolosan), A.M.Ford (London), C.J.Gallo (Davis), J.Gautier (Toulouse), S.Gautron (Paris), A.Giangrande (Strasbourg), A.Graham (London), H.Gram (Basel), E.Gratwohl (Basel), K.J.P.Griffin (London), A.H.Handyside (London) C.Henchcliffe (Oxford), M.Henriksson (Stockholm), D.Henrique (Oeiras), F.Hilberg (Hamburg), H.Hirt (Vienna), R.C.Hoeben (Leiden), H.J.Holtke (Tutzing), K.Hooper (Oxford), R.H.Jackson (Buckinghamshire), M.Jamrich (Bethesda), L. Jeannotte (Montreal) P.Jones (Oxford), S.R.Kala (Umea), C.Kalogera (Ioannina), M.Keil (Berlin), S.Khochbin (Grenoble), K.Kohrer (Martinsried), P.Koopman (London), R.Krieg (München), F.-D.Kuhl (Zürich), D.Levanon (Rehovot), D.Loncar (Stockholm), S.G.Mackie (Cambridge), L.H.Y.Madsen (Aarhus), I.G.D.F.Maessen (Leiden), K.A.Mahone (Bethesda), G.M.Maniatis (Patras), E.Martin (Madrid), D.Meijer (Rotterdam), F.Melin (Villejuif), I.Miltner (Ulm), A.Molven (Bergen), K.Mooslehner (Hamburg), I.M.Morgan (Glasgow), A. Negro (Siena) C.Niehrs (Heidelberg), P.R.Njolstad (Bergen), V.Orlando (Rome), V.Orphanos (Patras), N.Papalopulu (London), I.S.Pappas (Thessaloniki), F.Payre (Toulouse), J.A.Pearlmar (Houston), M.Pettersson (Zürich), D.B.Pilgrim (Seattle), R.Possenti (Rome), E.Pringault (Paris), A.Puschel (Göttingen), S.I.S.Rattan (Aarhus), A.D.Reith (London), P.Remy (Strasbourg), D.Resnitzky (Rehovot), M.Roth (Baltimore), S.Ruppert (Heidelberg), S.Ryser (Basel), L.Sastre (Madrid), E.Schejter (Rehovot), S.Scherer (Houston), S.Sesodia (Paris), K.L.Signorelli (New York), A.Simeone (Naples), P.Sörensen (Aarhus), E.Spanopoulou (London), M.-L.Steen (Uppsala), V.Stiefel (Barcelona), B.Stein (Karlsruhe), K.Tasiouka (Thessaloniki), H.-J.Thiesen (Heidelberg), B.Thisse (Strasbourg), J.Thompson (London), T.Unger (Rehovot), G.Veres (Szeged), I.Vernos (Madrid), (London), T.Unger (Rehovot), G.Veres (Szeged), I.Vernos (Madrid), G.Vezina (Quebec), C.M.Viviano (New York), G.Wasner (Salzburg), S.E.Wedden (Boston), M.van Wiles (London), N.C.Wrighton (London), C.Yanicostas (Paris), A.Yarden (Rehovot), M.Zernicka (Warsaw).

SPETSAI 1988

September 1 - September 10

GENOME ORGANIZATION AND FUNCTION

Organizers: A.E. Evangelopoulos (Athens), H. Feldmann (München), H.G. Zachau (München) (Chairman).

Lecturers and Lectures:

D. Baltimore (Cambridge MA): Transcription of immunoglobulin genes. Ooncogenes (*abl*).
M. Beato (Marburg): Regulation of transcription in animal cells, a survey. Gene regulation by steroid hormones.
A. Bird (Wien): DNA methylation an differential gene expression. CpG islands as gene markers in the vertebrate nucleus.

P. Borst (Amsterdam): Antigenic variation and discontinuous mRNA synthesis in Trypanosomes. Amplified genes involved in multi-drug resistance in cancer cells.
M. Eigen (Göttingen): Theory, experiment and reality of molecular evolution. Evolution of sequences.
H. Feldmann (München): Gene regulation in yeast. Mobile elements in lower and higher eukaryotes.
R. Gallo (Bethesda): Human lymphotropic viruses. AIDS.
S.E. Humphries (London): Molecular biology techniques in the analysis of multifactorial diseases. Structure and function of the apolipoprotein gene families.
H. Jäckle (München): *Drosophila* development, homeotic genes. Molecular analysis of segmentation in *Drosophila.*
F. Melchers (Basel): Development of lymphocytes from stem cells. Cell co-operations in the immune response.
W. Neupert (München): Intracellular protein sorting: how proteins are targeted to the various cell organelles; how proteins are sorted into the various mitochondrial subcompartments.
L. Orgel (San Diego: Biochemistry of prebiotic evolution, a survey. Non-enzymatic transcription of oligonucleoties.
S. Ottolenghi (Milano): Structure and function of human globulin genes. Inherited defects of hemoglobin synthesis.
A. Rich (Cambridge MA): Structural polymorphism in DNA. Z-DNA distribution in chromatin and its role in homologous recombination.
C. Sander (Heidelberg): Sequence analysis by computer. Studies in protein design.
D. Stehelin (Lille): Oncogenes, an overview. Oncogenes and the genetic dissection of cancer.
A. Ullrich (San Francisco): Analysis of growth factor receptor function by mutagenesis. Receptor tyrosine kinases: analysis of transforming potential and role in human cancer.
Ch. Weissmann (Zürich): Mechanism of splicing. The molecular biology of scrapie, a slow, transmissable disease of the nervous system.
L. Willmitzer (Berlin): *Agrobacterium tumefaciens*: a natural plant-oriented gene vector. Gene transfer into higher plants as related to basic as well as applied research.
H.G. Zachau (München): Immunglobulin and T-cell receptor genes. The human immunoglobulin loci and their rearrangements.

Participants:

S. Altiok (Istanbul), Ch. Angelidis (Ioannina), I. Arzimanoglou (Athens), C. Bagni (Rome), K. Beaucamp (Tutzing), J. Bernues (Barcelona), J. Bogerd (Amsterdam), P.Bonaldo (Aviano), F. Brombacher (Freiburg), P. Bull (London), D.T. Buonamassa (Siena), D. Christodoulou (Thessaloniki), A. Ciccodicola (Napoli), M. Classon (Stockholm), R.C. Ferreira (Oeiras), W. Coppieters (Merelbeke), W. Dalemans (Strasbourg), J.M. Darby (Amersham), P. Dincer (Ankara), Th. Dobner (München), H. Erdem (Ankara), G. Fourel (Paris), M. Garcia-Ramirez (Barcelona), R. Gargouri (Paris), T. Geladopoulos (Athens), G. Gibson (Basel), M. Hartl (München), E. Heard (London), K. Helin (Copenhagen), A. Hemming (Göteborg), P. Henttu (Oulu), C.H. Sanchez (Genève), L.A. Herzenberg (Stanford, CA), R. Hochstenbach (Nijmegen), R. Höfgen (Berlin), L. Höglund (Stockholm), D. Hoffman (Warsaw), Ch. Huber (München), O.P.L. Hughes (San Francisco, CA), M. Ioannou (Patras), P. Jackson (Cambridge), K. Jacobsen (Aarhus), L. Janson (Uppsala), M. Jung (Warsaw), D. Katcoff (Ramat Gan), A.A. Katz (Rehovot), I. Kemler (Zürich), D. Kipling (Oxford), A. Krassimir (Sofia), A. Krzyzaniak (Cambridge MA), P. Kylsten (Stockholm), E. Lagasse (Basel), G. Lang (London), M. Lazard (Gif-sur-Yvette), D. Leiss (Martinsried), P. Lemaire (Heidelberg), G. Lennon (Philadelphia), C.Le van Kim (Paris), M. Ligtenberg (Amsterdam), J. Lorens (Bergen), J. Mertsching (Martinsried), M.W. Mieszczak (Strasbourg), A.E. Morris (N.Y.), U. Mortenssen (Aarhus), A. Mouzaki (Genève), S. Munemitsu (San Bruno), T. Munoz-Antonia (New Haven), J. Muser (Basel), A. Nazeem (Zürich), G.P. Nolan (Stanford), M. Nordling (Göteborg), A. Nygren (Stockholm), R. Oakey (Oxford), Ch. Patriotis (Sofia), Th. Perlmann (Stockholm), U. Pfeffer (Genova), M.P. Valles (Barcelona), H.-J. Pucher (Braunschweig), G. Radziwill (Heidelberg), V.L. Ribeiro Marques (Oeiras), S.Rotem (Tübingen), I. Rubelj (Zagreb), F. Ruder (Tübingen), A. Salzberg (Haifa), D. Schaller (Fribourg), M. Schlaeppi (Basel), U. Schlokat (Point Bruno Boulevard), P. Schmid (Ulm), B. Schnierle (München), H. Schwelberger (Graz), R.M. Schwendenwein (Wien), J. Serth (Hannover), R. Simon (Basel), A. Sinclair (Heidelberg), M.P. Somma (Roma), I. Stefanov (Szeged), S.L. Sturley (Henry Mall, Madison), D.J. Talbot (London), M. Todorova (Szeged), F. Tronche (Paris), A. Tsamadou (Thessaloniki), B. Turan (Ankara), P. Vankan (Basel), A.R. Venkitaraman (London), V. Wallet (Paris), F. Weih (Heidelberg), R.A. Wells (Oxford), S. Wendel (Neuherberg), M. Werner (Göttingen), A. Wilson (London), R. Winkler (Göttingen), Chack-Yung Yu (Cambridge), N. Zander (Bochum), T.A. Zarvalis (Thessaloniki), F.-J. Zimmer (München), Jing-de Zhu (Shanghai), F. Zwartkruis (Utrecht).

SPETSAI 1989

September 3 - 16

PROTEIN ENGINEERING

Organizers: B.F.C. Clark (Aarhus)(Chairman), A.E. Evangelopoulos (Athens), A.R. Fersht (Cambridge)

Lecturers and Lectures:

H. Blöcker (Braunschweig): Gene analysis. Genetic engineering methods for changing proteins.
G. Bricogne (Orsay): Refinement of three-dimensional structures. Diffraction methods.
C.-I. Bränden (Uppsala): RuBisCo.
B.F.C.Clark (Aarhus): G-binding proteins.
M. Clore (Bethesda): Use of 3D NMR for solving protein structures.
A.E. Evangelopoulos (Athens): Phosphorylation enzymes.
A. Fersht (Cambridge): Structural characteristics illustrated by BARNase.
H.J. Fritz (Martinsried): New methods of gene expression for protein production.
M. Grunberg-Manago (Paris): Gene regulation and mutagenesis.
W.G.J. Hol (Groningen): Recent advances using X-ray.
A. Jones (Uppsala): Computer graphics programming of design.

M. Levitt: Use of theorectical methods in model building.
A.N. Other: Use of structural elements in model building.
G. Petsko (Cambridge MA): Triosephosphate isomerase.
T. Rees (Oxford): Defining antibody specificty.
C. Sander (Heidelberg): Use of data bases and model building.
S. Sligar (Urbana IL): Metalloproteins including p450 and globins.
R. Stroud (San Francisco): Thymidylate synthase: Mutants and drug design.
J. Wells (San Francisco): Panel discussion on industrial exploitation.
G. Winter (Cambridge): Humanising antibodies.
S. Wodak (Brussels): Use of new software and artificial intelligence.
K. Wüthrich (Zürich): Use of 2D NMR for solving protein structures.

Participants:

A.Agersborg (Tromso), J.T.Andersen (Kopenhagen), P.Andersen (Aarhus), F.Andreadakis (Athens), A.Athanasiadis (Heraklion), H.Aurup (Aarhus), J.Avis (Cambridge), M.Awad (Haifa), D.Baker (Glasgow), K.Balaska (Thessaloniki), R.Barak (Rehovot), K.Bartik (Bruxelles), Th.Bechert (Göttingen), J.van Beilen (Groningen), A.Bekkers (Utrecht), H.Berger (Salzburg), I.Berger (Rehovot), A.Black (Standord), S.v.Bladel (Gent), M.-Th.Bocquel (Strasbourg), J.Breyer (Paris), V.Bronsema (Heidelberg), E.Buchayer (Athens), W.N.Burnette (Thousand Oaks), A.F.Campbell (Berkshire), R.Del Carratore (Pisa), G.Casari (Wien), B.Celano (Rome), T.Chouard (Paris), E.-I.Christou (Thessaloniki), N.Cihangir (Beytepe), T.P.Clackson (Cambridge), S.Cowan (Uppsala), F.Cramer (Göttingen), P.F.Crottet (Fribourg), X.de la Cruz (Barcelona), G.Dinos (Patras), M.Domenighini (Siena), A.Dopazo (Madrid), U.Egner (Berlin), St.Emery (Braunschweig), U.Englisch (Göttingen), C.Fagan (Dublin), M.L.M.Faraldo (Madrid), G.Farkas (Szeged), C.J.Faro (Portugal), J.Flensburg (Uppsala), J.Fuehlendorff (Kopenhagen), M.S.Gaire (Strasbourg), L.Gomez (Madrid), R.Gordon-Beresford (Bruxelles), K.-H.Grajer (München), H.Gron (Valby), L.S.Gulla (Dragsvoll-Trondheim), K.Hilyard (Oxford), R.Hlodan (Newcastle), P.Hopkins (Cambridge), K.Izgü (Ankara), S.Jackson (Cambridge), S.Jandu (London), R.Japelli (Roma), M.Jarsch (Penzberg), L.Jin (Beijing), H.Johnsen (Kjeller), Ch.Kalogera (Ioannina), M.-B.Kaltoft (Kopenhagen), I.Kern (Warsaw), T.G.Kinzy (Ohio), G.Kodelia (Athens), A.Koivula (Espoo), J.Kuropatwa (Warsaw), D.Leonidad (Athens), E.Lolis (Cambridge), H.Lomholt (Aarhus), M.Lotti (Milano), T.Lundqvist (Uppsala), K.G.Madsen (Aarhus), L.Maglova (Sofia), C.Mangold (Mainz), C.Marks (Cambridge), A.Martinez (Bergen), S.Martinis (Illinois), A.Martinou (Heraklion), G.Mazza (Marseille), M.Medina (Zaragoza), H.Mehlin (Stockholm) , E.Meiering (Cambridge), K.Merck (Nijmegen), Th.Metz (Heidelberg), M.Murby (Stockholm), C.Möller (Kopenhagen), R.Nagel (Mainz), J.Neuzil (Prague), J.Newman (Uppsla), Ch.Niess (Witten), M.Nordling (Göteborg), K.Nordqvist (Stockholm), H.-G.Nothwang (Paris), P.-Ä.Nygren (Stockholm), H.Olson (Stockholm), Ch.A.Ouzounis (Heidelberg), E.M.Palla (Siena), A.Papageorgiou (Athens), Y.Papanikolaou (Heraklion), K.Pedersen (Aarhus), J.Pérez (Barcelona), R.Perl-Treves (Rehovot), N.Pesic (Zagreb), M.Phillips (San Francisco), U.Pieper (Hannover), R.Puohiniemi (Helsinki), A.Puustinen (Helsinki), B.Rasmussen (Cambridge, MA), Y.Reiter (Rehovot), T.Restle (Heidelberg), V.Reznicek (Gottwaldov), M.V.Rosenberg (Moscow), G.Sagner (Penzberg), C.Salgueiro (Portugal), R.de Santis (Rome), M.Scharf (Heidelberg), B.Schläpfer (Zürich), G.Simos (Thessaloniki), M.-H.Soares (Oeiras), R.Solberg (Oslo), P.Stayton (Illinois), C.-B.Stewart (San Francisco), J.Steyaert (Gent), B.Strukelj (Ljubljana), K.Sutherland (Bath), M.Swindells (London), L.Szilak (Szeged), M.Szymanski (Poznan), E.Söderlind (Uppsala), J.Tame (Cambridge), K.Tasiouka (Aarhus), P.Tavares (Oeiras), A.Tekin (Ankara), M.Teufel (Göttingen), T.Timmusk (Tallinn), A.Tomassetti (Milano), M.Toney (Berkeley), Z.Topcu (Adana), M.Vihinen (Turku), P.Vihko (Oulu), R.v.Weeghel (Groningen), E.G.Weinhold (Zürich), E.Weitkamp (Cambridge), M.White (Edingburgh), R.Wierenga (Heidelberg), H.Wille (Hamburg), J.Yang (Basel), M.-D.Zachary (Namur), C.Ziejderveld (Amsterdam).

SPETSAI 1990

September 2 -15

GLOBAL REGULATION OF GENE EXPRESSION IN MICROORGANISMS

Organizers: J. Davies (Canada), A.E. Evangelopoulos (Athens), M. Grunberg-Manago (Paris) (Chairman).

Lecturers and Lectures:

R. d'Ari (Paris): The SOS response.
M. Bibb (Norwich): Physiological and morphological differentiation in Streptomyces. RNA polymerase and *sigma* factor heterogenity in Streptomyces.
A. Böck (Munich): Aerobic/anaerobic control of the expression of genes involved in fermentative metabolism of *E. coli*. From nonsense to sense: the insertion of selenocysteine into protein.
H. Bujard (Heidelberg): Principles governing promoter activity. Transcription in gram negative bacteria: the overall process.
St. Busby (Birmingham): Cyclic AMP as a regulator of gene expression. Activation of transcription: the case of the cyclic AMP receptor.
B.F.C. Clark (Aarhus): Mechanism of action of GTP-binding proteins. Translation factors for elongation and initiation. Signal amplifying proteins and other G-proteins.
D.J. Cummings (Denver): Global regulation of gene expression in microorganisms: analysis of the complete DNA sequence of the 100 Kbp mitochondrial genome from *Podospora anserina*. Maternally inherited senescence in the filamentous fungus *Podospora anserina*: fact and fancy.
J.E. Davies (Paris): Biosynthesis of antibiotics. Global destruction and resistance mechanisms in microbes.
A.E. Evangelopoulous (Athens): Organized discussion on transcription.
H. Feldmann (Munich): Genome organisation and control of genetic flux in the yeast, *Saccharomyces cerevisiae*. Control mechanisms in yeast: how polymerase III transcribed genes fit into a general scheme.
J.R. Fresco (Princeton): Third strand nucleic acid binding to genomic sequences as a potential mechanism for the control of gene expression.
C. Georgopoulos (Salt Lake City): Nature and regulation of the *E.coli* heat shock response. The biological role of the universally conserved *E.coli* heat shock proteins.
M. Grunberg-Manago (Paris): Feedback autoregulation of ribosome biosynthesis in *E.coli.* Structural and functional domains of *E.coli* translational operators.

Ch.F. Higgings (Oxford): DNA supercoiling, chromatin structure and the regulation of gene expression. mRNA degradation and the regulation of gene expression.
M. Holland (CA): Regulation of mRNA and rRNA synthesis in *Saccharomyces cerevisiae*. Regulation of expression of yeast glycolytic genes.
M. Iaccarino (Naples): Regulation of nitrogen metabolism. Regulation of nitrogen metabolism in Rhizobium.
M.A. Innis (CA): Polymerase chain reaction: methodology and research applications. PCR methodology; and research applications of PCR.
M. Inouye (NJ): Regulation of gene expression by antisense RNA. Protein secretion across the membrane and the topology of membrane proteins.
S. Kaplan (Texas): Genome organization and gene expression in the facultative photoheterotroph, *Rhodobacter sphaeroides*. Genome organization, gene expression, and gene control of photosynthetic membrane synthesis and assembly in *Rhodobacter sphaeroides*.
H. Kornberg (Cambridge/UK.): Nature and control of carbohydrate transport by *E.coli*. Variations on the PTS: regulation of and by carbohydrate transport.
J. Pittard (Melbourne): Regulation of the genes coding for the biosynthesis and transport of the aromatic amino acids in *E.coli*.
J.N. Reeve (Ohio): Archaebacteria and extremophiles. Molecular biology of methanogenesis.
J.-D. Rochaix (Geneva): Biosynthesis of the photosynthetic apparatus in *Chlamydomonas reinhardtii*: a molecular genetic approach. Genetic analysis of trans-splicing in the chloroplast of *C. reinhardtii*.
P. Slonimski (Gif-sur-Yvette): Regulation of gene expression by oxygen. Evolution of respiratory enzymes.
J. Tommassen (Utrecht): The phosphate regulon of *E.coli*.

Participants:

R.Ahrens (Freiburg), M.Alic (Oregon), O.A.Amosova (Moscow), Andersen (Aarhus), B.Arico (Sienna), C.M.Arraiano (Oeiras), N.Arvanitis (Ioannina), B.Aygun (Ankara), S.Baima (Rome), A.Bakos (Godollo), M.Bartilson (Umea), Ph.Bernard (Rhode-Saint-Genese), P.Bhandari (Hyderabad), P.Blomberg (Uppsala), M.V.Bogdanov (Moscow), F.Bonekamp (Delft), A.G.Bovy (Utrecht), R.E.Bradshaw (Leicester), G.P.Cavan (Cambridge), M.Cox (Delft), B.Deniz (Erzutum), L.Ruiz Desviat (Madrid), E.Diaz Fernandez (Madrid), A.D.Dobson (Cork), A.Dzikowska (Warsaw), Th.Ellinger (Jena), H.Engel (Groningen), H.Ertesvag (Trondheim), B. J.Fabbri (Davis, CA), P.O.Falnes (Oslo), M.F.Fillat (Utrecht), L.D.Fresco (Durham), Y.Gagnon (Quebec), V.Garre Mula (Murcia), A.Garzon (Sevilla), N.Gaspar (Davis), K.L.Gaston (Paris), D.Geelen (Gent), N.Gendron (Quebec), D.Gennimata (Thessaloniki), P.Gerlach (Konstanz), L.Gibson (Sheffield), S.Giroux (Quebec), M.Goin (Buenos Aires), G.H.Goldman (Gent), I.K.Grapsas (Athens), H.Groeneveld (Leiden), C.Gustafsson (Umea), C.Guttierrez (Toulouse), J.Hagege (Orsay), J.Hansen (Aarhus), E.H.Harms (Indiana), M.Hasslacher (Graz), K.Hecht (Rehovot), S.Heidmann (Martinsried), J.J.Heus (Leiden), Ch.Holmberg (Lund), Ch.Hulton (Oxford), A.Ioan (Bucharest), F.Izgu (Ankara), N.A.Jacques (Paris), P.S.Jayarmann (Surrey), T.Johannson (Lund), H.Jung (Leipzig), T.Kalebina (Moscow), J.J.Kang (Davis), S.Karamanou (Thessaloniki), B.Kessler (Braunschweig), S.Kocabiyik (Ankara), H.l'Hote (Marcy l'Etoile), R. La Valle (Rom), S.Laalami (Paris), C.Lazdunski (Marseille), M.Legisa (Ljubljana), H.Lehnherr (Basel), J.Lucht (Konstanz), D.Lyakhov (Moscow), A.O.Lyngstadaas (Oslo), P.Maenpaa (Turku), Y.M.Markowicz (East Lansing), M.J.McGavin (Alabama), J.McKenzie (Glasgow), C.-G.Meinhof (Freiburg), I.Mendelson (Jerusalem), N.Mertens (Gent), J.Meulenberg (Amsterdam), C.Michan (Granada), E.Michel (Paris), J.L.Moore (Virginia), R.Movva (Basel), A.Nogueira (Porto), Ch.Nova (Ioannina), N.R.Nyengaard (Aarhus), J.F.O'Rourke (Kildare), M.Öhman (Uppsala), Ch.L.Olsson (Davis), L.Persic (S.Giovanni), G.D.Pullinger (Berks), P.G.Rappelli (Sassari), B.Raupach (Heidelberg), O.Resnekov (Stockholm), M.G.Ribeiro (Porto), D.I.Roper (Leicester), J.Rüth (Wien), Chr.Ryffel (Zürich), A.Rynditch (Kiev), P.Sabbattini (Milano), O.Sand (Rhode Saint-Genese), J.A.Santos Pereira de Matos (Queluz de Baixo), G.Sawers (München), M.Scholten (TB Utrecht), G.Segal (Ramat Aviv), M.Siatecka (Poznan), F.P.Silva Simoes (Queluz de Baixo), A.Sirko (Warsaw), M.Sirois (Quebec), R.Skaliter (Rehovot), M.Smith (Durham), Z.Sokolovic (Würzburg), I.Suomalainen (Helsinki), M.Szardenings (Uppsala), I.A.Tarassov (Moscow), P.Thomsen (Copenhagen), R.Tolle (Heidelberg), Z.Topcu (Adana), M.-C.Trombe (Toulouse), A.S.Tsiftsoglou (Thessaloniki), I.Tubulekas (Uppsala), F.Turnowsky (Graz), I.L.Uzcudun (Madrid), S.Uzzau (Sassari), S.Vikic-Topic (Zagreb), U.Vogel (Copenhagen), C.Walter (Osnabrück), C.Walton (Leeds), M.J.Weickert (Bethesda), T.Wenzel (Leiden), C.E.Willett (Davis), C.F.B.Witteveen (Wageningen), M.G.Wubbolts (Groningen), E.Wyszko (Poznan), C.Zijlstra (Basel).

SPETSAI 1992

August 31 - September 10

MECHANISMS IN EUKARYOTIC GENE REGULATION

Organizers: A.E. Evangelopoulos (Athens), W. Hörz (München), H.-G. Klobeck (München), H. Feldmann (München)(Chairman).

Lecturers and Lectures:

P. Bäuerle (Martinsried): Nuclear uptake control of transcription factors: NF-kB as a model. Functional characterization of the DNA-binding p50 and p65 NF-kB subunits.
P. Borst (Gent): Antigenic variation in African trypanosomes: switching the expression of variant-specific surface antigen genes. P-glycoproteins: function and mechanisms of overproduction in drug-resistant cells.
S.C.R. Elgin (St. Louis MO): Chromatin organization for gene expression. Epistatic regulation of gene expression.
A. Evangelopoulos (Athens): Poster presentations.
H. Feldmann (Munich): The yeast genome project.
F. Grosveld (London): The developmental regulation of the b -globin domain.
P. Gruss (Göttingen): The role of *pax* genes during mouse development. Molecular mechanisms of axial specification.
J. Hodgkin (Cambridge): Gene regulation in the nematode *Caenorhabditis elegans*. Molecular analysis of sex determination in *Caenorhabditis elegans*.
W. Hörz (Munich): Nucleosomes and their interactions with regulatory factors. Role of the chromatin structure in the expression of the phosphatase gene family in yeast.
H. Jäckle (Göttingen): Transcription factors in *Drosophila development*. Homeotic and *gap* genes in *Drosophila*.
F.C. Kafatos (Heraklion): Transgenic studies of developmentally regulated gene expression in *Drosophila*. Transacting factors, evolution and protein-DNA recognition in *Drosophila*.
M. Karin (La Jolla, CA): Control of transcription by signal transduction cascades. Transcriptional activation cascades in pituitary development.

H.G. Klobeck (Munich): DNA arrangement of immunoglobulin genes. Implications of illegitimate recombinations of Ig genes and T-cell receptor genes.
M. van Montagu (Gent): Regulation and tissue-specific expression of plant genes. Plant genetic engineering.
W. Schaffner (Zürich): Positive and negative regulation of mammalian gene transcription -control of immunoglobulin gene transcription, DNA methylation and mammalian gene regulation.
Ueli Schibler (Geneve): The coordination of cellular proliferation and gene expression during liver differentiation. DBP and circadian liver gene expression.
Z. Schwarz-Sommer (Köln): Genetic control of flowering in *Antirrhinum majus*. Gene regulation in plant development.
A. Sentenac (Gif-sur-Yvette): Yeast RNA polymerase subunits and genes. Yeast class III transcription factors.
K. Struhl (Boston, MA): Molecular mechanisms of transcriptional activation in yeast. Dimerization and DNA binding by the yeast *GCN4* protein.
I.M. Verma (San Diego CA): Signal transduction: the nuclear target. Human gene therapy.
A.P. Wolffe (Bethesda, Maryland): Regulatory mechanisms in gametogenesis and in early embryogenesis.
H.G. Zachau (Munich): An introduction to the human genome: what has been learned from looking closely at one permille of the human genome, the immunoglobulin kappa locus?

Participants:

T.Agalioti (Heraklion), W.Albig (Göttingen), A.Aronheim (Rehovot), H.Asenbauer (Munich), U.Aytac (Ankara), S.Barbaric (Zagreb), D.Barila (Roma), K.T.Beggs (Norfolk), R.Blasig (Berlin), M.A.Blazquez (Madrid), C.Boccaccio (Le Kremlin Bicetre), A.Bonin (Heidelberg), T.Borza (Cluj-Napoca), L.-M.Botella (Madrid), M.Bourbonnière (Québec), E.Bozas (Athens), A.Brace (Stanford), M.Bucholc (Warsaw), B.Bühler (Freiburg), C.F.Calkhoven (Groningen), G.Cavalli (Zürich), C.Cerdan (Marseille), A.M.Chachulska (Warsaw), J.A.Chrisp (Oxford), G.Ciaramella (London), D.Civitareale (Chieti), G.Dieci (Parma), V.Dincbas (Istanbul), P.Dincer (Ankara), A.Eilers (Hannover), G.Elliott (Leeds), P.Emery (Geneve), J.Empel (Warsaw), H.Erno (Basel), N.Faust (Freiburg), L.C.P.Fernandes (Oeiras), M.C.de Carvalho Ferreira (Oeiras), J.Fickel (Berlin), M.Forsberg (Uppsala), M.Gafni (Tel Aviv), M.I.Gallego (Madrid), R.Ganss (Heidelberg), A.Gomez-Cuadrado (Barcelona), A.M.Grabowska (Cambridge), K.Grasser (Freiburg), A.Grigoryeva (Moscow), G.Güler (Ankara), A.M. Di Guilmi (Grenoble), G.Haegemann (Gent), M.Harbers (Stockholm), P.Henttu (Oulu), R.Heuchel (Zürich), Ch.Hölscher (Heidelberg), E.Hofmann (Karlsruhe), C.Holm (Lund), L.Holtzmann (Rehovot), St.Hoppler (Cambridge), R.Hori LaJolla, CA), D.Houzelstein (Paris), A.H.Ruz (Barcelona), A.Hummel (Greifswald), E.Jankevics (Latvia), E.Kardalinou (London), K.Karlsson (Umea), S.Kash-Anderlik (Houston), S.U.Kass (Glasgow), J.Königsfeld (Giessen), T.W.Konings (Bern), A.Komopinska (Warsaw), J.Kontaraki (Heraklion), A.Kovás (Budapest), N.Kraut (Heidelberg), P.J.Krysan (Stanford), P.Kusk (Copenhagen), M.Lagacé (Montréal), H.J.Larsen (Aarhus), Q. Li (Stockholm), K.Lüthi (Zürich), K.Lukasiuk (Warsaw), Ch.Maas (Köln), K.McLeod (Lille), T.Maimets (Tartu), G.Marchler (Vienna), F.Martelli (Roma), V.L.Ribeiro Marques (Oeiras), J.G.Mas (Barcelona), D.Masquilier (Strasbourg), G.Matthijs (Leuven), S.C.Mendelson (Edingburgh), V.A.Mogila (Moscow), J.Moitra (Temesvári), M.C.Moroni (Milano), W.Mulder (Amsterdam), N.N.Gàlvez (Barcelona), V.Ossovskaya (Moscow), A.Ostarek-Lederer (Berlin), Z.Palková (Prague), K.Palm (Helsinki), S.Pruzina (London), E.M.Rabelo (London), L.Rossi (Basel), D.Rozman (Ljubljana), G.Rudenko (Amsterdam), J.Rüth (Vienna), M.G.Sacco (Ispra, Varese), R.Sadowy (Warsaw), I.Sainis (Ioannina), T.C.Santos (Madrid), R.Schnall (Munich), G.Sessa (Rome), S.Sever (Zagreb), D.Sirakova-Anguelova (Prague), D.Sourdive (Paris), D.Stravopodis (Heraklion), I.A.Tarassov (Strasbourg), F.Thornton (Dublin), B.N.Timoteev (Moscow), M.Treier (Heidelberg), Y.Tryselius (Stockholm), Y.Tsiotra (Heraklion), M.J.B.van den Hoff (Amsterdam), I.V.Nieto (Madrid), K.Vareli (Joannina), E.Vezyri (Patras), L.Wallrath (St.Louis), D.Williams (Herts), D.Wolf (Munich), R.J.Wright (Dunedin), K.Wypijewska (Poznan), B.Ylstra (Wageningen), R.Zwart (Rotterdam).

SPETSAI 1993

August 31 - September 15

PROTEIN STRUCTURE, FUNCTION AND DESIGN

Organizers: B.F.C. Clark (Aarhus)(Chairman), A.E. Evangelopoulos (Athens), A.R. Fersht (Cambridge)

Lecturers and Lectures:

L. Banci (Florence): Metalloproteins: NMR spectroscopy applied to paramagnetic metalloproteins and theory of relaxation phenomena.
B.F.C. Clark (Aarhus): Guanosine triphosphate binding proteins.
G. Dodson (York): Insulin and lipases.
A.E. Evangelopoulos (Athens): Relation of structure and function from engineered model proteins: phosphatases and phosphokinases.
A. Fersht (Cambridge): Structure, stability and folding: protein folding and stability using model proteins.
M. Grunberg-Manago (Paris): Various types of gene control in prokaryotes.

R. Henderson (Cambridge): Membrane protein structure.
A. Jones (Uppsala): Protein architecture and design: three dimensional data banks and new model building programmes.
A. Klug (Cambridge):Protein designs for the recognition of DNA.
J. Knowles (Geneva): Commercial protein engineering: Structure and function of carbohydrolases. Using proteins to find better medicines.
J. McCarthy (Braunschweig): Genetic structure, alteration and expression. Gene cloning and expression strategies.
G. Petsko (Waltham MA): Analysis of protein structure: New developments in X-ray diffraction data collection.
R.J. Poljak (Rockville MD): Antibodies: antibody structure and function.
C. Sander (Heidelberg): Use of multi-alignment sequence programmes and data banks in designing structures.
M.J. Sippl (Salzburg): Structure prediction.
A. Skerra (Frankfurt/M): Recombinant antibodies from bacteria: functional expression and engineering.
R. Sperling (Montreal): Electron microscopic vizualization of protein structures.
A. Storer: Unravelling the molecular basis for the catalytic mechanism and specificity of cysteine proteases.
M. Uhlen (Stockholm): Rapid methods for protein purification.
J. Wells (San Francisco): Protease structure and mechanism: Serine protease design (subtilisin).
G. Winter (Cambridge): Redesigning antibodies.
K. Wüthrich (Zürich): Recent structural determinations using multidimensional NMR techniques.

Participants:

N.L.Acan (Ankara), C.Alexander (Berlin), A.Andersson (Uppsala), M.W.Anthonsen (Trondheim), V.Arcus (Cambridge), D.Beer (Braunschweig), N.Benaroudj (Gif-sur-Yvette), O.H.Brekke (Oslo), K.Brown (London), Y.Bruggeman (Wageningen), M.Buck (Oxford), G.Bulaj (Wroclaw), H. LeCalvez (Marseille), K.D.Carugo (Pavia), E.Carvalho (Göteborg), A.Cattaneo (Trieste), M.Chiu (Zürich), S.Christoforidis (Ioannina), K.Clark (California), A.V.Coelho (Oeiras), T.Cocco (Baria), C.Collyer (Nerviano), D.Dairaghi (Stanford), M. DeGrado (Madrid), F. DeMare (Stockholm), B.Dincturk (Gebze Kocaeli), F.S.Domingues (Porto), L.-E.Donate (London), M.-P.Egloff (Marseille), A.B.Eiso (Groningen), L.O.Essen (Frankfurt), S.Ezer (Haifa), C.F.Fava (Saluggia), C.Finta (Szeged), D.Flamez (Gent), G.Foss (Oslo), R.Freire (Madrid), C.Freund (Martinsried), C.Frisch (Göttingen), M.Garcia (Madrid), B.Haase (Braunschweig), A.Harel (Jerusalem), R.Hindges (Zürich), M.Hohenegger (Wien), P.Holliger (Cambridge), L.Johansen (Copenhagen), Z.Jonsson (Reykjavik), A.Jordanova (Sofia), V.Kabakov (Moscow), C.Kambach (Cambridge), C.R.Kiraly (Madison), M.Kontou (Athens), O.Kovalenko (Rehovot), I.M.Krivko (Knipropetrovsk), B.Knudsen (Aarhus), C.Lerche (Copenhagen), Y.Loewenstein (Jerusalem), S.Lovell (Bristol), B.Ludin (Basel), A.Lund (Ohio), N.G.Mabel (Göttingen), A.Mallabiabarrena (Madrid), C.S.Martin (Madrid), P.Martel (Trondheim), S.Matthews (Cambridge), A.May (London), C.Melamed-Bessudo (Rehovot), N.Melo (Oeiras), E.Miriami (Jerusalem), M.Moshnyakov (Helsinki), H.Müller (Frankfurt), V.Munoz (Heidelberg), A.Murphy (Dublin), A.Musacchio (Heidelberg), A.H.Myrset (Oslo), M.de Neve (Gent), D.Nikolov (New York), P.R.Nielsen (Valby), G.Olabarria (Madrid), V.Ossovskaya (Moscow), J. D.Otzen (Cambridge), M.Paoli (York), K.Papadopoulou (Athens), A.Pappa (Ioannina), E.Pardon (Kortrijk), A.Peracchi (Parma), P.Percipalle (Trieste), D.Pokholok (Moscow), M.Popielarz (Strasbourg), S.Price (Cambridge), G.Pujadas (Tarragona), L.R. DePouplana (Cambridge MA), S.Ramakrishnan (NewYork), S.Ransac (Groningen), S.B.Rasmussen (Copenhagen), P.Reinholt (Valby), T.Reintamm (Tallinn), S.Ribeiro (Porto), F.Richardson (London), E.Roberts (Cambridge), L.Rost (Waltham MA), J.Sadowska (Warsaw), M.Sagermann (Heidelberg), E.Samuelsson (Stockholm), G.Schreiber (Cambridge), H.Schröder (Heidelberg), T.Schweins (Heidelberg), U.Seebacher (Graz), E.Shestakova (Pushchino), A.O.Smalas (Tromsö), K.Smith (New Haven), L.Spaeny-Dekking (Leiden), B.Svensson (Stockholm), S.Subramaniam (Urbana), U.Sulima (Gdansk), E.Szabo (Gödöllö), I.Tarassov (Moscow), E.D.Teodor (Bucharest), C.Tilgmann (Helsinki), G.Tsaprailis (Montreal), S.S.Turani (Beytepe), R.Tyrrell (York), P.van der Ijssel (Nijmegen), A.Vassilev (Sofia), E.Vatzaki (Athens), M.Waldenström (Stockholm), D.Walther (Heidelberg), S.Weitckus (Salzburg), M.Wilcke (Stockholm), E.Wyszko (Poznan), K.Wüthrich (Zürich), C.Yildir (Istanbul), K.Zhang (Stockholm), D.Zolandz (Pasadena).

SPETSAI 1994

August 28 - September 10

A WORLD OF RNA: STRUCTURE AND FUNCTION

Organizers: J. Davies (Vancouver), A.E. Evangelopoulos (Athens), M. Grunberg-Manago (Paris) (Chairman).

Lecturers and Lectures:

A. Böck (München): RNA-protein-interactions in selenoprotein synthesis.
B. Clark (Aarhus): Structural changes in translation factors during protein synthesis. Recognition of aminoacyl tRNA by elongation factor EF-Tu.
S. Cusak (Grenoble): Aminoacyl-tRNA synthetases protein-tRNA interactions as seen by X-ray crystallography.
J. Davies (Vancouver): Interactions of inhibitors with ribosomes: historical and evolutionary.
B. Ehresmann (Strasbourg): Pseudoknot conformation is required for efficient translational initiation and regulation of the *E.coli rpsO* gene coding for ribosomal protein S15.
C. Ehresmann (Strasbourg): Methods for studying RNA structure in solution.
W. Gilbert (Cambridge MA): The evolution of the intron-exon structure of the gene: exon shufling topics. The evolution of the intron-exon structure of the gene: the antiquity of introns.
M. Grunberg-Manago (Paris): tRNA-like structure of translational operator of *E.coli* threonyl tRNA syntheatase: organized discussion on the different RNA structures. The role of codon- anticodon interaction and mRNA structure in the regulation of Bacillus aminoacyl-tRNA syntheatase genes expression.
M. Hentze (Heidelberg): Translational control by mRNA-protein interactions in eukaryotes: how repressors are regulated - old hats with new functions. Translational control by mRNA-protein interactions in eukaryotes: mechanisms of regulation.
J.W.B. Hershey (Davis, USA): mRNA structure and its recognition by eukaryotic initiation factors and ribosomes.
W. Kelley (Basel): RNA editing. Genetic and biochemical analysis of the 3'end processing reaction, leading to polyadenylated messenger RNA.
J. McCarthy (Braunschweig): Degradation of eukaryotic mRNA: mechanism and regulation.
F. Michel (Gif-Sur-Yvette): Tertiary interaction in self-splicing introns: Construction of RNA three dimensional models.
Y. Nakamura (Tokyo): Multiple control of lysyl-tRNA synthetase expression in *E.coli*. Regulation of peptide chain termination.
H. Noller (Santa Cruz): Interactions between rRNA and P-site tRNA at its anticodon and CCA- ends. A second generation model for the folding of 16S rRNA based on hydroxyl radical footprinting of ribosomal proteins.
J. Rossi (Duarte CA.): Biological and functional aspects of catalytic RNAs. Catalytic RNAs: ocurrences in nature, mechanistic and kinetic considerations and ribozyme engineering. Catalytic RNAs: adaptations and strategies for functional inactivation of targeted cellular and viral RNAs.
R. Schroeder (Vienna): Metal ion directed site-specific hydrolysis of group I intron RNA. Interaction of site-specific antibiotics with group I intron RNA.
D. Shub (Suny Albany): Introns in bacteria and bacteriophage.
R. Simons (Los Angeles): Translational control and RNA structure. The prokaryotic ribosome binding site, the process of translation initiation, and the effects of mRNA secondary structure. Translational control and RNA structure. Regulation of gene expression by RNA secondary structure and antisense RNA and the pathways and kinetics of RNA structure formation.
M. Sogin (Woods Hole MA): In search of ancestral roots: Ribosomal RNAs as molecular chronometers - evolution of protists.
J. Steitz (New Haven): RNA-RNA interactions in the spliceosome.
T. Steitz (New Haven): A two metal-ion mechanism in polymerases and nucleases: a remnant of the RNA world? Structural mechanisms of ATPase and GTPase molecular switches: *recA* and elongation factor G.
J. Szostak (Boston): The evolution of catalytic RNAs: Ribozymes then and now. The evolution of catalytic RNAs: in vitro evolution.
M. van Montagu (Gent): Gene silencing: Antisense transgenes and sense transgenes.
A. von Gabain (Vienna): Control of mRNA decay in bacteria: The key players. The interaction between the key players, their genetic control and the regulation of mRNA decay.

Participants:

A.Aevarsson (Lund), H.Agaisse (Paris), O.Amosova (New Jersey), A.Anderson (MA Boston Boston), D.Angerer (Vienna), R.D.Aphasizhev (Moscow), St.Applequist (Maywood IL), V.Backman (Reykjavik), V.Baekelandt (Leuven), M.Bailey (Boston), J.Beck (Heidelberg), D.Biniszkiewicz (Altena), S.Bombard (Paris), F.Briani (Milano), M.Caputi (Trieste), C.Castillejo-Lopez (Lund), Y.Cavaloc (Strasbourg), G.Chanfreau (Paris), P.Chomez (Stockholm), E.-I.Christou (Thessaloniki), K.Collier (Leeds), G.Conn (Edingburgh), K.M.de Beuckeleer (Leuven), F.de la Vega (Mexico), Z.Debyser (Leuven), B.Deiman (Leiden), F.Deliat (Paris), M.A.Denti (Pisa), S.Dokudovskaya (Moscow), H.Engdahl (Uppsala), G.Eriani (Strasbourg), E.Evertsz (Göttingen), L.B.Farrell (Canberra), M.L.Ferri Fioni (Grenoble), P.Fortes (Madrid), B.Franzetti (Grenoble), D.Freeman (Aberystwyth), J.Fresco (Boston), D.Gaughan (Dublin), D.Gennimata (Athens), M.Giel (Poznan), F.Govantes (Sevilla), G.Grentzmann (Paris), M.Grifman (Jerusalem), T.Haider (Vienna), L.Hancox (Birmingham), W.-D.Hardt (Berlin), F.Hatzack (Berlin), J.Haugel-Nielsen (Copenhagen), T.Hermann (Berlin), P.Hershey (San Francisco), H.-P.Hofmann (Bayreuth), L.Holmberg (Stockholm), G.Hotchkiss (Huddinge), H.-R.Hotz (Heidelberg), D.Huizenga (Boston), H.James (Norfolk), R.Jeeninga (Amsterdam), S.Johansen (Tromso), E.Katsivela (Braunschweig), E.Khomyakova (Moscow), J.Kildsgaard (Aarhus), S.Klug (Martinsried), H.Kondos (Cambridge), A.Kouznetzoff (Paris), O.Kovalchuke (Milwaukee), T.Kozu (Saitama), A.Kritikos (Vienna), J.Kuijper (Seattle), M.Landthaler (Albany), L.Landweber (Princeton

NJ), A.Liiv (Tartu), B.Linz (Braunschweig), P.J.Lopez (Paris), S.Maas (Heidelberg), L.Magnenat (Fribourg), C.Malgrem (Strasbourg), F.Martin (Strasbourg), P.Marujo (Oeiras), A.McGoldrick (Reading), K.Mir (Oxford), S.Moeller (Lyngby), Y.A.Motorin (Moscow), S.Muratoglu (Szeged), R.Navakauskiene (Vilnius), N.Niederberger (Bern), R.-P.Nilsson (Lund), L.O'Driscoll (Dublin), O.Olafsson (Umea), D.H.Ostareck (Berlin), B.Oude-Essink (Amsterdam), M.Pelchat (Quebec), L.Pellizzoni (Roma), J.Perona (San Francisco), R.Pinard (Montreal), I.Pirim (Turkey), S.Pistoi (Paris), T.Plath (Berlin), A.Plomaritoglou (Athens), R.Poot (Leiden), S.Prislei (Roma), S.Ribeiro (Bayreuth), M.Rikkonen (Helsinki), R.Roberts (Boston), J.Rogers (Vancouver), R.Samaha (Santa Cruz), H.Schirmacher (Martinsried), E.Schnmidt (Cambridge MA), N.Schuerch (Bern), A.Serganov (Pushchino), K.Seron (Paris), V.Seyrantepe (Ankara), E.Shultes (Los Angeles), M.Siatecka (Poznan), A.-S.Sjögren (Stockholm), N.Skall Sorensen (Odense M), R.Slany (Erlangen), C.Smith (New Haven), N.Soboleva (Leningrad), J.M.Somers (Amersham), O.Stampacchia (Geneva), C.Stathopoulos (Patras), C.Sturchler-Pierrat (Strasbourg), S.Svard (Uppsala), C.Takemoto (Tokio), J.A.Tercero (Madrid), C.Ushida (Hirosaki), A.Vader (Tromso), G.Valadez (Mexico), L.van den Bosch (Leuven), C.van Gelder (Nijmegen), A.Vanet (Paris), I.Ventoso (Madrid), C.Vilela (Oeiras), B.Voldborg (Odense M), H.P.Waldner (Basel), A.Walles-Granberg (Stockholm), M.G.Wallis (Vienna), A.Walsh (Leeds), H.Wank (Vienna), U.Weber (Würzburg), A.B.Wedel (Martinsried), E.F.Whelihan (Cambridge MA), M.Wilcke (Stockholm), N.Wills (Salt Lake City).E.Winstall (Sainte Foy-Quebec), I.Zamurueva (Riga), V.Zeyenko (Pushchino).

SPETSAI 1995

August 29 - September 9

POST-TRANSCRIPTIONAL CONTROL OF EUKARYOTIC GENE EXPRESSION

Organizers: A.E. Evangelopoulos (Athens), J.W.B. Hershey (Davis), J.E.G. McCarthy (Braunschweig).

Lecturers and Lectures:

J.N. Abelson (Pasadena): Splicing of tRNAs. tRNA recognition by synthetases.
J.P.G. Ballesta (Madrid): Ribosome structure and function. Ribosomal protein synthesis and its regulation..
R. Benne (Amsterdam): RNA editing: an overview. RNA editing in kinetoplastida
B.F.C. Clark (Aarhus): The elongation step of protein synthesis.
H. Feldmann (Munich): A novel family of ATP-binding proteins involved in programmed proteolysis.
M. Grunberg-Manago (Paris): History of Spetses Summer School. Genetic and recombinant DNA methods to study gene expression in *Saccharomyces cerevisiae*.Translational control in prokaryotes.
C. Guthrie (San Francisco): mRNA splicing: the RNA world.
J.W.B. Hershey (Davis, CA): Initiation of protein synthesis pathway. Phosphorylation of translational components..
C.P. Hollenberg (Düsseldorf): Signal transduction in *Saccaromyces cerevisia*e. Heterologous gene expression in yeast.
R.J. Jackson (Cambridge): Mechanisms of mRNA recognition: internal initiation.
F. Lacroute (Gif-sur-Yvette): Polyadenylation in yeast. Use of yeast mutants in polyadenylation studies.
L.E. Maquat (Buffalo, NY): Overview of mammalian mRNA stability. Effects of nonsense codons on mRNA stability.
M.B. Mathews (Cold Spring Harbor): Translation control in virus-infected cells. Adenovirus RNA I and the activation of PKR.
I.W. Mattaj (Heidelberg): RNA export. RNA-protein interactions.
J.E.G. McCarthy (Braunschweig): Mechanisms of posttranscriptional control.
Y. Nakamura (Shiroganedai): Regulation of translation termination. Recoding translation: stop signals and frameshifting.
W. Neupert (Munich): Protein topogenesis in mitochondria: mechanisms and components. Molecular chaperones: multiplicity of functions in the biogenesis of mitochondria.
H. Raué (Amsterdam): Processing of eukaryotic precursor rRNA. mRNA stability in yeast.
P. Silver (Boston MA): Nuclear transport. Nuclear dynamics.
R.W. Simons (LA,CA): Antisense RNA in prokaryotes. Antisense RNA in eukaryotes.
N. Standart (Cambridge): Polyadenylation of mRNAs. Translational control of developmentally regulates mRNAs.
C.J. Stirling (Manchester): Protein targeting to the endoplasmic reticulum. The role of the secretory pathway in regulating intracellular protein traffic.
H. Trachsel (Bern): Role of eIF4f in the regulation of cell growth. Genetic methods: tools to study translation initiation factors.
M. Tuite (Kent): Recoding translation: codon reassignment.

Participants:

A.Akhmanova (Nijmegen), R.Aphasizhev (Moscow), L.Ayadi (Gif sur Yvette), B.Aygun-Yücel (Braunschweig), N.Balatsos (Attikis), G.Baurén (Stockholm), C.A.Beelman (Tucson, AZ), G.Bermano (Aberdeen), V.D.Bernard (Fribourg), R.Bibbiani (Pisa), S.Brand (Cold Spring Harbor), G.Brede (Oslo), K.Burgdorf (VISP), C.Burger (Darmstadt), M.A.Cassatella (Verona), A.Celik (Istanbul), E.Ciani (Bologna), D.A.Cook (Canterbury), D.J.Crowther (Oxford), P.Danaie-Tash (Bern), S.Daube (Jerusalem), M.D. DeBacker (Beerse), M.Diederich (Luxembourg), S.Eftaxia (Ioannina), D.K.Eggers (San Francisco), R.F.Fernández (Madrid), E.Fleckenstein (Braunschweig), P.Ganot (Toulouse), N.Gaspar (Graz), D.K.Gavin (Chicago, IL), L.Hartvig (Bagsvoerd), J.Hedander (Stockholm), J.Heikkinen (Oulu), H.Le Hir (Gif-sur-Yvette), A.Hohlbaum (Konstanz), G.Houge (Bergen), S.Jaenecke (Braunschweig), T.H.Jensen (Aarhus), B.Johnstone (Los Angeles), M.Kainuma (Davis), A.Kaipainen (Helsinki), I.M.Kelly (Cambridge), E.Khomyakova (Moscow), L.King (Dublin), S.Kirchhoff (Braunschweig), Ch.G.Körner (Basel), H.Kollmus (Braunschweig), D.Kressler (Genève), W.Kugler (Göttingen), M.R.Ladomery (Fife KY), V.S.Lalioti (Athens), S.Lall (Oxford), D.Liakopoulos (Heidelberg), I.Lisitsky (Haifa), M.Lukaszewicz (Louvain), E.Luzi (Firenze), C.E.Lyon (Dundee), B.Marczinke (Cambridge), K.-U.Matuschewski (Heidelberg), L.McKendrick (Dundee), Y.Melander (Stockholm), Ö. Melefors (Stockholm), N.Méthot (Montreal), B.Michelsen (Copenhagen), M. Moshnyakov (Helsinki), O.Mühlemann (Uppsala), C.Nanbru (Rhode-Sant-Genèse), G.Neu-Yilik (Heidelberg), J.Nielsen (Copenhagen), A.A.Nor (Bucuresti), H.Öhman (Uppsala), T.Ohlmann (Brighton), I.Palacios (Heidelberg), E.Paraskeva (Heidelberg), I.Pata (Tartu), F.E.M.Paulin (Leicester), A.Proweller (Rchester NY), G.H. Ramirez

(Madrid), D.Reid (Kent CT), R.A.Reinbold (Detroit, Michigan), B.Reuner (Martinsried), G.C.Roberts (Cambridge), M.A.Rodriguez-Gabriel (Madrid), I.Rosinski-Chupin (Paris), J.M.Rouillard (Gif-sur-Yvette), C.Rubie (Mistelgau), E.Scharl (Hamden, CT), M.Schröder (Darmstadt), O.Sella (Tel Aviv), G.Serin (Toulouse), A.Sgourou (Patras), J.M.Pereira de Oliveira da Silva Santos (Oeiras), D.Speijer (Amsterdam), K.Stade (Berlin), M.Sternfeld (Jerusalem), M.Sunesen (Aarhus), A.Szklarcyk (Warsaw), K.Taki (Okazaki), C.Tapparel (Genève), Ö.Topaloglu (Istanbul), E.Truve (Tallinn), S.Unkles (Scotland), S.Vagner (Toulouse), C.Vanhee-Brossolet (Paris), H.Van Houdt (Gent), S.Vasilescu (Braunschweig), C.P.Gameiro Vilela (Oeiras), M.Van de Craen (Gent), T.Verwoerd (Leiden), J.A.Walker (Woods Hole,MA), S.Westberg (Göteborg), A.Willis (Leicester), D.Wittberger (Vienna), A.Wolfson (Moscow), T.Yves (Geneve).

SPETSAI 1996

September 2 - September 12

MECHANISMS IN EUKARYOTIC GENE REGULATION

Organizers: H. Feldmann (München)(chairman), A.E. Evangelopoulos (Athens), W. Hörz (München), H.-G. Klobeck (München)

Lecturers and Lectures:

Piet Borst (Amsterdam): (i) and (ii) Molecular mechanisms of antigenic variation in African trypanosomes.
Margret Buckingham (Paris): (i) Myogenesis: Myogenic factors and muscle gene regulation; (ii) Myogenic factors and muscle cell determination.
Horst Feldmann (München): The yeast genome project: what do we learn from a simple eukaryote?
David Glover (Dundee): (i) The eukaryotic cell cycle. (ii) Cell cycle regulation in *Drosophila*.
Frank Grosveld (Rotterdam): (i,ii) Organization and locus-specific regulation of the globin genes.
Peter Gruss (Göttingen): (i) Molecular analysis of the vertebral visual system development. (ii) The use of gene trap to identify mammalian developmental control genes.
Peter Herrlich (Karlsruhe): (i) Signal transduction to transcription factors. (ii) The role of adhesion molecules in determining genetic programs.
Jonathan Hodgkin (Cambridge): (i) Genomic analysis of the nematode *Caenorhabditis elegans*: towards the complete DNA sequence of a simple animal. (ii) Sex determination and mechanisms of developmental gene control in the nematode *C. elegans*.
Wolfram Hörz (München): (i) Regulation of gene expression by nucleosomes. (ii) Mechanism of chromatin activation at the *PHO5* promoter.
Herbert Jäckle (Göttingen): (i) Transcription factors in *Drosophila* development. (ii) Homeotic and gap genes in *Drosophila*.
Fotis C. Kafatos (Heidelberg): (i) Multifunctional transcription factors in *Drosophila* development and evolution. (ii) Molecular genetic studies of a major insect vector of disease, the malaria mosquito.
Michael Karin (San Diego): (i) Signal transduction from cell surface receptors to the nucleus. (ii) Control of cell-type specific gene expression: the growth hormone gene and the anterior pituitary.
Hans-Gustav Klobeck (München): (i) and (ii) Control of immunoglobulin gene assembly during B cell development.
Rudi J. Planta (Amsterdam): (i) Global regulators of gene expression in yeast. (ii) Heterologous gene expression in yeast.
Walter Schaffner (Zürich): (i) Transcriptional activation and repression at a distance. (ii) MTF-1, a key factor for heavy metal-regulated gene expression in mammalian cells.
Ueli Schibler (Geneva): (i) Transcription activation by an RNA polymerase II holoenzyme complex. (ii) PAR-family transcription factors and circadian rhythmicity
André Sentenac (Gif-sur-Yvette): (i) and (ii) Yeast polymerase III transcription: a paradigm for gene activation.
Kevin Struhl (Harvard, Boston): (i) Mechanism of transcriptional activation. (ii) Global transcriptional repression mechanisms.
Inder M. Verma (San Diego): (i) Function of NF-kB/rel/I-kB proteins. (ii) Gene therapy.
Robert Weinberg (Cambridge MA): (i) and (ii) pRB, cyclins and control of cell proliferation.
Charles Weissmann (Zurich): (i) Generation of animal models of human disease: principles and methods. (ii) The role of PrP in prion disease.
Alan P. Wolffe (Bethesda MD): (i) Histones, nucleosomes and the role of chromatin structure in transcriptional control. (ii) Global control of transcription and translation during early development.
Hans G. Zachau (München): (i) Human and other genome projects. (ii) The immunoglobulin genes and their acrobatics.

Participants:

A.Abroi (Tartu), P.Alen (Leuven), G.Alexandru (Bucuresti), E.K.Amankwah (Bergen), Nina Aro (Helsinki), A.Atalay (Ankara), A.Bahr (Illkirch), H. Balkan-Mergen (Ankara), U.Baron (Heidelberg), G.Baurén (Stockholm), M.Bencina (Ljubljana), L.Bjergbaek (Aarhus), L.Bogomolnaya (Moscow), S.Borda (Szeged), A.Brehm (Heidelberg), J.Brzeski (Warsaw), H.Büning (München), M.Bullejos (Granada), R.Burchmore (Portland OR), R.Calligaris (Trieste), G.Cavalli (Heidelberg), A.Chabes (Umeá), N.Chernyaeva (Moscow), P.Cheung (Hamilton, Ontario), L.Ciapponi (Pomezia Rome), M.A.Cohen (New York), N.Daly (Dublin), G.Di Matteo (Roma), M.Dimitrova (Strasbourg), T.Dincer (Ankara), G.Di Rocco (Milano), A.Echarri Aguirre (Madrid), T.Einbinder (Beer-Sheva), M.Faria (Paris), D.Fear (London), A.Freudenstein-Dan (Tel-Aviv), S.Friant (Strasbourg), L.Frostesjö (Umea), A.Gaal (Budapest), I.Garcia-Bassets (Barcelona), B.Gelius (Stockholm), W.Görner (Vienna), D.Gougoumas (Thessaloniki), J.H. Gribnau (Rotterdam), J.Hadchouel (Paris), I.Hegyi (Zürich), M.Hellquist (Göteborg), L.Hertel (Novara), M.Hinz (Berlin-Buch), Y. Hisatomi (Okazaki), T.Holtschke (Penzberg), A. Ivanov (Moscow), M.Janitz (Berlin), M.C.Jörgensen (Gentofte), C.Johnston (London), J.Joyce (Cambridge), D.Karandrea (Athens), Z.Karetsou (Ioannina), J.Kirfel (Freiburg), M.Kleines (Köln), A.Knutson (Uppsala), L.R.Kockel (Heidelberg), J.Kontaraki (Heraklion), W.Korver (Utrecht), M.Koutsourakis (Rotterdam), S.V.Kozlov (Zürich), J.Kzhyshkowska (Moscow), M.J.Lafuente (Madrid), C.Larsson (Uppsala), B.Lenhard (Zagreb), D.Liberg (Lund), A.Liné (Riga), S.Llanos Giron (Madrid), M.Lnenicek-Allen (Portsmouth), L.Lopez-Molina (Genève), S.Lücke (Berlin), I.Mandrika (Riga), A.Moore (Edingburgh), A.Mühlethaler (Genève), C.W.Müller (Grenoble), M.Nguyen (Paris), S.J.Nielsen (Aarhus), C.O'Conallain (Dublin), P.Emanuel de Oliveira Marujo (Oeiras), M.Pap (Pecs), D.Patterton (Bethesda, MD), V Pevzner (Berlin-Buch), A.Pintzas (Athens), D.Pozo (Seville), C.Provenzano (Rome), A.Pujol (Heidelberg), A.S.Purewal (London), C.M.Quinn (Oxford), I.Reimann (Berlin), N.Rethmeier (Gent), A.M.Rezler (Poznan), A.Rezler (Poznan), G.Ries (Basel), D.Robyr (Bethesda, MD), O.K.Rodningen (Oslo), T.Ronni (Helsinki), T.E.Rusten (Bergen), S.Samakoglu (Antalya), R.Santoro (Jena), U.Schwidetzky (Berlin), M.Shoresh (Tel-Aviv), E.Sigurdsson (Reykjavik), O.Simonova (Moscow), E.Smirnova (Moscow), I.Spitsyna (Dniepropetrovsk), F.Spitz (Paris), C.Springer (Erlangen), J.Svaren (St. Louis, MO), G.K.Stefanakis (Athens), H.Thonberg (Stockholm), M. de Castro Tomé (Coimbra), I.Udalova (Oxford), S.Vambrie (Wien), D.J. Van Antwerp (San Diego, CA), W.Van den Berghe (Gent), T.B. van Dijk (Utrecht), H. Van Doorninck (Rotterdam), R.Wellinger

(Zürich), C.Wood (Liverpool), A.Zacharova-Albinger (Zürich), A.M.Zeeman (Leiden), K.Zeng (Kassel), R.Zichel (Rehovot).

SPETSES 1997

September 1 -14

BIOMOLECULAR RECOGNITION

Organizers: B.F.C. Clark (Aarhus), A.E. Evangelopoulos (Athens), A.R. Fersht (Cambridge)

Lecturers and Lectures:

Brian Clark (Aarhus): Activation of GTP-binding proteins: translation factors. Implications of the structure of the ternary complex.
Valerie Daggett (Seattle): Molecular dynamics studies of intramolecular protein recognition: protein folding /unfolding.
Alan Fersht (Cambridge): Protein folding *in vitro*: from chaperones to minichaperones.
Marianne Grunberg-Manago (Paris): RNA folding and RNA translation control.
Ulrich Hartl (New York): Protein folding with molecular chaperones.
Hennie Hoogenboom (Maastricht): Phage display based tools to generate and study biomolecular interactions: Designing and optimizing phage-based strategies for generating high-affinity antibodies.
Morten Kjeldgaard (Aarhus): From crystal to model. Structure and function of the family of the G-proteins.

Peter Laing (Cambridge): Consensus as a tool of structural inference: generation of ligand models from peptide libraries.
Dino Moras (Strasbourg): tRNA aminoacylation. The ligand binding domain of nuclear receptors: 3D structure and functional correlations.
Poul Nissen (Aarhus): RNA-protein recognition.
Martin Noble (Oxford): Protein kinases and the role of phosphorylation. Protein interactions in the regulation of the cell cycle.
Sheena Radford (Leeds): Protein folding mechanisms: recent insights using biophysical methods. Protein misfolding and amyloidosis.
Tony Rees (Bath): The design of allosteric switches in proteins. Antibodies.
Daniela Rhodes (Cambridge): Telomeric DNA recognition. Protein-DNA recognition.
Chris Sander (Cambridge): Mapping the protein universe.
Gottfried Schatz (Basel): Protein import into mitochondria as a paradigm of protein transport across biological membranes.
Manfred Schneider (Wuppertal): Lipases as catalysts in organic synthesis.
Gideon Schreiber (Rehovot): Mechanism of protein-protein interaction.
Tom Steitz (Yale): Structural principles of protein nucleic-acid interactions with emphasis on RNA structural diversity and recognition. DNA and RNA polymerases: structural diversity and common mechanisms.
Mathias Uhlen (Stockholm): Scaffolds for engineering novel binding sites in proteins. Affibodies - binding proteins selected from combinatorial libraries.
Eric Westhoff (Strasbourg): Tools for studying RNA structure and folding. RNA tectonics. The modular and hierarchical assembly of group I introns.
Fred Wittighofer (Dortmund): Signal transduction via small GTP-binding proteins. Ras as a paradigm: (a) interaction with effectors, (b) the turn-off mechanism of the molecular switch - the GTPase reaction.
Kurt Wüthrich (Zurich): Macromolecular recognition studied by NMR. Prion structure and transmissible spongiform encephalopathies.
Zhaohui Xu (Yale): The crystal structure of the bacterial chaperonin complex GroEL.GroES.$(ADP)_7$. Structure and functional studies of chaperonin-assisted protein folding.

Participants:

K. Alexandrov (Dortmund), M.Altamirano (Cambridge), P.Alves (Lisboa), K. Andersson (Lund), E. Balcan (Izmir), H. Barrios (Cuernavaca Morelos, Mexico), P. Beatus (Stockholm), T. Bengtson (Stockholm), C. Berset (Bern), T.Celius (Bergen), S. Chetyrkina (Kiev), F. Christ (Giessen), G. Cingolani (Grenoble), G. Conn (Baltimore), F. Constantinesco (Gif-sur-Yvette), A. Danielewicz (Cleveland), S. Das (New Delhi), M. Daub (Dortmund), M.C. Deller (Gif-sur-Yvette), M. Deniziak (Gif-sur-Yvette), M. Dickman (Sheffield), E. Enchev (Sofia), K.N. Engin (Istanbul), F. Guarino de Felice (Rio de Janeiro), V. De Filippis (Padova), C. Fladeby (Bergen), P.G. Foster (San Francisco), I. Galetich (Kharkov), A. Gawlak (Poznan), J. Gille (Frankfurt), B. Guerra (Odense), Y.V. Guervaziev (Moscow), C.S. Hamnn (Philadelphia), T. Hamelryck (Rhodes St. Genese), A. Hendrick (Cork), I. Hoch (vienna), M.-R. Hoja (Uppsala), O. Ignatovich (Cambridge), K. Johansson (Uppsala), H.F. Jörgensen (Aarhus), T. Killick (Cambridge), G. Klein (Gdansk), A. Kondo (Tokyo), M. Kontou (Uppsala), E.A. Kovrigina (Pushino), M. Krogsgaard (Copenhagen), B.L: Kuehl (Dundee), A. Ladurner (Cambridge), U. Langhorst (Rhodes St. Genese), D. Larkin (Houston), M. Laurberg (Lund), Yin-fai Lee (Cambridge), E.V. Levsshenkova (Moscow), T. Linnemann (Dortmund), M. Macht (Konstanz), G. Malpeli (Parma), A. Malygin (Novosibirsk), A. Mansén (Stockholm), I. Marchand (Paris), M. Marinou (Athens), B. Masquida (Strasbourg), R. McCarthy (Bath), A. Merlin (Freiburg), E. Moreno (Madrid), O.N. Murashko (Minsk), D.A. Murtazina (Moscow), R. Mutuberria (Maastricht), J. Nielsen (Heidelberg), M. Ninkovic (Jena), P. Nissen (Aarhus), S. Önal (Izmir), A. Palsson (Reykjavik), D. Papanastassiou (Athens), G. Patikoglou (New Haven), H.H. Petersen (Aarhus), C. Petropoulou (Athens), N. Polacek (Vienna), N. Popescu (Bucuresti), F. Possmayer (Paris), E. Psichari (Athens), A. Rak (Pushino), H. Reiersen (Bath), L. Reynolds (Portsmouth), M. Righi (Trieste), R. Roovers (Maastricht, K. Sak (Tartu), C. sauter (Strasbourg), M. Schneider (Wuppertal), A. Serganov (Pushino), M. Shapira (Jerusalem), M. Sloma (Stockholm), P. Stanislawski (Warsaw), N.N. Starkova (Moscow), V. Subramaniam (Göttingen), L. Supino-Rosin (Ramat-Avis), C. Takemoto (Tokyo), J. Tame (Heslington, York), H. Taylor (Cambridge), G. Tocchini-Valentini (Strasbourg), M. Tock (Leeds), R. Toth (Debrecen), S. Townson (Manchester), T. Tsouloufis (Athens), C. Tzagarakis-Foster (Davis CA), I.P. Uray (Devrecen), S. Ureuqui (Paris), F. Uysal (Izmir), M. Valtavaara (Oulu), D. Verhamme (Amsterdam), C. Villa (Dortmund), T. Voronkova (Riga), R. warth (Geneva), M. Wilcke (Paris), S. Williams (London), T. Wind (Aarhus), O. Yifrach (Rehovot), W. Yong (aarhus), P. Zajakins (Riga), I. Zamfir (Bucuresti), Changqi Zhu (Karlsruhe), K. Zimna (Poznan).

SPETSES 1998

August 30 to September 12

MOLECULAR BASIS OF BACTERIAL INFECTION

Organizers: J. Davies (Vancouver), A.E. Evangelopoulos (Athens), M. Grunberg-Manago (Paris) (Chairman)

Lecturers and Lectures:

P. Sharp (Nottingham): (1) Microbial diversity: phylogentic studies. (2) Evolution of repetitive sequences in bacteria: ERIC sequences.
M. Radman (Paris): Control of genetic variability in bacteria: mutation, recombination, selection and speciation.
B.Müller-Hill (Cologne): Negative control of transcription in *E.coli*.
S. Busby (Birmingham): (1) Positive activation of gene expression in *E.coli*. (2) Catabolite repression in gram-positive organisms.
M. Grunberg-Manago (Paris): Translational initiation and its control in gram-negative and gram-positive bacteria.
J. McCarthy (Manchester): Control of translation and mRNA stability in yeast.
B.F.C. Clark (Aarhus): (1) Activation of GTP-binding proteins: translation factors. (2) Structure of the ternary complex and role of kyrromycin.
Y. Nakamura (Tokyo): Regulation of translation termination and recoding.

L. Kisselev (Moscow): Termination in eukaryotes.
H. Feldmann (Munich): (1) Functional analysis of the yeast genome. (2) Yeast as a model system for programmed proteolysis and pathogenic fungi.
R. Rappuoli (Siena): New vaccines.
J. Davies (Vancouver): Antibiotics: action and resistance.
B. Simons (Los Angeles): (1) Prokaryotic mRNA decay and its regulation. (2) Antisense RNA and its control - natural and contrived.
C. Georgopoulos (Geneva): (1) Protein folding, proteolysis and molecular chaperones. (2) Function and regulation of the heat-shock response in *Escherichia coli.*
R. Gunsalus (Los Angeles): (1) Oxygen control of gene expression in *E.coli.* (2) Nitrate-dependent signal transduction and gene regulation.
R. Kolter (Harvard): (1) Bacterial adaptation in stationary phase. (2) Population dynamics during stationary phase.
P. Stragier (Paris): Cell-specific gene expression during sporulation in *B. subtilis.*
R. Moxon (Oxford): Utility of whole genome sequences of pathogenic bacteria.
D. Holden (London): Genetics of bacterial pathogenicity.
J. Miller (Los Angeles): Regualtion of bacterial pathogenicity and genetic analysis of virulence factor function.
G. Cornelis (Louvain): The *Yersinia* Yop virulon.
T. Silhavy (Princeton): Genetic analysis of the general protein secretion pathway.
P. Cossart (Paris): *Listeria monocytogenes*: tools and tricks of a bacterial pathogen to invade cells and tissues.
T. Meyer (Würzburg): Molecular pathogenesis of *Neisseria*.
P. Sansonetti (Paris): Pathogenesis of Shigellosis: from molecular and cellular biology of epithelial cell invasion to tissue inflammation.

Participants:

P. Adams (Southampton), K. Adelmann (Gif-sur-Yvette), R.M.J. Aamodt (Oslo), M. Ajonye (Bath), M. Ansaldi (Marseille), R. Asano (Vancouver), T. Autio (Helsinki), F. Backhed (Stockholm), A. Balandina (Paris), P. Benkel (Giessen), B.M.Bjorkholm (Stockholm), J. Bjorkman (Stockholm), K.K.H. Blom (Göteborg), V.B. Borodulin (Saratov), T. Brauer-Steppkes (Bochum), K.W. Bruhn (Los Angeles), C. Carnoy (Lille), I. Chabchoub (Sfax)), V. Chubanov (Minsk), D. Clarke (Orsay), V. Doroshenko (Moscow), W.A. El-Adhami (Perth), S. Erksson (Stockholm), J.C. Espinosa (Madrid), M.A. Farris (Southampton), T.T. Frederiksen (Aarhus), V. Garcia Palacio (Tokyo), A.M. Geiger (München), G. Godaly (Lund), B. Gonzalez-Zorn (Madrid), S. Grill (Wien), I. Gryllos (Sheffield), I. Gustafsson (Uppsala), Long Hang (Lund), R.D. Hayward (Cambridge), Y. Hechard (Poitiers), J. Hein (München), A.B.E. Helander (Göteborg), A.M. Hernendez-Arriaga (Madrid), A. Hobta (Kiev), V. Hope (Nottingham), C. Isak Jörgensen (Odense), E.K.V. Johnsson (Lund), A. Jordanova (Sofia), C. Josenhans (Bochum), S. Joyce (Paris), D. Kamashev (Paris), A. Kasaks (Riga), N. Kinsella (Southampton), J. König (Würzburg), K. Kostelidou (Birmingham), S. Kothandharaman (Madras), R. Krishnaraj (Palkalaiperur), K. Krogh Andersen (Dublin), G.I. Kutuzova (Moscow), A.K. Lee (Stanford), P.Lestrate (Namur), D. Llull Penalba (Madrid), E. Lopez-Solanilla (Madrid), E. Mamroud-Kidron (Ness-Ziona), R.A. Mateuca (Bucharest), G. de Medeiros Silva (Oeiras), M.L. Merroun (Granada), P.M. Miranda (Estoril), S. Müller (Braunschweig), E. Mutoh (Tokyo), Z. Nawaz (Karachi), V. Nikitina (Saratov), T.I.V. Nogueira (Paris), S. Novella del Campo (Madrid), A. Olsen (Aarhus), J.A. Oscarsson (Umea), J.M. Palacios Moreno (Aarhus), D. Panne (Basel), M.C. Para Caballero (Madrid), R.M. Parreira (Lisboa), M. Persuh (New York), P. Peyron (Toulouse), J. Piedade (Lisboa), J. Pizarro-Cerda (Marseille), M. Pope (Vancouver), K. Ragkousi (Nottingham), A. Rak (Pushino), P.H. Remane (Braunschweig), H. Sahly (Kiel), Y.O. Sanogo (Brno), M. Scocchi (Udine), E. Sergeeva (Saratov), H. Sinha (Cambridge), G. Spohn (Siena), P.T. Tassios (Athens), T. Tenson (Tartu), A.-C. Thoreson (Göteborg), E. Thorolfsdottir (Reykjavik), A. Tochetti (Milano), A. Tover (Tartu), N. Tvetkov (Sofia), M. Uno (Tokyo), Y. Vega Rocha (Madrid), R. Vipond (Salisbury), M. Viveiros Tettencourt (Liboa), M. Vulic (Paris), M. Westermark (Umea), C. Dammel (Haywward), A. Miasnikov (Kantvik), D.T. Nieuwlandt (Boulder).

SPETSES 1999

Augst 29 - September 9

STRUCTURE AND FUNCTION OF MACROMOLECULAR COMPLEXES

Organizers: Efstathis Gonos (Greece), Matthias Hentze (Germany), John Hershey (USA), Lev Kisselev (Russia), John McCarthy (U.K.)

Lecturers and Lectures:

August **Böck** (Institut für Genetik und Mikrobiologie, Universität München)
(i) Recoding mechanism of the Genetic Code; (ii) Insertion of seleno-cysteines into proteins

Irene **Bozzoni** (Dipt. Genetica e Biologia Molecolare, La Sapientia, Rome)
(i) & (ii) Sno RNAs: function and biosynthesis

Agamemnon J. **Carpousis** (Lab. Microbiologie et Génétique Moléculaire, Toulouse)
(i) RNA degradation complexes in bacteria; (ii) Bacterial poly(A) polymerase

Bernhard **Dobberstein** (Zentrum für Molekulare Biologie, Heidelberg)
(i) Protein targeting to the membrane of the endoplasmic reticulum; (ii) Protein translocation across the membrane of the endoplasmic reticulum

Ellie **Ehrenfeld** (NIH, Bethesda)

(i) Virus replication and gene expression; (ii) Polio virus replication and effects on the host cell

Pamela **Green** (Plant Research Laboratory, East Lansing)
(i) & (ii) mRNA decay in eukaryotes

Marianne **Grunberg-Manago** (Institut Pieree et Marie Curie, Paris)
(i) A History of the Spetses Summer School; (ii) mRNA stability and its role in control of gene expression in bacteria and phages

Ulrich **Hartl** (MPI für Biochemie, Martinsried)
(i) & (ii) Function of molecular chaperones and heat-shock proteins in folding proteins

Matthias W. **Hentze** (EMBL, Heidelberg)
(i) Regulation of translation by RNA-binding proteins; (ii) Recognition of nonsense codons by translation complexes

John W.B. **Hershey** (Dept. Biological Chemistry, UC Davis)
(i) The pathway and mechanism of initiation of protein synthesis; (ii) The structure-function of eIF3

Walter **Keller** (Biozentrum, Basel)
(i) 3'-end processing of mammalian mRNA precursors; (ii) 3'-end processing of yeast mRNA precursors

John **McCarthy** (UMIST, Manchester)
(i) & (ii) Posttranscriptional control: methods, concepts, numbers

Kiyoshi **Nagai** (MRC. Cambridge)
(i) Structural basis of RNA-protein interactions; (ii) The spliceosome

Yoshikazu **Nakamura** (Institute of Medical Science, Tokyo)
(i) & (ii) Regulation of translation termination and recoding

Walter **Neupert** (Adolf-Butenandt-Institut, München)
(i) & (ii) Topogenesis of proteins of mitochondria

Joan A. Steitz (Yale University, New Haven)
(i) & (ii) Pre-mRNA splicing

Thomas A. Steitz (Yale University, New Haven)
(i) Ribosome structure and function; (ii) Structure and function of protein synthesis elongation factors

Geoffrey **Turner** (Dept. Molecular Biology and Biotechnology, Sheffield)
(i) Peptidyl synthetases: Distribution and evolution; (ii) Peptidyl synthetases: Functional analysis

Dieter H. **Wolf** (Institut für Biochemie, Stuttgart)
(i) Structure and assembly of the 26S proteasome, the central proteolytic particle of all eukaryotic cells; (ii) Quality control in the endoplasmic reticulum: retrograde protein transport through the Sec61 translocon and its end in the proteasome

Participants:

Varaklioti Agoritsa (Athens); Eleftheria Argyrou (Athens); Patrick Bakkes (Amsterdam); Richard Bayliss (Cambridge, UK); Natalya Belkina (Moscow); Artemy Beniaminov ((Moscow); Michela Bertero (Pavia); Snaedis Björnsdottir (Reykyavik); Jennifer Blanchette (Ann Arbor); Sergei Boudko (Moscow); Pietro Boyl (Rome); Tatyana Budkevich (Kiev); Nuria Campillo (Cambridge, UK); Anne Carr-Schmid (Piscataway); Gina Clayton (Cambridge, UK); Siska Cochran (Manchester); Maria Dahle (Oslo); Vita Dauksaite (Uppsala); Aneta Dobruk (Warsaw); Svetlana Dokudovskaya (Moscow); Morten Elholm (Bergen); Alessandro Fatica (Rome); Fedor Forafonov (Saint Petersburg); Silvia Galardi (Rome); Daniela Galli (Rome); Sven Geibel (Frankfurt/M); Zeynep Gerek (Istanbul); Nicholas Glykos (Heraklion); Igor Goncharov (Rehovot); Esther Guarinos (Madrid); Jacoba Stagter Jäger (Uppsala); Alexander Jgoun (Moscow); Pall Jonsson (Kopavogur); Zemfira Karamysheva (Tokyo); Adrej Kariakin (Moscow); James Kastenmayer (East Lansing); Natalya Kholod (Moscow); Mehtap Kilic (Antalya); Sokolov Kirill (Moscow); Nadejda Koloteva (Tel Aviv); Elizaveta Kovrigina (Pushino); Edgar Kramer (Vienna); Inna Krieger Hyogo); Mette Kristensen (Copenhagen); Svetlana Kuptsova (Moscow); Yusuf Kurtumus (Özmir); Sofia Larsson (Huddinge); Susanne Leonhartsberger (Munich); Michael Lisurek (Saarbrücken); Marco Lutz (Groningen); Ülo Maiväli (Tartu); Cristina Marino-Busljc (Cambridge,UK); Kirill Martemyanov (Pushino); Racula Mateuca (Bucharest); Mads Wichmann Matthiesen (Copenhagen); Greg Mayeur (Davis); Jeanne Menez (Paris); Oliver Mohseni (Stockholm); Thorleif Möller (Odense); Jakob Möller-Jensen (Odense); Patrick Morris (Little Rock); Oleg Murashko (Minsk); Boris Negrutskii (Kiev); Teresa Noguiera (Paris); Joy Okpuzor (Lagos); Christina Olsson (Lund); David Page (Edinburgh); Chariklia Petropoulou (Athens); Lionel Pintard (Montpellier); Lukia Psaridi (Athens); Lambrini Psiouri (Patras); Marina Ptushkina (Manchester); Agnes Rinaldo-Matthis (Stockholm); Allison Robb (Edinburgh); Yury Rubtsov

(Moscow); Ekatarina Rusakova (Moscow); Cyril Saguez (Gif-sur-Yvette); Chiara Scerch (Monterotondo); Thomas Schell (Heidelberg); Jan Schirawski (Paris); Thomas Sebastian (Kerala); Elena Sergeeva (Saratov); Petr Sergiev (Moscow); Vyacheslav Shalak (Kiev); Olga Shpachenko (Moscow); Daria Sizova (Moscow); Vladlen Skvortsov (Moscow); Evgeniya Smirnova (Moscow); Alicia Solorzano (Salamanca); Irina Sominskaya (Riga); Martin Stancek (Stockholm); Margarita Tenopoulou (Ioannina); Martin Thanbichler (Munich); Neslihan Toyran (Ankara); Jennifer Tusz (Szeged); Nikolay Tzvetkov (Nagoya); Louise Unwin (Leeds); Patricia Vazquez (Madrid); Carmen Velasco Ramirez (Manchester); Christina Vilela (Manchester); Stefan Walke (Cambridge,UK) Daniel Williams (Dundee); Matt Winkler (Austin); Jonathan Wood (Leeds); Wendy Wood (Brighton); Kuniyasu Yoshimura (Tokyo); Natalia Zakataeva (Moscow); Vladimir Zeenko (Basel); Chunying Zhu (Copenhagen).

SPETSES 2000

September 5 to September 13

MOLECULAR MECHANISMS OF DEVELOPMENT AND DISEASE

Basic molecular mechanisms of cell function and their implications in disease
Developmental aspects, developmental models
Disease mechanisms

Organizers: Peter Herrlich, Chairman (Germany), Herbert Jaeckle (Germany), Efstathis Gonos (Greece), Horst Feldmann (Germany)

Lecturers and Lectures:

Patrick **Baeuerle** (Martinsried/Munich, Germany)
(i) Ordering principles in Signaling/Signal Transduction (ii) Academia and industry: what to learn from each other

Piet **Borst** (Amsterdam, NL)
(i) Antigenic variation in trypanosomes; (ii) Drug resistance in cancer cells.

Steven **Burley**

Wolfgang **Driever** (Freiburg, Germany)
(i) Mechanisms in the development of zebrafish; (ii) Zebrafish: tools for investigating cellular differentiation.

Walter **Gehring** (Basel, Switzerland)
(i) Homeobox genes and the specification of the body plan (ii) Master control genes in morphogenesis and evolution of the eyes

Dirk **Görlich**

Peter **Gruss** (Göttingen, Germany)
(i)Molecular mechanisms underlying brain development (ii) Cortex development/Organogenesis

Peter **Herrlich** (Karlsruhe, Germany)
(i) Mouse mutants for the analysis of transcriptional regulation (ii) Neurofibromatosis Type 2

Jan **Hoejimakers**

Wolfram **Hörz** (Munich, Germany)
(i) Nucleosomes and their interactions with regulatory factors; (ii) Role of the chromatin structure in the expression of the phosphatase gene family in yeast.

Robert **Horvitz** (Cambridge, USA)
Programmed cell death in C. elegans

Herbert **Jäckle** (Göttingen, Germany)
(i) Transcription factors in Drosophila *development*; (ii) *homeotic and* gap *genes in Drosophila.*

Rudolf **Jaenisch** (Cambridge, Massachusetts, USA.)
(i) DNA repair; (ii) Methylation and expression patterns of imprinted and nonimprinted genes.

Fotis C. **Kafatos** (Heidelberg, Germany)
(i and ii) Innate Immunity and Malaria.

Reinhard **Lührmann**

Iain **Mattaij** (Heidelberg, Germany)
(i) Nucleocytoplasmic transport; (ii) Ribonucleoprotein assembly

Ueli **Schibler** (Geneva, CH)
(i) Chronobiology: from cynobacteria to man (ii) Circadian gene expression in animals and cells

Axel **Ullrich** (Martinsried/Munich, Germany)
Growth factor receptors

Inder M. **Verma** (San Diego CA, USA)
(i and ii) Gene therapy.

Robert **Weinberg** (Cambridge MA, USA)
(i) Tumor suppressor genes; (ii) Apoptosis.

Charles **Weissmann** (Zurich, Switzerland)
(i) Prion diseases in animals and humans (ii) Molecular biology of prion diseases

Alan P. **Wolffe** (Bethesda MD, USA)
(i) Regulatory roles for chromatin: structure and transcriptional activation (ii) Regulatory roles for chromatin: heterochromatin and transcriptional repression

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SPETSES 2001

September 4 to September 14

PROTEIN BIOLOGY: FROM SYNTHESIS TO FUNCTION AND DISEASE

Organizers: Brian F.C. Clark (chairman) (Denmark), Alan R. Fersht (UK), Efstathis Gonos (Greece), Daniela Rhodes (UK)

Topics:

(1) Protein Synthesis and Macromolecular Mimicry
(2) Folding and Quality Control
(3) Protein Folding
(4) Targetting and Trafficking
(5) Maturation, Recognition and Degradation
(6) Proteomics and Bioinformatics
(7) Protein Design
(8) Misfolding and Disease

Lecturers:

Wolfgang **Baumeister** (Germany)**,** Julio **Celis** (Denmark), Aaron **Ciechanover** (Israel), Brian **Clark** (Denmark), Elena **Conti** (Germany), Chris **Dobson** (UK), Alan **Fersht** (UK), Susan **Grasser** (Switzerland), Stathis **Gonos** (Greece), Gunnar **von Heijne** (Sweden), Ari **Helenius** (Switzerland), Matthias **Hentze** (Germany), Walter **Neupert** (Germany), Andreas **Plückthun** (Switzerland), Daniela **Rhodes** (UK), Chris **Sander** (USA), Luis **Serrano** (Germany), Mathias **Uhlen** (Sweden), Charles **Weissmann** (UK).

Participants:

Charlotta Agaton (KTH, Royal Institute of Technology, S- 100 44 Stockholm, Sweden); **Burcu Anar (**Erasmus University,3000 DR, Rotterdam); **Tiziana Anelli (**Istituto Scientifico San Raffaela, 20132 Milano); **Vassiliki Avramopoulou (**Hellenic Pasteur Institute, 115 21 Athens), **Alexandre Avsiouk (**Moscow State University, 117333 Moscow); **Natalia Beloglazova (**Academy of Sciences 8, Lavrentien Av., 630090, Novosibirsk 90); **Petra Berg (**CMB, S-171-77 Stockholm); **Angela Bisso (**DIMES - Sezione Biochimica, 16132 Genova); **Catherine Bruel (**Institute of Clinical Biochemistry and Pathobiochemistry, 98078 Würzburg); **Anne-Laure Bulteau (**Université Paris 7 - Denis Diderot, 75251 Paris Cedex 05); **Barbara Campanini (**Università degli Studi di Parma, 43100 Parma); **Susan L. Campbell (**Institute for Animal Health, Edinburgh, EH9 3JF); **Andrew Carter (**MRC Laboratory of Molecular Biology, Cambridge CB2 2QH); **Pedro Castanheira (**Universidade de Coimbre, 3001 401 Coimbra); **Marta Rodriguez Castro (**Instituto de Salud Carlos III, 28220 Madrid); **Urska Cegovnik (**Institute of Oncology, 1000 Ljubljana); **Niki Chondrogianni (**National Hellenic Research Foundation, 166 35 Athens); **Daniel Christ (**MRC Laboratory of Molecular Biology, Cambridge CB2 2QH); **Robert Court (**MRC Laboratory of Molecular Biology, Cambridge CB2 2QH); **Adrian Creanga (**Institute of Biochemistry, Bucharest 77700); **Robert Dobrovolny (**Institute of Inherited Metabolic Diseases, 128 08 Praha 2); **Melloney Dröge (**University of Groningen, 9713 AV Groningen); **Marta Fikus (**Polish Academy of Sciences, 02-106 Warszawa); **Parthena Foltopoulou (**Aristotle University of Thessaloniki, Thessalonki 540 06); **Linda Frederiksson (**Ludwig Institute for Cancer Research, 171 77 Stockholm); **Steffen Frey (**Zentrum für Moleculare Biologie Heidelberg, 69120 Heidelberg); **Rikke From Frøhlich (**University of Aarhus, 8000 Aarhus C); **Behzad Gharehnia (**University of Bergen, 5021 Bergen); **Stefania Gobessi (**Università degli Studi di Udine, 33100 Udine); **Alina Grabiec (**Jagiellonian University, 31-120 Krakow); **Ekaterina Gresko (**Inselspital, 3010 Bern); **Carol Harty (**Cambridge Institute for Medical Research, Cambridge CB2 2XY); **Florian Hollfelder (**Department of Biochemistry, Cambridge CB2 1GA); **Tijana Ignjatovic (**MRC Laboratory of Molecular Biology, Cambridge CB2 1TQ); **Hideo Iwai (**Biochemisches Institut , Universitaet Zurich, CH-8057 Zurich); **Ghil Jona (**Weizmann Institute of Science, Rehovot); **Kim Bak Jensen (**University of Aarhus, 8000 Aarhus C); **Alexandra Kaser (**Austrian Academy of Sciences, 5020 Salzburg); **Katin Kepp (**University of Tartu, Tartu 51010); **Ilkka Lappalainen (**University of Helsinki); **Michael Lappe (**Wolfson College, Cambridge CB3 9BB); **Natalia A. Lebedeva (**Institute of Bioorganic Chemistry, Novosibirsk 630090); **Rune Linding (**EMBL, D-69117 Heidelberg); **Kresten Lindorff-Larsen (**2300 København S); **Efthimia Lioliou (**Aristotle University of Thessaloniki, 54006 Thessaloniki); **Adrianna Loniewska (**Polish Academy of Sciences, 02-106 Warszawa); **Manuela López de la Paz (**European Molecular Biology Laboratory, D-69117 Heidelberg); **Ewan Main (**Dept. of Molecular Biophysics and Biochemistry, New Haven, Connecticut 06520-8114); **Vlatka Makanec (**PLIVA Reseach Institute, 10 000 Zagreb); **Francisco Mansilla Castano (**University of Aarhus, 8000 Aarhus C); **Tomoaki Matsuura (**Biochemisches Institut Universitaet Zurich , CH-8057 Zurich); **Ugo Mayor (**Centre for Protein Engineering, CB2 2DQ Cambridge); **Tanja Meriluoto (**National Public Health Institute, 00251 Helsinki); **Jesper Mogensen (**Department of Biotechnology Aalborg University, 9100 Aalborg); **Olga V. Molchan (**Belorussian Academy of Sciences, Minsk 220072); **Zoryana Oliynyk (**Centre for Protein Engineering, MRC, Cambridge CB2 2QH); **Krzysztof Olszak (**Institute of Biochemistry and Biophysics PAS, 02-106 Warsaw); **Jennifer L. Ong (**MRC Laboratory of Molecular Biology, Cambridge CB2 2QH); **Juha Paloneva (**National Public Health Institute, Helsinki); **Alla Pogribna (**Institute of Molecular Biology and Genetics, National Academy of Sciences of Ukraine, Kiev 252143); **Rosa Resende (**Universidade de Coimbra, 3004 517 Coimbra); **Ekaterina Rusakova (**Engelhardt Institute of Molecular Biology, 117984 Moscow); **Carsten Schwalb (**University of Edinburgh, Edinburgh EH9 3JR); **Burckhard Seelig (**Harvard Medical School, Boston MA 02114); **Markus Seeliger (**Cambridge University Chemical Laboratory, Cambridge CB2 1EW); **Toomas Silla (**University of Tartu, Tartu 51010); **Frederico Silva (**Instituto de Biologia Molecular e Celular, 4150 180 Porto); **Federica Sinibaldi (**Universita "Tor Vergata" di Roma, 00133 Rome); **Elena Sokolova (**Shemyakin & Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Moscow, 117997); **Therese Solstad (**PKI, IBMB, 5020 Bergen); **Teresa Soop (**MoG, CMB, Karolinska Institute, 171 77 Stockholm); **Tamás Sperka (**University of Debrecen, 4012 Debrecen); **Kaare Teilum (**Institute of Molecular Biology, University of Copenhagen, 1353 Copenhagen K); **Hana Tomincová (**Academy of Sciences of the Czech Republic, 166 37 Praha 6); **Ioannis P. Trougakos (**National Hellenic Research Foundation (N.H.R.F.), 11635, Athens Greece); **Katharina Reksten Tufteland (**University of Bergen, HIB, 5020 Bergen); **Ann Vanhooren (**Catholic University Leuven , 8500 Kortrijk); **Lidia Vasilieva (**University of Helsinki, 00014 Helsinki); **Ioulia Vassilieva (**Institute of Protein Research, 142290 Pushchino, Russia); **Ana V. Vilar (**Universitat de Barcelona, 08028 Barcelona); **Gordon Whamond (**University College London, London WC1E 6BT); **Kate Wickson (**UMIST, Manchester M60 1QD); **Anna Zajakina (**University of Latvia, Riga LV 1067); **Bernd Buchberger** Roche Diagnostics GmbH, Werk Penzberg, Nonnenwald 2, 82372 Penzberg, Germany); **Christine Dartsch (**AstraZeneca Biotech Lab, B:841, 151 85 Södertälje, Sweden)

SPETSES 2002

September 3 to September 13

MOLECULAR BIOLOGY OF BACTERIAL INFECTIONS

Organizers: Pascale Cossart (Institut Pasteur, France)(Chairperson), Roberto Kolter (Harvard Medical School, USA); Efstathios Gonos (Hellenic Research Foundation, Greece).

Topics:
Invasive bacteria
Regulation
Protein export and secretion in bacteria
Intravacuolar pathogens
Genomics/ Post Genomics
Bacterial toxins
Virulence genes organisation
Evading the host defense systems
Evading hostile environments
Antiphagocytosis

Lecturers and Lectures:

Patrice **Boquet** (Nice, France)
Bacterial toxins : basic concepts (i) ; Bacterial toxins : what do these proteins tell us about host cell molecular mechanisms (ii)

Pascale **Cossart** (Paris, France)
Genetics and Cell biology of Listeria infections: from in vitro to in vivo data (i); Listeria monocytogenes : new insights in virulence (ii)

Guy **Cornelis** (Bruxelles, Belgium)
The Yersinia injectisome (i); The cell biology of the Yop effectors (ii)

Antonello **Covacci** (Siena, Italy)
Virulence factors in Helicobacter pylori, Pathogenicity islands and Cell biology (i); Bioinformatics and Microbes (ii)

Julian **Davies** (Vancouver, Canada)
What is an antibiotic (i); The complexity of antibiotic resistance (ii)

Efstathios S. **Gonos** (Athens, Greece)
The molecular genetics of human ageing and longevity

David **Holden** (London , UK)
Methods to study Salmonella virulence in vivo (i); Intracellular Biology of Salmonella (ii)

Roberto **Kolter** (Boston, USA)
Thinking about bacteria as multicellular organisms : implications to pathogenesis and survival (i); Bacterial biofilms in chronic infections (ii)

Gunnar **Lindahl** (Lund, Sweden)
Bacterial immuno-globulin binding proteins and their role in virulence (i); Antigenic variation and its molecular basis : Group A Streptococcus as a model system (ii)

Jeff **Miller** (Los Angeles, USA)
A mechanistic, evolutionary and ecological perspective on bacterial gene regulation (i); Parasite adaptations to dynamic hosts: the infectious cycles of Bordetella and their phages

Edgardo **Moreno** (Heredia, Costa Rica)
Brucella pathogenesis

Tony **Pugsley** (Paris, France)
History, background and relationships to other protein translocation systems (i); One, two and three membranes (ii)

Philippe **Sansonetti** (Paris, France)
What is a pathogen ? (i) ; Molecular and cellular basis of Shigella infections (ii)

Pam **Small** (Knoxville, USA)
What can we learn from genomics about virulence in Mycobacteria species (i); Lipid-mediated virulence in Mycobacterial pathogens; macrolides polyketides and beyond (ii)

Arturo **Zychlinsky** (New York, USA)
Is there a physiological role for apoptosis in bacterial pathogenesis ? (i); Innate immunity in bacterial infections (ii)

Participants 2002

David Ackerley (Stanford, USA), Sarojini Adusumilli (Knoxville, USA), Irini Lazou Ahrén (Malmö, Sweden), Ana Maria Alonso Santos (Cantoblanco-Madrid, Spain); Alexander Avsyuk (Moscow, Russia); Stina Berglund (Umea, Sweden); Juan Pablo Bifani (Lille, France); Eva Bjur (Stockholm, Sweden); Igor Brodsky (Stanford, USA); Didier Cabanes (Paris, France); Barbara Capecchi (Siena, Italy); Anna Carle (Munich, Germany); Fredric Carlsson (Lund, Sweden); Ronan Carroll (Dublin, Ireland); Claire Checroun (Toulouse, France); Rebecca Jane Critchley (London, UK); Daniele Dessi (Sassari, Italy); Gustavo Dominguez Bernal (Cantoblanco-Madrid, Spain); Isabel Eloi Marcelino (Oeiras, Portugal); Lisa Friedman (Boston, USA); Diana Goldenberg (Ramat Aviv, Israel); Ernesto Gonzalez de Valdivia (Stockholm, Sweden); Marie Gottar (Strasbourg, France); Edith Gouin (Paris, France); Julien Goure (Grenoble, France); Helga Gressmann (Berlin, Germany); Cyril Hamiaux (Groningen, The Netherlands); Katherine Hisert (New York, USA); Christopher Hoppner (Munich, Germany); Ofir Ilan (Jerusalem, Israel); Vanesa Ivetic (Zagreb, Crotia); Harry Järveläinen (Berlin, Germany); Mariluise Kirchner (Berlin, Germany); Kaoru Komoriya (Oxford, UK); Natalia A. Kozak (Los Angeles, USA); Xin-He Lai (Umea, Sweden); Maria Carmela Latella (Roma, Italy); Mirjana Macvanin (Uppsala, Sweden); Lena Mogemark (Umea, Sweden); Daphna Mokady (Ramat Aviv, Israel); Ernesto J. Munoz-Elias (New York, USA); Eike Niehus (Würzburg, Germany); Maria José Oliveira (Ghent, Belgium); Francesca Pacello (Roma, Italy); Effrosyni Papanikou (Crete, Greece); Suzana Pinto Salcedo (London, UK); Helmy Rachman (Berlin, Germany); Bärbel Raupach (Berlin, Germany); Jean-Marc Reyrat (Paris, France); Federica Ribacchi (Roma, Italy); Lars Roese (Berlin, Germany); Piklu Roy Chowdhury (Christchurch, New Zealand); Daniela Santapaola (Roma, Italy); Anja Seubert (Basel, Switzerland); Marcela Simsova (Prague, Czech Republic); Carlos Yesid Soto Ospina (Zaragoza, Spain); Sandra Sousa (Pari, France); Kathryn E. Stockbauer (Los Angeles, USA); Charlotta Sundin (Umea, Sweden); Neil Surana (Saint-Louis, USA); Damini Tapadar (Muenster, Germany); Alejandro Toledo Arana (Pamplona, Navarra, Spain); Elisabeth Torstensson (Stockholm, Sweden); Sara Travaglione (Roma, Italy); André Van Eerde (Groningen, The Netherlands); Tanay Veremeiko (Novosibirsk, Russia); Nicolas Vodovar (Gif sur Yvette, France); Su-Yan Wang (Umea, Sweden); David S. Weiss (Berlin, Germany); Hanne C. Winther-Larsen (Oslo, Norway); Chen Yona (Jerusalem, Israel); Ming Yuan (Umea, Sweden); Maria Mercedes Zambrano (Bogota, Colombia).

SPETSES 2003

August 29 to September 8

MOLECULAR MECHANISMS IN HOMEOSTASIS AND DISEASE

Organizers: Peter Herrlich, Jena; Herbert Jäckle, Göttingen; Horst Feldmann, München; Martin Blum, Stuttgart-Hohenheim; Peter Angel, Heidelberg, Statis Gonos, Athens.

Topics:
(1) Sources of dysfunction of cellular and organismic processes
(2) Embryonic development and tissue remodelling
(3) Molecular mechanisms of disease (myeloid and bone diseases; reperfusion syndrome; parasitic diseases; human retrovirus-induced diseases; neurodegenerative diseases; prion diseases; cancer including immunoevasion, metastatic mechanisms, early dissemination, drug resistance).

Lecturers and Lectures:

Aguzzi, Adriano (Zurich)	Pathogenesis of prion diseases: mouse models
Angel, Peter (Heidelberg)	Wound healing and skin remodelling
Blum, Martin (Hohenheim)	Pattern formation in early embryonic development (i); Establishment of left-right asymmetry in vertebrates (ii)
Borst, Piet (Amsterdam)	Mechanisms of antigenic variation in parasites (i); Drug transporters in health and disease (ii)
Christofori, Gerhard (Basel)	Multistage tumorigenesis 1. Early events: proliferation and survival; 2. Late events: tumor angiogenesis and progression to malignancy
Clevers, Hans (Utrecht)	Patterning of the colon epithelium (i); Colon

	Differentiation and Colon Cancer (ii)
Feldmann, Horst (München)	Programmed proteolysis
Gasser, Susan (Geneva)	Chromatin dynamics in the interphase nucleus (i); DNA replication checkpoints and what happens when forks stall (ii)
Gonos, Efstathios (Athens)	Mechanisms of ageing
Haass, Christian (München)	Neurodegenerative diseases (i); Alzheimer (ii)
Herrlich, Peter (Jena)	A human disease defective in a novel step of signal transduction: a regulatory role for the link between actin cytoskeleton and plasma membrane
Hörz, Wolfram (München)	Chromatin structure (i); Chromatin in transcriptional regulation (ii)
Karin, Michael (La Jolla)	The IkB Kinase (IKK) – A Signaling Machine and its Role in Innate and Adaptive Immunity (i); The role of IKK and NF-kB in skin development and pathology vertebrates (ii)
Klobeck, Hans-Gustav (München)	Activation of immunoglobulin gene loci during B cell development
Kräusslich, Hans-Georg (Heidelberg)	Retrovirus-induced disease (i); Virus assembly and maturation (ii)
Lührmann, Reinhard (Göttingen)	The RNA splicing machinery; alternative and aberrant splicing (i and ii)
Niehrs, Christof (Heidelberg)	Organ development and organizer centers in vertebrates (i and ii)
Schibler, Ueli (Geneva)	Molecular biology and physiology of circadian rhythms
Simons, Kai (Dresden)	Intracellular protein transport (i); Lipid rafts and cell polarity (ii)
Ulrich, Axel (Martinsried)	Crosstalk in the cellular communication network: intervention in cancer progression (i); Signaling pathways as targets for therapeutic intervention in cancer progression (ii)
Verma, Inder (La Jolla)	BRCA1/2 (i); Gene Therapy (ii)
Wagner, Erwin F. (Vienna)	Mouse models for human disease (i); Myeloid and Bone diseases (ii)
Weissmann, Charles (London)	Prion diseases in men
Werb, Zena (San Francisco)	Remodelling of the cellular microenvironment (i); Animal models with metalloprotease deficiencies (ii)

Participants:

Abakushin, Dmitri, Obninsk; Alimohammadi, Mohammad, Uppsala; Anders, Lars, Martinsried; Antoszczyk, Slawomir, Lodz; Appel, Thomas, IMB Jena; Araujo, Ines, Coimbra; Baccarini, Sara, Roma; Bespalov, Igor, Moscow; Bidzhieva, Bella, Mytishy; Brichkina, Anna, St. Petersburg; Cardoso, Carla, Coimbra; Deas, Emma, London; Deissler, Kirsten, Hohenheim; Dostert, Anja, Frankfurt; Ducasse, Miryam, Frankfurt; Fazi, Barbara, Rome; Federova, Olga, Moscow; Fernández Lloris, Raquel, Barcelona; Ferraro, Elisabetta, Rome; Fjällman, Ann, ETH Zürich; Fleishman, Darya, Moscow; Gela, Anna, Karlsruhe; Giacinta, Cristina, Roma; Gil, Joana, Coimbra; Gu, Ven Li, Bonn; Gulati, Pawan, Karlsruhe; Heikenwälder, Mathias, Zürich; Heilbock, Christine, Karlsruhe; Hertl, Christina, München; Horvath, Bela, Budapest; Hoya-Arias, Ruben, Gent; Illarionova, Anna, Moscow; Isamberth, Nicolas,; Ivanova, Nevyana, Sofia; Jensen, Jan. M. , UCHSC; Kaganski, Alexander, St. Petersburg; Karcher, Christina, Hohenheim; Khodosevich, Konstantin, Moscow; Kießlich, Almut, Jena; Kiialainen, Anna Karoliina, Helsinki; Kireev, Roman, Saratov; Klein , Isabella, Budapest; Klochkov, Denis, Moscow; Kohli, Bernhard, Zurich; Kolesnikova, Olga, Moscow; Koriakina, Janna, Dniepropetrovsk; Koricanac, Lela, Belgrade; Krasnobryzha, Ievgenia, Kiev; Kren, Angelika, Basel; Krick, Stefanie, Giessen; Kryndushkin, Dmitrij, Moscow; Lalle, Marco, Rome; Lombardo, Marco, Rome; Matthiesen, Sonja, Bonn; McKintosh, Edward, London; Michelson, Piret, Tallin; Misyurina, Olga, Gamaley; Mladenovic, Aleksandra, Belgrade; Möll, Kaidi, Tartu; Müller, Regina; Ndlovu, Matladi, Gent; Njunkova, Olga, Tallinn; Okutuku, Burku, Izmir; Oliveira, Carla, Porto; Oliveira Martins, Maria T., Coimbra; Parlato, Rosanna, Heidelberg; Perovic, Milka, Belgrade; Petrenjov, Daniil, Minsk; Piltti, Katja, Helsinki; Pondiki, Stavroula, Athens; Pöntynen, Nora Maria, Helsinki; Pripuzova, Natalia, Moscow; Pustovidko, Antonina, Moscow; Rafikova, Elya, Moscow; Raicevic, Nevena, Belgrade; Reichwald, Kathrin, Jena; Reinke, Hans, München; Rottenberg, Sven, Bern; Rotz, von, Ruth, Zurich; Ruschel, Anja, Martinsried; Sander, Veronika, Salzburg; Schaper, Manuela, Bern; Semenova, Elena, Novosibirsk; Shkundina, Irina, Moscow; Shtam, Tatjana, St. Petersburg; Sperka, Tobias, Karlsruhe; Stamatakis, Antonios, Athens; Stamenkovic, Kristina, Nis; Stoebe, Petra, Stuttgart; Tamkovich, Svetlana, Novosibirsk; Telegina, Ekatarina, Pushchino; Terekhova, Alena, Obninsk; Tomas, Antonia, Madrid; Tothova, Jana, Padova; Tschoep, Katrin, Leipzig; Tsruya, Rachel, Rehovot; Vallabhuparapu, Sivakumar, Karlsruhe; Vereschagina, Anna, Obninsk; Vicente, Almeida, Sandra, Coimbra; Xuan Li, Xuan, Birmingham; Yilmaz, Buket, Bilkent, Ankara;

Yülmeztepe, Arzu, Uluda.

SPETSES 2005

September 5 to 15

PROTEIN MISFOLDING, PROTEIN MODIFICATION AND AGE-RELATED DISEASES

Organizers: Alan R. Fersht (UK) (chairman), Brian F.C. Clark (Denmark), Efstathios Gonos (Greece), Daniela Rhodes (UK), Mathias Uhlen (Sweden)

Lecturers and Lectures:

Wolfgang Baumeister (MPI Martinsried, Germany)	(i) Cryoelectron tomography: why and how it is done and some state-of-the-art applications; (ii) Cryoelectron tomography: towards a macromolecular atlas of the cell
Vilhelm Bohr (NIH Baltimore, USA)	(i) DNA damage and repair; (ii) DNA repair deficiencies in human premature aging

Judith Campisi (Berkeley, USA)	(i) Cellular and molecular basis of aging; (ii) DNA damage and senescence
Aaron Ciechanover (Technicon, Haifa, Israel)	(i) Intracellular protein degradation: historical perspectives; (ii) N-terminal ubiquitination: not such rare modification anymore?
Brian Clark (Aarhus, Denmark)	Synthesis, proteins, modification and aging
Jane Clarke (Cambridge, UK)	(i) Single-molecule studies of proteins; (ii) Investigating the complex unfolding landscapes of an elastic protein
Valerie Daggett (Seattle WA, USA)	(i) Fundamentals of Molecular dynamics simulations and their application to protein folding; (ii) Investigation of amyloidogenic conformational changes with molecular dynamics simulations
Chris Dobson (Oxford, UK)	(i) Protein misfolding and amyloid disease; (ii) Opportunities for therapeutic intervention in amyloid disorders
Rosario Fernandez-Fernandez (MRC Cambridge, UK)	(i) Cancer overview; (ii) p53 tumour suppressor network
Alan Fersht (Cambridge, UK)	(i) Fundamentals of protein folding and misfolding; (ii)Protein instability and cancer
Stathis Gonos (Athens, Greece)	(i) Clusterin/apolipoprotein J is a novel biomarker of senescence that regulates cellular growth and suppresses apoptosis; (ii) Proteasome function during human aging
Thomas Jenuwein (IMP Vienna, Austria)	(i) The epigenome in the context of the post-genomic era; (ii) The profile of repeat-associated histone lysine methylation states in the mouse epigenome
Daniela Rhodes (MRC Cambridge, UK)	(i) Telomere structure; (ii) Towards the structure of the "30nm" chromatin fibre
Peter Roepstorff (Odense, Denmark)	(i) Application of mass spectrometry in proteomics; (ii) Mass spectrometry in proteomics: assignment of post translational modofications
George Thireos (IMBB-FORTH Heraklion, Greece)	(i) Life according to GCN4; (ii) Transcriptional activation: many different orchestrations of the same theme
Mathias Uhlen (KTH Stockholm, Sweden)	(i) Antibody-based proteomics; (ii) A human protein atlas for tissue profiles

Participants:

Christian Beyschau Andersen (Novo Nordisk, Bagsvaerd,DK);Valerie Anderson (Ithaca, NY);Hwee Ching Ang (Cambridge,UK);Rajiv Vaid Bassaiawmoit (Aalborg, DK); Carlos Walter Bertoncini (MPI Goettingen, D); Kate Billings (Cambridge, UK); Alessandro Borgia (Roma,IT); Milica Bozic (Belgrade, YU); Iva Hafner Bratkovic (Ljubljana, SO); Martina Chang (Vienna, AU); Niki Chondrogianni (Athens, GR); Elena Cipollini (Bologna, IT); Antonija Cvitkovic (MPI Martinsried, D); Taru Deva (Aalborg, DK); Maria Dontsova (Pushchino, RU); Regina Gonzales Dosal (Aarhus, DK); Elisa Fabiani (Grenoble, F); Kristoffer Famm(Cambridge, UK); Ioannis Filippis (MPI Berlin, D); Matthias Futschik (Berlin, D); Silva Giannini (Cambridge, UK); Sharon Gilead (Tel Aviv, IL); Charles Grummit (MRC Cambridge, UK); Britta Höhn (Berlin, D); Wolfgang Hoyer (MPI Goettingen, D); David Huang (Montreal, CA); Dmitry Ivankov (Pushchino, RU); Paulina Izewska (Lausanne, CH); Kadri Janikson (Tartu, ES); Thomas Jörgensen (Odense, DK); Sviatlana Kananovich(Minsk, Belarus); Alexej Kedrov (Dresden, D); Alexandra Kienast (Heidelberg, D); Mehmet Akif Kilic (Antaly, TU); Mariya Kordysh (Kiev, Ukraina); Trine Rennebod Larsen (Odense, DK); Stina Lindman (Lund, SE); Wheaton Little (MRC Cambridge, UK); Joao Pedro Lopes (Coimbra, PT); Mantas Malisauskas (Umea, SE); Jia Mi (Uppsala, SE); Sanne Nabuurs (Wageningen, NL); Giovanna Navarra (Palermo, IT); Lise Nesgaard (Aalborg, DK); Candy Wai-Yan Ng (Cambridge, UK); Adrian Nickson (Cambridge, UK); Özen Ösenzoy (Balekizir, TU); Jadwiga Para (Lodz, PL);Aviv Paz (Rehovot, IL); Sergio Perez (Bilbao, E); Erez Podoly (Jerusalem, IL); Johan Rockberg (Stockholm, SE); Anna Rutkowska (Heidelberg, D); Lu Sang (Aarhus, DK); K. Tanuj Sapra (Dresden, D); Gönül Seyit (MPI Martinsried, D); Irina Shkundina (Moscow, RU); Anastasia Shorina (Novgorod, RU); Christina Soromani (Cambridge, UK); Johanna Steen (Stockholm, SE); Olga Szczepankiewicz (Lund, SE); Karin Tamm (Tallin, ES); Srpil Tanrecerdi(Izmir, TU); Henning Tidow (Cambridge, UK); Federico Torta (Parma, IT); Jade Huong Tran (Cambridge, UK); Morten Beck Trelle (Odense, DK); Ioannis P. Trougakos (Athens, GR); Murali Karthick Vadivelu (MRC Cambridge, UK);Martijn van Raaij (Enschede, NL); Lisette Verhoef (Stockholm, SE); Valeria Vetri (Palermo, IT); Catherine Worth (Cambridge, UK); Wei-Feng Xue (Lund, SE); Hui Yan (Manchester, UK); Konstantin B Yenkoyan (Yerevan, Armenia); Daphna Zaaroor (Haifa, IL); Evgeniy Zadorin (Kiev, Ukraina); Giuliano Zanchetta (Segrate, IT); Tzviya Zeev-ben-Mordehai (Rehovot, IL).

SPETSES 2006

September 5 to 15

Molecular Basis of Bacterial Virulence and Survival within Infected Hosts and in the Environment

Organizers: Pascale Cossart (Institut Pasteur, France); Roberto Kolter (Harvard Medical School, USA)

Lecturers and Lectures

General Lectures

Julian Davies (University of British Columbia, Canada)
What is an antibiotic ? Discovery, mode of action, biosynthesis, environmental importance
Philippe Sansonetti (Institut Pasteur, France)
What makes a pathogen, what makes a commensal, at mucosals surfaces ?
Roberto Kolter (Harvard Medical School, USA)

Exploring microbial diversity

Invasive Bacteria

David Holden (Imperial College, England)
Methods to study Salmonella virulence
Pascale Cossart (Institut Pasteur, France)
Listeria invasion : from cell biology to pathogenesis

Biodiversity in bacterial pathogens

Pam Small (University of Tenessee, USA)
Environmental pathogens… what are they, how do you find them, how do they "emerge" and what do they do ?
Jeff Miller (University of California Los Angeles, USA)
The generation of diversity as a driving force in host-parasite interactions

Intracellular life of bacterial pathogens

David Holden (Imperial College, England)
Intracellular activities of Salmonella
Edgardo Moreno (Universidad Nacional, Costa Rica)
Intacellular life of and death of Brucella
Pascale Cossart (Institut Pasteur, France)
Actin-based motility of intracellular pathogens

Genetics and genomics

Stephen Lory (Harvard Medical School, USA)
Genome-wide approaches towards understanding bacterial virulence
Valérie Mizrahi (University of the Witwatersrand and National Health, South Africa)
The development and application of genetic tools for investigating pathogenesis mechanisms of Mycobacterium tuberculosis

Secretion I

Tony Pugsley (Institut Pasteur, France)
Putting proteins in their places in microbial cells
Guy Cornelis (Biozentrum der Univeristät Basel, Switzerland)
The Yersinia Ysc=Yop type III secretion system – Part I : the apparatus

Extracellular bacteria

Gunnar Lindhal (Lund University, Sweden)
How streptococcus pyogenes establishes an infection and interacts with the immune system of the host
Patrice Boquet (Faculté de Médecine de Nice, France)
General Cellular and molecular mechanisms of bacterial toxins

Regulation

Jeff Miller (University of California Los Angeles, USA)
Signaling networks and the regulation of bacterial pathogenesis
Stephen Lory (Harvard Medical School)
Enhancement of bacterial virulence by horizontal gene transfer and pathoadaptative mutations

Secretion II

Guy Cornelis (Biozentrum der Universität Basel, Switzerland)
The Yersinia Ysc-Yop type III secretion system – Part II : the effectors
Tony Pugsley (Institut Pasteur, France)
Multi-component bacterial cell envelope motors

Immunity / Inflammation I

Philippe Sansonetti (Institut Pasteur, France)
Invasion and inflammatory destruction of the intestinal epithelium by Shigella
Arturo Zychlinsky (Max Planck Institüt für Infektionsbiologie, Germany)
Innate Immunity I : sensing bacteria

Immunity / Inflammation II

Gunnar Lindhal (Lund University, Sweden)
Antigenic variation – streptococcal M protein as a model system
Pam Small (University of Tenessee, USA)

Macrolide-mediated virulence in mycobacterial pathogens
Immunity / Inflammation III
Arturo Zychlinsky (Max Planck Institüt für Infektionsbiologie, Germany)
Innate Immunity II : the effectors
Edgardo Moreno (Universidad Nacional, Costa Rica)
How Brucella organisms evade proinflammatory responses and generate chronic infections
Secretion III
Patrice Boquet (Faculté de Médecine de Nice, France)
Mitochondria as new preys for bacteria: the Helicobacter pylori vacA toxin model
Genome evolution
Valérie Mizrahi (University of the Witwatersrand and National Health, South Africa)
Mechanisms of genetic adaptation and genome evolution in mycobacteria
Julian Davies (University of British Columbia, Canada)
Antibiotics II : resistance, mechanisms, origins and evolution, solutions
Roberto Kolter (Harvard Medical School, USA)
Bacteria as multicellular organisms

Participants:

Ackermann, Nikolaus, Munich DE; Baczynska, Agata, Aarhus DK; Barquero, Elias, Madrid E; Beiter, Katharina, Stockholm S; Biedzka-Sarek, Marta, Helsinki FI; Boncompain, Gaelle, Paris F; Böttcher, Jan Peter, Berlin DE; BRAWN, Lindsey, Cambridge UK; Brotcke, Anna, Stanford USA; BUSS, Chrisoph, Münster DE; Cappon, Andrea, Padua I; Charova, Spyridoula, Crete GR; Ciocchini, Andres, Madrid E; Degtyar, Elena, Tel Aviv IR; Disson, Olivier, Paris F; Eilers, Björn, Berlin DE; Elazar, Sharon, Jerusalem IR; ESSID, Miriam, Geneva CH; Fevre, Cindy, Paris F; Fuchs, Tobias, Berlin DE; Hagman, Arne, Paris F; HAIKKO, Johanna, Helsinki F; Hamon, Mélanie, Paris F; Hejnova, Jana, Prag CZ; Hodak, Hélène, Lille F; Jaumouillé, Valentin, Paris F; Jelsback, Lotte, Copenhagen DK; JENNER, Dominic, UK; Jonas, Kristina, Stockholm S; Jude, Brooke A., Dartmouth UK; Konradt, Christoph, Paris F; Kuijl, Coen, Amstserdam NL; KUMAR, Anil, Dehli IN; KUMAR, Santosh, CDFD IN; Lee, Baoleri, DK; Mally, Manuela, Basel CH; MANCEK KEBER, Mateja, Ljubljana SLO; Marin Munoz, Elvira, CSIC E; Marlow, Victoria, Edinburgh UK; Monk, Ian, Cork UK; Monson, Rita, Cambridge UK; MOSI, Lydia, Tenesse USA; Mueller, Catherine, Basel CH; Nagai, Takeshi, Tokyo JP; Nehme, Nadine, Strasbourg F; Nogueira, Patricia, CEPEM BR; Odendall, Charlotte, London UK; Panina, Ekaterina, Los Angeles USA; Papatheodorou, Panagiotis, Hohenheim DE; Persson, Jenny, Lund S; Poyraz, Omer, Berlin DE; Puhar, Andrea, Padua I; Ramos Vivas, José, Paris F; Ramsden, Amy, London UK; Rasmussen, Louise Caroe Vohlander, Aarhus DK; Raupach, Bärbel, Berlin DE; Reig, Nuria, Geneva CH; Rosini, Roberto, Chiron; Ruer, Ségolène, CNRS F; Sakugari, Yumiko, DK; Santi , Isabella, IRIS, Chiron; Scavone, Paula, IIBCE UY; Scherr, Nicole, Basel CH; Schneider, Muriel, London UK; Sieira , Rodrigo, UNSAM AR; Simeone, Roxane, CNRS F; Suzuki, Masato, Tokyo JP; Van der Meer, Ynske, Utrecht University; Vergara, Marta, CSIC E; Viklund, Ing-Marie, Stockholm S; VILLWOCK, Andrea, Würzburg DE; VIVES FLOREZ, Martha, Universidad de los Andes CO; Vlisidou, Isabella, Bath UK; Vogt, Guillaume, Hôpital Necker F; Warner, Digby, MRC/NHLS/WITS ZA; Wartha, Florian, Stockholm S; WATSON, Robert, Bath UK; Wladyka, Benedykt, Jagiellonian University PL; Yim, Grace, British Columbia CA; ZAVIYALOV, Andrey, CNRS FI.

SPETSES 2007

August 31 - September 9

Molecular Mechanisms of Regeneration

Organizers: Peter Angel (Heidelberg), Horst Feldmann (Munich), Peter Herrlich (Jena) **chairman**, Herbert Jäckle (Göttingen), Benjamin Kaupp (Jülich), Erwin Wagner (Vienna)

Lecturers and Lectures

A. Basic Cell Biology

Signal Transduction
Peter Herrlich (Jena)
Regulation of signal transduction
Axel Behrens (London)
Identification of coactivators linking the AP-1 transcription factor to growth factor and DNA damage signaling
Ueli Schibler (Geneva)
The circadian timing system: a web of cell-autonomous oscillations

Protein Folding and Processing
Walter Birchmeier (Berlin)
Wnt/beta-catenin signalling

Christof Niehrs (Heidelberg)
Wnt signalling
Ronald P. Kühnlein (Göttingen)
Energy homeostasis in flies
Bernd Bukau (Heidelberg)
Regeneration of proteins by molecular chaperones

Epigenetics
Peter Becker (Munich)
Chromatin dynamics: ATP-dependent nucleosome remodelling and beyond
Konrad Hochedlinger (Harvard)
Transcription factor induced epigenetic programming
Peter Becker (Munich)
Dosage compensation in Drosophila: vital fine-tuning of transcription

Signal Transduction and Cancer
Michael Karin (La Jolla)
The IKK complex: providing a link between inflammation and cancer (two lectures)

B. Stem Cell Biology

Spermatogenesis and planarian regeneration
Benjamin Kaupp (Jülich)
Ca2+ oscillations and chemotactic signaling in sperm
Aziz Aboobaker (Nottingham)
(i) An introduction to the planarian system for regeneration and stem cell research
(ii) Positional signalling and remodelling on planarians
Christof Niehrs (Heidelberg)
DNA demethylation, DNA repair and pluripotency

Embryonic Stem Cells
Gordon Keller (New York)
(i) Lineage specific differentiation of embryonic stem cells
(ii) Organ regeneration
Konrad Hochedlinger (Harvard)
ES cell biology

Cancer Stem Cells
Eric Lechman (Toronto)
(i) Stem cell and leukemic stem cell concepts
(ii) miRNA in leukemic stem cell biology
Piet Borst (Amsterdam)
(i) Mechanisms of drug resistance in tumors: the role of apoptosis resistance and of tumor stem cells
(ii) DNA repair and cancer chemotherapy

Adult Stem Cells
Ueli Schibler (Geneva)
Outputs of the circadian clock: from xenobiotic detoxification to liver regeneration
Maria Sibilia (Vienna)
EFGR signalling in development, regeneration and cancer
Andreas Trumpp (Epalinges)

(i) The role of Myc in stem cells during dvelopment, homeostasis and disease
(ii) Dormant and activated stem cells during homeostasis injury and cancer

C. Organogenesis and Organ Restoration

Thomas Jenuwein (Vienna)
Epigenetic control by histone methylation
Leonhard Rudolph (Hannover)
Telomere dysfunction induces cell intrinsic checkpoints and environmental alterations limiting cell function
Erwin Wagner (Vienna)
(i) Liver regeneration, inflammation and liver cancer: functions of Jun/AP-1 and JNK/p38 kinases
(ii) Bone and skin dvelopment controlled by AP-1 (Fos/Jun)
Thomas Braun (Bad Nauheim)
Mechanisms of striated muscle regeneration: stability of lineage decisions in mesodermal derivatives
Carmen Birchmeier (Berlin)
The c-met receptor functions in adult regeneration of rat liver and skin
Jörg Huelsken (Epalinges)
Cancer stem cell maintenance in the skin is dependent on beta-catenin signalling

D. Neuronal Stem Cells

Axel Behrens (Nottingham)
Mechanisms of transcriptional regulation during neurodegeneration and cancer
Carmen Birchmeier (Berlin)
Muscle progenitors and satellite cells
Wieland Huttner (Dresden)
The cell biology of neural stem and progenitor cells:
(i) Symmetric versus asymmetric divisions
(ii) Molecular mechanisms

E. Ageing

Thomas Braun (Bad Nauheim)
How do hearts cope with ageing and stress? The role of sirtuin longevity molecules and oxidative stress
Peter Herrlich (Jena)
Introduction into molecular mechanisms of ageing: a new vertebrate ageing model

Participants:

Abranches, Elsa (Lisbon); Alexandrova, Svetlana (Moscow); Alpern, Danil (Moscow); Andersin, Temu (Geneva); Araujo, Ines (Coimbra); Archacka, Karolina (Warsaw); Arends, Brigitte (Utrecht); Baptista, Pedro Miguel (Wake Forest); Blassberg, Robert (London); Boehnke, Karsten (Heidelberg); Boros, Katalin (Manchester); Buhl, Sandra (Bonn); Carreira, Bruno (Coimbra); Centanin, Lazaro (Heidelberg); Chioni, Athina-Myrto (Barts); Cizkova, Dana (Prague); Costa Silva Alvaro, Ana Rita (Coimbra); Darr, Henia (Jerusalem); Denzel, Martin (La Jolla); Diaz Garcia, Sandra (Madrid); Diefenbacher, Markus (Karlsruhe); Ditadi, Andrea (Padua); Durchdewald, Moritz (Heidelberg); Dvinge, Heidi (Cambridge); Ferrer Vaquer, Anna (Freiburg); Frade Marquez, Maria (Coimbra); Görmüs, Uzay (Istanbul); Gorsic, Masa (Ljubljana); Grinevich, Yekatarina (Almaty); Harasim, Thomas (Martinsried); Hefferman, Theresa (Dublin); Heidemann, Martin (Munich); Henriques Oliveira, Ana Catarina (Coimbra); Illing, Anett (Jena); Jurisch, Natalie (Heidelberg); Kajahn, Jennifer (Lübeck); Känel, Philipp (Bern); Kapralova, Irina (Moscow); Khatuntseva, Svetlana (Moscow); Korolija, Marina (Zagreb); Kovalenko, Oksana (Kiev); Kozlova, Alyona (Moscow); Kragl, Martin (Dresden); Krasteva, Natalia (Sofia); Kruse, Julia (Bad Nauheim); Le Martelot, Gwendal (Geneva); Martin-Duque, Pilar (Madrid); Mauricio de Sousa, Sara Cristina (Oeiras); Merkel, Ulrike (Jena); Miroshnychenko, Daria (Kiev); Mocan, Elena (Moldova); Nacu, Eugen (Dresden); Nemeth, Andrea (Budapest); Otto, Anthony (Reading); Papadopoulos, Dimitrios (Basle); Pelucchi, Paride (Segrate); Perepelyuk, Maryna (Kiev); Petrova, Rushana (Moscow); Rosa da Silva, Ana Cristina (Coimbra); Saini, Camille (Geneva); Sanzone, Sveva (Segrate); Scheuermann, Johanna (Heidelberg); Schöntaler, Helia (Vienna); Schotanus, Baukje (Utrecht); Schroeder, Arnold (Freiburg); Schwamborn, Jens (Vienna); Seitzer, Nina (Martinsried); Shakhbazau, Antos (Belarus); Skouloudaki, Kassiani (Freiburg); Snippert, Hugo (Utrecht); Spee, Bart (Leuven); Sroczynska, Patrycia (Manchester); Suvorava, Tatsiana (Belarus); van Wijk, Bram. (Amsterdam); Varga, Nora (Budapest); Voskanyan, Zaruhi (Erevan); Winkhaus, Friederike (Jülich); Yenkoyan, Konstantin (Erevan).

SPETSES 2008

September 11-18

New Developments in Quantitative Molecular Bioscience

21 lecturers, 19 tutors, 120 students

Organizers: John McCarthy (UMIST Manchester; chair)

Lecturers and Lectures:

Participants:

No detailed information available

SPETSES 2009

September 7 - 17

Proteins and Their Networks - From Specific to Global Analysis

Organizers: Alan R. Fersht (Cambridge University, UK; chairman), Daniela Roberts (MRC Cambridge, UK), Mathias Uhlen (Stockholm),

Administrative Co-ordinator: Paula Murphy (Cambridge, UK)

Lecturers and Lectures

Ruedi **Aebersold**, ETH Zurich, Institute of Molecular Systems Biology, Switzerland. Protein Mapping using MS.
Protein Mapping using MS 1,2

Patrick **Aloy,** Institute for Research in Biomedicine, Barcelona, Spain. Protein-Protein Interactions in the Cell; Structural Bioinformatics
Protein-Protein Interactions in the Cell 1, 2

Madan **Babu**, MRC Laboratory of Molecular Biology, Cambridge, UK. Transcriptional regulatory networks
Transcriptional regulatory networks 1, 2

Wolfgang **Baumeister**, Max Planck Institute of Biochemistry, Department of Structural Biology, Martinsried, Germany. Whole Cell Tomography
Whole Cell Tomography 1,2

Aaron **Ciechanover**, Department of Biochemistry, Technion-Israel Institute of Technology, Haifa, Israel. Ubiquitin Systems
Ubiquitin Systems in Biology

Jan **Ellenberg**, European Molecular Biology Laboratory, Heidelberg, Germany. High-throughput fluorescence microscopy for systems biology
High-throughput fluorescence microscopy for systems biology 1, 2

Alan **Fersht**, MRC Centre for Protein Engineering and University of Cambridge, Cambridge, UK. p53 Tumour Suppressor, Protein Folding
Tumour suppressor p53: from structure to drug discovery 1, 2

Joerg **Hoheisel**, Deutsches Krebsforschungszentrum, Heidelberg, Germany. High-throughput analysis of cancers; Functional Genome Analysis
High-throughput analysis of cancers 1, 2

Batsheva **Kerem**, The Department of Genetics, Jerusalem, Israel. Genetics and Disease
Genetics and disease 1,2

Daniela **Rhodes**, MRC Laboratory of Molecular Biology, Cambridge, UK. Chromatin and Telomere Structure.
Chromatin Structure

Carol **Robinson**, Department of Chemistry, University of Cambridge, UK. Mass Spectroscopy
Mass Spectrometry of Protein Complexes 1,2

Mathias **Uhlen**, Department of Biotechnology, Royal Institute of Technology, Stockholm, Sweden. Human Protein Atlas
Human Protein Atlas 1, 2

Participants:

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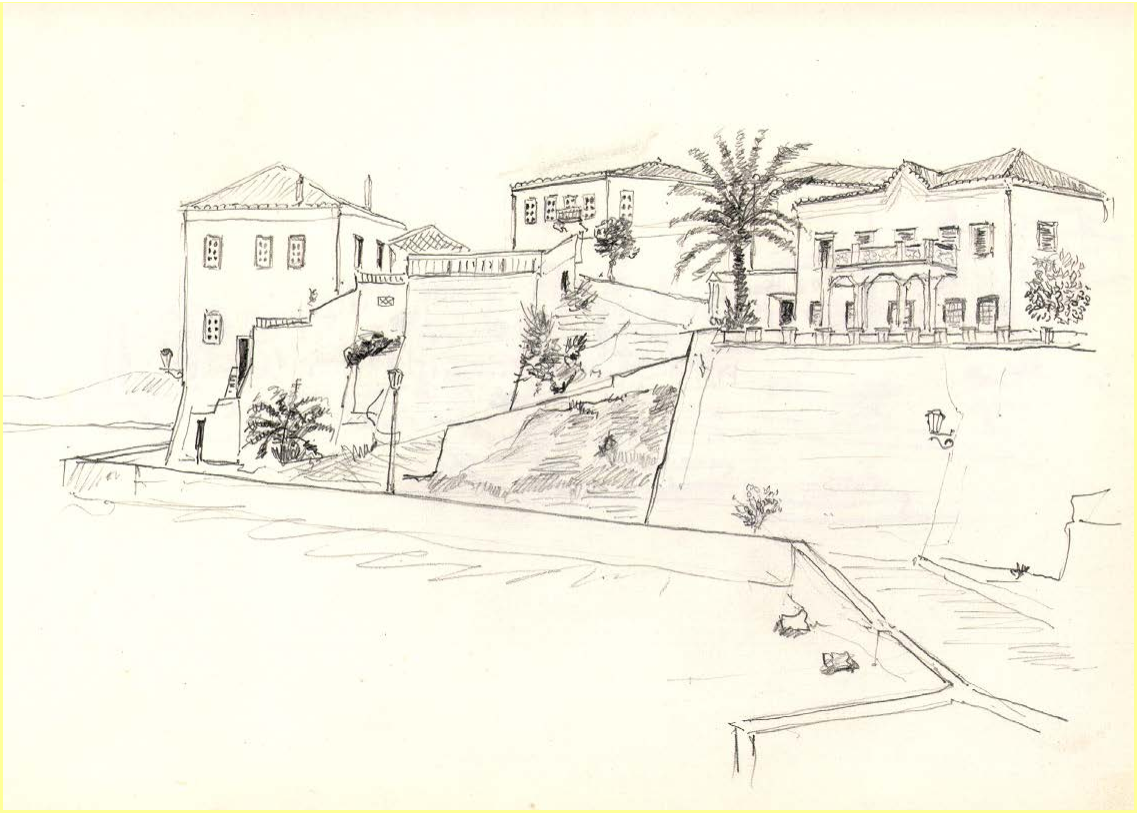

Spetses Old Fortification