

Instituto Juan March
de Estudios e Investigaciones

66

CENTRO DE REUNIONES
INTERNACIONALES SOBRE BIOLOGÍA

A Hundred
Meetings

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Instituto Juan March de Estudios e Investigaciones

66

CENTRO DE REUNIONES INTERNACIONALES SOBRE BIOLOGÍA



A Hundred Meetings



Instituto Juan March (Madrid)

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Instituto Juan March (Madrid)



Headquarters of the Fundación Juan March
(Home of the Centre for International Meetings on Biology)

Instituto Juan March (Madrid)

Meetings of specialists offer a number of indisputable benefits to devotees of the laboratory.... Only acquaintance may temper and soothe the surliness of chauvinism; through it, rivals and competitors belonging to different countries come to understand and respect each other, as eventually they become fully conscious that they are collaborators and companions in a great and shared labour, one fraught with difficulties and obscure enigmas.

Las reuniones de especialistas ofrecen ventajas incontestables a los amantes del laboratorio... Sólo el trato modera y suaviza las actitudes ariscas del *chauvinismo*; merced a él, émulos y rivales pertenecientes a países diversos, acaban por comprenderse y estimarse, adquiriendo al fin plena conciencia de que son colaboradores y camaradas en obra magna y común, llena de dificultades y de tenebrosos arcanos.

Santiago Ramón y Cajal. "Historia de mi labor científica"
Madrid. 1917.

INSTITUTO JUAN MARCH DE ESTUDIOS E INVESTIGACIONES

CENTRE FOR INTERNATIONAL MEETINGS ON BIOLOGY

A HUNDRED MEETINGS

CONTENTS

	<u>PAGE</u>
Foreword.....	9
The Centre for International Meetings on Biology.....	11
Scientific Council and Management of the Centre.....	13
Meetings in 1989.....	17
Meetings in 1990.....	21
Meetings in 1991.....	29
Meetings in 1992.....	37
Meetings in 1993.....	45
Meetings in 1994	53

	<u>PAGE</u>
Meetings in 1995.....	61
Meetings in 1996.....	69
Meetings in 1997.....	77
General Summary of a Hundred Meetings.....	83
Reviews in Scientific Journals and Books.....	85
Juan March Lectures on Biology	89
The Centre in the Years to Come.....	95
Proposals from Interested Scientists or Laboratories.....	97
Index of Personal Names.....	99

FOREWORD

This publication has been prepared to coincide with the 100th meeting organized by the Centre for International Meetings on Biology.

Descriptions of the Centre's objectives and Scientific Council are presented in this book.

A short account of the subjects, organizers and speakers invited to the hundred meetings held until now is given. In total, 1.779 speakers have been invited since the beginning of the programme, and a further 2.873 participants, selected from among the 4.992 applications received, have also attended.

The Juan March Lectures on Biology have been organized every year since 1982. The speakers who have presented their scientific contributions in these lectures are also listed.

Finally, the Centre's working programme for the years to come, and the procedure to present proposals for organizing future meetings, are explained in this book.

THE CENTRE FOR INTERNATIONAL MEETINGS ON BIOLOGY

The Centre for International Meetings on Biology endeavours to promote cooperation and interaction among Spanish and foreign scientists working in the field of Biology, understanding this scientific field in the widest sense, with special attention to advanced lines of research.

The Centre's activities stem from the Plan for International Meetings on Biology, initiated by the **Fundación Juan March** in January 1989 and ending in December 1991. A wide range of meetings were organized within the scope of this Plan. The Fundación Juan March, in addition to its well-known support of the fine arts and culture in general, has devoted particular attention to the biological sciences since its creation in 1955 by the Spanish financier Juan March Ordinas.

The Centre for International Meetings on Biology was established in January 1992 within the **Instituto Juan March de Estudios e Investigaciones**, a private foundation created in October 1986 and recognized by the Spanish Ministry of Education and Culture. This foundation complements the work of the Fundación Juan March, as an entity specializing in scientific activities. The Board of Trustees of the Instituto comprises: Juan March (Chairman), Carlos March (Deputy Chairman), Leonor March, Alfredo Lafita, Antonio Rodríguez Robles, Pablo Vallbona, Enrique Piñel and Jaime Prohens (Secretary). José Luis Yuste is Managing Director of the Institute.

The Centre for International Meetings on Biology is located at Calle Castelló 77, 28006 Madrid. Tel.: 34 - 1 - 435 42 40. Fax: 34 - 1 - 576 34 20.

SCIENTIFIC COUNCIL AND MANAGEMENT OF THE CENTRE

During the years 1989-1991, the Plan for International Meetings on Biology had a Scientific Council which comprised the following members:

Sydney Brenner

Medical Research Council. Cambridge. (United Kingdom)

Antonio García Bellido

Centro de Biología Molecular. CSIC - Universidad Autónoma de Madrid.

Francisco García Olmedo

E.T.S. de Ingenieros Agrónomos. Universidad Politécnica de Madrid.

César Milstein

Medical Research Council. Cambridge. (United Kingdom).

Eladio Viñuela

Centro de Biología Molecular. CSIC - Universidad Autónoma de Madrid.

During the years 1992-1994, the first Scientific Council of the Centre for International Meetings on Biology consisted of the following members:

Miguel Beato

Institut für Molekularbiologie und Tumorforschung. Marburg (Germany).

SCIENTIFIC COUNCIL

Sydney Brenner

Medical Research Council. Cambridge. (United Kingdom)

Antonio García Bellido

Centro de Biología Molecular. CSIC - Universidad Autónoma de Madrid.

Francisco García Olmedo

E.T.S. de Ingenieros Agrónomos. Universidad Politécnica de Madrid.

César Milstein

Medical Research Council. Cambridge. (United Kingdom).

Margarita Salas

Centro de Biología Molecular. CSIC - Universidad Autónoma de Madrid.

During the years 1995-1997, the Scientific Council of the Centre comprises the following members:

Miguel Beato

Institut für Molekularbiologie und Tumorforschung. Marburg (Germany).

José A. Campos-Ortega

Institut für Entwicklungsbiologie. Köln (Germany).

Gregory Gasic

Neuron Editorial Offices. Cambridge (USA).

César Milstein

Medical Research Council. Cambridge. (United Kingdom).

Margarita Salas

Centro de Biología Molecular. CSIC - Universidad Autónoma de Madrid.

The Scientific Council determines the priorities for the Centre's activity. It may put forward initiatives to be carried out in collaboration with Spanish or foreign laboratories. It also considers proposals for meetings submitted to the Centre by Spanish or foreign scientists, selecting and approving those it feels deserve support.

In general, the Scientific Council advises the Centre for International Meetings on Biology on any scientific subject or issue falling within the scope of the Centre's activities.

The Director of the Centre for International Meetings on Biology is **Andrés González**, who was also responsible for managing the Plan for International Meetings on Biology, previously promoted by the Fundación Juan March. E-mail: gonzalez@meet.march.es.

Meetings in 1989

Instituto Juan March (Madrid)

WORKSHOPS

TOLERANCE: MECHANISMS AND IMPLICATIONS

(24-26 April)

Organizers: P. Marrack and C. Martínez-A.

Speakers: H. von Boehmer, A. Coutinho, A.L. DeFranco, N. Le Douarin, C.C. Goodnow, J.W. Kappler, P. Marrack, C. Martínez-A., P. Matzinger, R.H. Schwartz, J. Sprent, H. Waldmann, M. Weigert.

Participants: 26 scientists, all Spanish, selected among 32 applications received.

PATHOGENESIS-RELATED PROTEINS IN PLANTS

(22-26 October)

Organizers: V. Conejero and L.C. van Loon.

Speakers: J.F. Antoniw, J.F. Bol, T. Boller, V. Conejero, R.S.S. Fraser, F. García-Olmedo, D.F. Klessig, M. Legrand, A. Leyva, F. Meins, Y. Ohashi, C.A. Ryan, L.C. van Loon.

Participants: 8 Spanish scientists and 29 from abroad, selected among 46 applications received.

MOLECULAR DIAGNOSIS OF CANCER

(27-29 November)

Organizers: M. Perucho and P. García Barreno.

Speakers: F.W. Alt, M. Barbacid, J.L. Bos, R. Dalla-Favera, E.R. Fearon, J. Groffen, E. Harlow, F. McCormick, A. Pellicer, M. Perucho, E.P. Reddy, I.B. Roninson, M. Schwab, D. Slamon, E.M. de Villiers, R.A. Weinberg.

Participants : 22 Spanish scientists and 8 from abroad, selected among 51 applications received.

COURSES

MOLECULAR BASES OF THE IMMUNE SYSTEM

(22-24 May)

Organizers: F. Díaz de Espada and C. Milstein.

Professors: F. Díaz de Espada, F. Garrido, C. Martínez-A., César Milstein, Celia Milstein, M. Neuberger, F. Sánchez-Madrid, J. Vives.

Students: 19, all Spanish, selected among 47 applications received.

DNA-PROTEIN INTERACTION

(20-22 November)

Organizer: M. Beato.

Professor: M. Beato.

Students: 21, all Spanish, selected among 39 applications received.

SESSIONS OPEN TO THE PUBLIC

-The workshop on TOLERANCE: MECHANISMS AND IMPLICATIONS finished with two open sessions: one on "Lymphocyte development and repertoire", with lectures by Drs. H. von Boehmer, A. Coutinho and N. Le Douarin, and another on "Tolerance and non-responsiveness", with lectures by Drs. P. Marrack, J. Sprent and R.H. Schwartz.

-The workshop on MOLECULAR DIAGNOSIS OF CANCER finished with an open session, including lectures by Drs. D. Slamon, I.B. Roninson, J. Groffen and M. Barbacid.

Meetings in 1990

Instituto Juan March (Madrid)

WORKSHOPS

GENOME EXPRESSION AND PATHOGENESIS OF PLANT RNA VIRUSES (7-9 May)

Organizers: F. García-Arenal and P. Palukaitis.

Speakers: D. Baulcombe, R.N. Beachy, G. Boccardo, J. Bol, G. Bruening, J. Burgyan, J.R. Diaz-Ruiz, W.G. Dougherty, F. García-Arenal, W.L. Gerlach, A.L. Haenni, E.M.J. Jaspars, M.A. Mayo, D.L. Nuss, P. Palukaitis, Y. Watanabe, M. Zaitlin.

Participants: 11 Spanish scientists and 21 from abroad, selected among 45 applications received.

DEVELOPMENT AND FUNCTION OF γ,δ T-CELLS

(11-13 June)

Organizers: C. Martínez-A. and S. Tonegawa.

Speakers: J.P. Allison, A. Augustin, A. Bandeira, J.A. Bluestone, W. Born, J. Borst, M. Brenner, M.D. Cooper, Y. Chien, W. Haas, A. Hayday, S.M. Hedrick, L. van Kaer, S.H.E. Kaufmann, G. DeLibero, T.W. Mak, C. Martínez-A., E.M. Shevach, J. Strominger, S. Tonegawa.

Participants: 12 Spanish scientists and 18 from abroad, selected among 45 applications received.

GENETIC ANALYSIS OF BIOLOGICAL PROCESSES

(18-20 June)

Organizers: A. García-Bellido and F.W. Stahl.

Speakers: E. Cerdá Olmedo, M.J. Cohen, A. García-Bellido, A. Ghysen, D.M. Glover, P. Gruss, J. Hodgkin, F.J. Murillo Araujo, M. C. Raff, J. Rine, F.W. Stahl.

Participants: 10 scientists, all Spanish, selected among 14 applications received.

THE REFERENCE POINTS IN EVOLUTION

(20-22 September)

Organizers: P. Alberch and G. A. Dover.

Speakers:, P. Alberch, P. Bateson, R.J. Britten, B.C. Clarke, S. Conway Morris, G.A. Dover, G.M. Edelman, R.B. Flavell, A. Fontdevila, A. García-Bellido, G.L.G. Miklos, C. Milstein, A. Moya, G.B. Müller, G. Oster, M. De Renzi, A. Seilacher, S. Stearns, E.S. Vrba, G.P. Wagner, D.B. Wake, A. Wilson.

Participants: 16 Spanish scientists and 8 from abroad, selected among 57 applications received.

CHROMATIN STRUCTURE AND GENE EXPRESSION

(24-26 September)

Organizers: F. Azorín, M. Beato and A. A. Travers.

Speakers: F. Azorín, M. Beato, H. Cedar, R. Chalkley, M.E.A. Churchill, D. Clark, C. Crane-Robinson, S.C.R. Elgin, M. Grunstein, G.L. Hager, W. Hörz, T. Koller, U.K. Laemmli, E. Di Mauro, D. Rhodes, T.J. Richmond, A. Ruiz-Carrillo, R.T. Simpson, A.E. Sippel, J.M. Sogo, F. Thoma, A.A. Travers, J.L. Workman, Ö. Wrangle, C. Wu.

Participants: 13 Spanish scientists and 15 from abroad, selected among 44 applications received.

GENETICS OF NEUROGENESIS IN DROSOPHILA

(2-4 October)

Organizers: J.A. Campos-Ortega and J. Modolell.

Speakers: M. Bate, C.Q. Doe, J.A. Campos-Ortega, A. Ghysen, R.J. Greenspan, E. Hafen, V. Hartenstein, Y. Hiromi Y. Nung Jan, F. Jiménez, E. Knust, A. Martínez-Arias, J. Modolell, D.F. Ready., P. Simpson, M.W. Young, L. Zipursky.

Participants: 9 Spanish scientists and 1 from abroad, selected among 14 applications received.

**THE ROLE OF CELLULAR INTERACTIONS IN PATTERN FORMATION
DURING EMBRYOGENESIS**

(26-28 November)

Organizers: J.B. Gurdon and A. Martínez-Arias.

Speakers: M. Bate, M.J. Berridge, A. Brown, J.A. Campos-Ortega, J.B. Gurdon, J. Kimble, C. Kimmel, A. Lumsden, A. Martínez-Arias, M. Peifer, P. Simpson, J.C. Smith, C. Stern, M. Wilcox.

Participants: 16 Spanish scientists and 6 from abroad, selected among 30 applications received.

COURSES

APPROACHES TO PLANT DEVELOPMENT

(12-15 February)

Organizers: T. Nelson and P. Puigdomènec.

Professors: M. Delseny, M.A. Estelle, M. Freeling, P.J.J. Hooykaas, J.M. Martínez-Zapater, J. Modolell, T. Nelson, M. Pagès, R.S. Poethig, P. Puigdomènec, J.H. Rothman, F. Salamini, A. Spena, I. Sussex, S.C. de Vries.

Students: 19 Spanish and 13 from abroad, selected among 46 applications received.

HIGH RESOLUTION TWO-DIMENSIONAL GEL ELECTROPHORESIS

(5-9 March)

Organizer: Juan F. Santarén.

Professors: J.E. Celis, J.I. Garrels, Juan F. Santarén, J. Vandekerckhove.

Students: 8, all Spanish, selected among 33 applications received.

BIOCHEMISTRY AND GENETICS OF YEAST

In collaboration with the F.E.B.S.

(2-18 July)

Organizers: M.A. Delgado, C. Gancedo, J.M. Gancedo and I. L. Calderón.

Professors: M.A. Delgado, H. Feldmann, L. Franco, C. Gancedo, J.M. Gancedo, J.R.M. Hammond, A. Hinnen, C.P. Hollenberg, I. L. Calderón, P.A. Niederberger, G. Simchen, P. Slonimski, K. Struhl, F. Vezinhet.

Students: 12 Spanish and 21 from abroad, selected among 75 applications received.

GENE TRANSFER, ONCOGENES AND MOLECULAR GENETICS OF CANCER

In collaboration with The Wellcome Trust

(4-6 July)

Organizer: M. Perucho.

Professors: J.R. Feramisco, F. McCormick, J. Ortín, A. Pellicer, M. Perucho, M.H. Wigler.

Students: 25, all Spanish, selected among 30 applications received.

LECTURE-SEMINARS

ZINC FINGERS AND OTHER DNA BINDING PROTEINS INVOLVED IN GENE REGULATION

(20-23-25 April)

Lecturer: A. Klug.

Centres: Instituto de Recursos Naturales y Agrobiología, Seville; Facultad de Ciencias, University of Cordova; Palacio de la Madraza, Granada.

SESSIONS OPEN TO THE PUBLIC

- The workshop on DEVELOPMENT AND FUNCTION OF γ , δ T-CELLS finished with an open session, including lectures by Drs. S. Tonegawa, T.W. Mak, J. Strominger and M. Brenner.
- The workshop on GENETIC ANALYSIS OF BIOLOGICAL PROCESSES finished with an open session, including lectures by Drs. D.M. Glover, P. Gruss, J. Rine and F.W. Sthal..
- The workshop on THE REFERENCE POINTS IN EVOLUTION began with an open session, including lectures by Drs. S. Conway Morris, E.S. Vrba and A. Wilson.
- The workshop on GENETICS OF NEUROGENESIS IN DROSOPHILA finished with an open session, including lectures by Drs. A. Martínez-Arias, V. Hartenstein, M. Bate, R.J. Greenspan, E. Knust and D.F. Ready.

Meetings in 1991

Instituto Juan March (Madrid)

COEVOLUTION OF VIRUSES, THEIR HOSTS AND VECTORS

(9-11 December)

Organizers: F. García-Arenal, A. Gibbs and C.H. Calisher.

Speakers: C.H. Calisher, J.M. Coffin, E. Domingo, F. Fenner, F. García-Arenal, A. Gibbs, A.E. Gorbatenko, K.A. Kron, T.L. Lentz, D.J. McGeoch, N. Nathanson, R.R. Rueckert, R.E. Shope, E. Stackebrandt, D. Stuart, R.G. Webster.

Participants: 10 Spanish scientists and 20 from abroad, selected among 52 applications received.

COURSES

POLYAMINES AS MODULATORS OF PLANT DEVELOPMENT

(4-6 February)

Organizers: A.W. Galston and A.F. Tiburcio.

Professors: N. Bagni, J.A. Creus, E.B. Dumbroff, H.E. Flores, A.W. Galston, J. Martín-Tanguy, D. Serafini-Fracassini, R.D. Slocum, T.A. Smith, A.F. Tiburcio.

Students: 15 Spanish and 11 from abroad, selected among 63 applications received.

THE POLYMERASE CHAIN REACTION

(13-15 May)

Organizers: E. Martínez-Salas and M. Perúcho.

Professors: D. Gelfand, K. Hayashi, H.H. Kazazian, E. Martínez-Salas, M. McClelland, K.B. Mullis, C. Oste, M. Perúcho, J. Sninsky.

Students: 21 Spanish and 10 from abroad, selected among 141 applications received.

MOLECULAR BIOLOGY OF THE RHIZOBIUM-LEGUME SYMBIOSIS

(27-28 May)

Organizer: T. Ruiz-Argüeso.

Professors: T. Bisseling, P. Boistard, J.A. Downie, D.W. Emerich, J. Kijne, J. Olivares, T. Ruiz-Argüeso, F. Sánchez, H.P. Spalink.

Students: 18 Spanish and 8 from abroad, selected among 32 applications received.

Meetings in 1992

Instituto Juan March (Madrid)

WORKSHOPS

WHAT DO NOCICEPTORS TELL THE BRAIN?

(24-26 February)

Organizers: C. Belmonte and F. Cerveró.

Speakers: C. Belmonte, G.J. Bennett, J.N. Campbell, F. Cerveró, A.W. Duggan, J. Gallar, H.O. Handwerker, M. Koltzenburg, R.H. LaMotte, R.A. Meyer, J. Ochoa, E.R. Perl, H.P. Rang, P.W. Reeh, H.G. Schaible, R.F. Schmidt, J. Szolcsányi, E. Torebjörk, W.D. Willis, Jr.

Participants: 11 Spanish scientists and 19 from abroad, selected among 35 applications received.

DNA STRUCTURE AND PROTEIN RECOGNITION

(16-18 March)

Organizers: A. Klug and J.A. Subirana.

Speakers: F. Azorín, M.D. Crothers, R.E. Dickerson, M.D. Frank-Kamenetskii, C.W. Hilbers, R. Kaptein, L. Kohlstaedt, D. Moras, D. Rhodes, W. Saenger, M. Salas, P.B. Sigler, J.A. Subirana, D. Suck, A.A. Travers, J.C. Wang.

Participants: 18 Spanish scientists and 14 from abroad, selected among 88 applications received.

THE PAST AND FUTURE OF *Zea mays*

(11-13 May)

Organizers: B. Burr, L. Herrera-Estrella and P. Puigdomènech.

Speakers: P. Arruda, J.L. Bennetzen, S.P. Briggs, B. Burr, J. Doebley, H.K. Dooner, M. Fromm, G. Gavazzi, C. Gigot, S. Hake, L. Herrera-Estrella, D.A. Hoisington, J. Kermicle, M. Motto, T. Nelson, G. Neuhaus, P. Puigdomènech, H. Saedler, V. Szabo, A. Viotti.

Participants: 11 Spanish scientists and 11 from abroad, selected among 32 applications received.

NEURONAL CELL DEATH AND REPAIR

(25-27 May)

Organizers: A.C. Cuello and J. Avila.

Speakers: J. Altman, A. Alvarez-Buylla, J. Avila, K. Beyreuther, A.C. Cuello, D. Choi, J. Chun, L.A. Greene, E.M. Johnson, C. López-García, M.J. Meaney, F. Moroni, M. Nieto-Sampedro, V.H. Perry, P. Rakic, J. del Río, T. Wieloch, G.T. Williams, F. Zafra.

Participants: 14 Spanish scientists and 13 from abroad, selected among 59 applications received.

TRANSCRIPTION INITIATION IN PROKARYOTES

(15-17 June)

Organizers: M. Salas and L.B. Rothman-Denes.

Speakers: S. Adhya, H. Bujard, S. Busby, M.J. Chamberlin, R.H. Ebright, M. Espinosa, E.P. Geiduschek, R.L. Gourse, C.A. Gross, S. Kustu, J. Roberts, L.B. Rothman-Denes, M. Salas, R. Schleif, P. Stragier, W.C. Suh.

Participants: 17 Spanish scientists and 14 from abroad, selected among 41 applications received.

STRUCTURE OF THE MAJOR HISTOCOMPATIBILITY COMPLEX

(21-22 September)

Organizers: A. Arnaiz-Villena and P.R. Parham.

Speakers: A. Arnaiz-Villena, R.E. Bontrop, F.M. Brodsky, R.D. Campbell, E.J. Collins, P. Cresswell, M. Edidin, H. Erlich, L. Flaherty, F. Garrido, R.N. Germain, G.J. Hämmmerling, T.H. Hansen, J. Klein, J.A. López de Castro, A. McMichael, P. R. Parham, P. Stastny, P. Travers, J. Trowsdale.

Participants: 15 Spanish scientists and 14 from abroad, selected among 53 applications received.

BEHAVIOURAL MECHANISMS IN EVOLUTIONARY PERSPECTIVE

(28-30 September)

Organizers: P. Bateson and M. Gomendio.

Speakers: J.R. Alberts, G.W. Barlow, P. Bateson, T.R. Birkhead, J. Carranza, C. ten Cate, F. Colmenares, N.B. Davies, R.I.M. Dunbar, J.A. Endler, M. Gomendio, T. Guilford, F. Huntingford, A. Kacelnik, J.R. Krebs, J. Maynard Smith, A.P. Møller, J. Moreno, G.A. Parker, T. Redondo, D.I. Rubenstein, M.J. Ryan, F. Trillmich, J.C. Wingfield.

Participants: 12 Spanish scientists and 9 from abroad, selected among 54 applications received.

THE DIVERSITY OF THE IMMUNOGLOBULIN SUPERFAMILY

(26-28 October)

Organizers: A.N. Barclay and J. Vives.

Speakers: A.N. Barclay, H.G. Boman, I.D. Campbell, C. Chothia, F. Díaz de Espada, I. Faye, L. García Alonso, P.R. Kolatkar, B. Malissen, C. Milstein, R. Paolini, P.R. Parham, R.J. Poljak, J.V. Ravetch, J. Salzer, N.E. Simister, J. Trinick, J. Vives, B. Westerman, W. Zimmermann.

Participants: 15 Spanish scientists and 10 from abroad, selected among 39 applications received.

CELL AND MOLECULAR BIOLOGY OF PANCREATIC CANCER

(16-18 November)

Organizers: F. Lluís, G. Capellà and P.M. Pour.

Speakers: A. Andrén-Sandberg, G. Capellà, A. Farré, T. Hollingsworth, H. Kalthoff, G. Klöppel, M. Korc, N.R. Lemoine, M. Löhr, D.S. Longnecker, T. Nagakawa, M. Perugo, G. Poston, P.M. Pour, A. Scarpa, D.G. Scarpelli, C.M. Townsend, N. Vaysse, R.A. Woutersen.

Participants: 13 Spanish scientists and 9 from abroad, selected among 24 applications received.

CONTROL OF GENE EXPRESSION IN YEAST

(14-16 December)

Organizers: C. Gancedo and J.M. Gancedo.

Speakers: T.G. Cooper, T.F. Donahue, K.-D. Entian, J.M. Gancedo, C.P. Hollenberg, S. Holmberg, W. Hörz, M. Johnston, J. Mellor, F. Messenguy, F. Moreno, B. Piña, A. Sentenac, K. Struhl, G. Thireos, R.S. Zitomer.

Participants: 18 Spanish scientists and 13 from abroad, selected among 53 applications received.

COURSES

MOLECULAR AND CELLULAR TECHNIQUES IN PLANT BREEDING

In collaboration with the C.I.H.E.A.M.

(13-31 January)

Organizers: N.O. Bosemark, F. García-Olmedo, M.D. Hayward and F. Salamini.

Professors: P. Arús, J.F. Bol, N.O. Bosemark, J. Botterman, P. Carbonero, H. Dickinson, J. Duesing, M.D. Gale, P. Gay, C. Gebhart, K. Glimelius, M.D. Hayward, A. Karp, M.J. Kearsey, E. Krebbers, L. Kunst, J.M. Lasas, A. Leyva, H. Lörz, C. Mariani, J. Paz-Ares, G. Pelletier, U. Posselt, P. Rodríguez-Palenzuela, I. Romagosa, A. Schulman, E. Uhrig, R. Visser, R. Walden.

Students: 15 Spanish and 20 from abroad, selected among 151 applications received.

PALAEOBIOLOGY: PREPARING FOR THE TWENTY-FIRST CENTURY

(6-8 April)

Organizers: S. Conway Morris and F. Alvarez.

Professors: F. Alvarez, S. Conway Morris, B. Runnegar, A. Seilacher, R.A. Spicer.

Students: 14 Spanish and 9 from abroad, selected among 25 applications received.

**MOLECULAR AND CELLULAR INTERACTIONS IN THE DEVELOPMENT
OF DROSOPHILA**

(29 June/1 July)

Organizers: G. Morata and P.A. Lawrence.

Professors: M. Bienz, A. García-Bellido, E. Hafen, P.A. Lawrence, J. Modolell, G. Morata, D. St. Johnston, P. Simpson.

Students: 17 Spanish and 8 from abroad, selected among 27 applications received.

Meetings in 1993

Instituto Juan March (Madrid)

WORKSHOPS

ENGINEERING PLANTS AGAINST PESTS AND PATHOGENES

(11-13 January)

Organizers: G. Bruening, F. García-Olmedo and F. Ponz.

Speakers: R.N. Beachy, J.F. Bol, T. Boller, G. Bruening, P. Carbonero, J. Dangl, R. de Feyter, F. García- Olmedo, L. Herrera-Estrella, V.A. Hilder, J.M. Jaynes, F. Meins, F. Ponz, J. Ryals, J. Schell, J. van Rie, P. Zabel, M. Zaitlin.

Participants: 16 Spanish scientists and 16 from abroad, selected among 73 applications received

REVERSE GENETICS OF NEGATIVE STRANDED RNA VIRUSES

(1-3 February)

Organizers: G. W. Wertz and J.A. Melero.

Speakers: G.M. Air, L.A. Ball, G.G. Brownlee, R. Cattaneo, P.L. Collins, R.W. Compans, R.M. Elliot, H.-D. Klenk, D. Kolakofsky, J.A. Melero, J. Ortín, P. Palese, R.F. Pettersson, A. Portela, C.R. Pringle, J.K. Rose, G.W. Wertz.

Participants: 13 Spanish scientists and 17 from abroad, selected among 52 applications received.

APPROACHES TO PLANT HORMONE ACTION

(15-17 March)

Organizers: R.L. Jones and J. Carbonell.

Speakers: J.P. Beltrán, A.B. Bleecker, J. Carbonell, R. Fischer, D. Grierson, T. Guilfoyle, A. Jones, R.L. Jones, M. Koornneef, J. Mundy, M. Pagès, R.S. Quatrano, J.I. Schroeder, A. Spena, D. Van Der Straeten, M.A. Venis.

Participants: 18 Spanish scientists and 11 from abroad, selected among 55 applications received.

FRONTIERS OF ALZHEIMER DISEASE

(19-21 April)

Organizers: B. Frangione and J. Avila.

Speakers: J. Avila, K. Beyreuther, D.D. Cunningham, A. Delacourte, B. Frangione, C. Gajdusek, M. Goedert, Y. Ihara, K. Iqbal, K.S. Kosik, C. Milstein, D.L. Price, A. Probst, N. K. Robakis, A.D. Roses, S. S. Sisodia, C. J. Smith, W.G. Turnell, H.M. Wisniewski.

Participants: 15 Spanish scientists and 9 from abroad, selected among 57 applications received.

SIGNAL TRANSDUCTION BY GROWTH FACTOR RECEPTORS WITH TYROSINE KINASE ACTIVITY

(10-12 May)

Organizers: A. Ullrich and J.M. Mato.

Speakers: M. Barbacid, A. Bernstein, J.B. Bolen, J. Cooper, J.E. Dixon, H.U. Häring, C.-H. Heldin, H. R. Horvitz, T. Hunter, J. Martín-Pérez, D. Martín-Zanca, J. M. Mato, T. Pawson, A. Rodríguez-Tébar, J. Schlessinger, S.I. Taylor, A. Ullrich, M.D. Waterfield, M.F. White.

Participants: 16 Spanish scientists and 13 from abroad, selected among 77 applications received.

INTRA- AND EXTRA-CELLULAR SIGNALLING IN HEMATOPOIESIS

In collaboration with the Fundación Internacional José Carreras.

(25-27 May)

Organizers: E. Donnall Thomas and A. Grañena.

Speakers: M.A. Brach, D. Cantrell, L. Coulombel, M. Hernández-Bronchud, T. Hirano, L.H. Hoefsloot, N.N. Iscove, P.M. Lansdorp, J.J. Nemunaitis, N.A. Nicola, R.J. O'Reilly, D. Orlic, L. S. Park, R.M. Perlmutter, P. J. Quesenberry, R. D. Schreiber, J.W. Singer, E. Donnall Thomas, B. Torok-Storb.

Participants: 21 Spanish scientists and 3 from abroad, selected among 30 applications received.

CELL RECOGNITION DURING NEURONAL DEVELOPMENT

(31 May-2 June)

Organizers: C. S. Goodman and F. Jiménez.

Speakers: J. Bolz, P. Bovolenta, H. Fujisawa, C.S. Goodman, M.E. Hatten, E. Hedgecock, F. Jiménez, H. Keshishian, J.Y. Kuwada, L. Landmesser, D.D.M. O'Leary, D. Pulido, J.A. Raper, L.F. Reichardt, N. Schachner, M.E. Schwab, C.J. Shatz, M. Tessier-Lavigne, F.S. Walsh, J. Walter.

Participants: 10 Spanish scientists and 10 from abroad, selected among 58 applications received.

MOLECULAR MECHANISMS OF MACROPHAGE ACTIVATION

(21-23 June)

Organizers: C. Nathan and A. Celada.

Speakers: D.O. Adams, M. Aguet, C. Bogdan, A. Celada, J.R. David, A. Ding, R.M. Fauve, D. Gemsa, S. Gordon, J.A.M. Langermans, B. Mach, R.A. Maki, J. Mauél, C. Nathan, M. Röllinghoff, F. Sánchez-Madrid, C. Schindler, A. Sher, Q.-w. Xie.

Participants: 16 Spanish scientists and 7 from abroad, selected among 44 applications received.

VIRAL EVASION OF HOST DEFENSE MECHANISMS

(20-22 September)

Organizers: M.B. Mathews and M. Esteban

Speakers: E. Domingo, L. Enjuanes, M. Esteban, B. N. Fields, B. Fleckenstein, L. Gooding, M.S. Horwitz, A.G. Hovanessian, M.G. Katze, I.M. Kerr, E. Kieff, M. B. Mathews, G. McFadden, B. Moss, J. Pavlovic, P. M. Pitha, R. P. Ricciardi, J.F. Rodríguez, R.H. Silverman, J.J. Skehel, G.L. Smith, P. Staeheli, A.J. van der Eb, S. Wain-Hobson, B.R.G. Williams, W. Wold.

Participants: 15 Spanish scientists and 10 from abroad selected among 53 applications received.

NEUROENDOCRINOLOGY OF GROWTH

(4-6 October)

Organizers: L.A. Frohman, C. Diéguez and F.F. Casanueva.

Speakers: A. Aranda, J. Argente, G. Baumann, C.Y. Bowers, C. Diéguez, A.J. D'Ercole, L.A. Frohman, A.B. Grossman, J.A. Gustafsson, M. Karin, P.A. Kelly, J.J. Kopchick, S.W.J. Lamberts, P.M. Lledo, C. Oliver, I.C.A.F. Robinson, F. Sánchez Franco, M.F. Scanlon, R.M. Señarís.

Participants: 16 Spanish scientists and 6 from abroad, selected among 31 applications received.

GENOMIC FINGERPRINTING

(25-27 October)

Organizers: M. McClelland and X. Estivill.

Speakers: G. Baranton, D.E. Berg, X. Estivill, J.L. Guénet, K. Hayashi, H.S. Kwan, P. Liang, M. McClelland, J.H. Nadeau, D.L. Nelson, M. Perucho, W. Powell, J.A. Rafalski, O.A. Ryder, R. Sederoff, A.J.G. Simpson, J. Welsh, H. Zischler.

Participants: 14 Spanish scientists and 17 from abroad, selected among 95 applications received.

DNA-DRUG INTERACTIONS

(15-17 November)

Organizers: K.R. Fox and J. Portugal.

Speakers: J.B. Chaires, W.A. Denny, R.E. Dickerson, K.R. Fox, F. Gago, T. Garestier, I.H. Goldberg, T.R. Krugh, J.W. Lown, L.A. Marky, S. Neidle, D.J. Patel, J. Portugal, A. Rich, L.P.G. Wakelin, M.J. Waring, C. Zimmer.

Participants: 12 Spanish scientists and 14 from abroad selected among 39 applications received.

MOLECULAR BASES OF ION CHANNEL FUNCTION

(29 November- 1 December)

Organizers: R.W. Aldrich and J. López-Barneo.

Speakers: R.W. Aldrich, C.M. Armstrong, P. Ascher, K.G. Beam, F. Bezanilla, S.C. Cannon, A. Castellano, D. Clapham, A. Ferrús, T. Hoshi, A. Konnerth, R. Latorre, J. Lerma, J. López-Barneo, R. MacKinnon, G. Mandel, A. Marty, C. Miller, B. Sakmann, B. Soria, W. Stühmer, W. N. Zagotta.

Participants: 9 Spanish scientists and 16 from abroad, selected among 57 applications.

COURSES

CONSERVATION AND USE OF GENETIC RESOURCES

(22-24 February)

Organizers: N. Jouve and M. Pérez de la Vega.

Professors: R.P. Adams, R.W. Allard, T. Benítez, J.I. Cubero, J.T. Esquinas-Alcázar, G. Fedak, B.V. Ford-Lloyd, C. Gómez-Campo, V.H. Heywood, T. Hodgkin, L. Navarro, F. Orozco, M. Pérez de la Vega, C.O. Qualset, J.W. Snape, D. Zohary.

Students: 27 Spanish and 6 from abroad, selected among 70 applications received.

SESSIONS OPEN TO THE PUBLIC

-The workshop on FRONTIERS OF ALZHEIMER DISEASE included an open lecture by Dr. C. Gajdusek on "Cerebral amyloidosis of normal aging, Alzheimer's disease and other presenile dementias".

-The workshop on INTRA AND EXTRA-CELLULAR SIGNALLING IN HEMATOPOIESIS finished with an open session on "Applications of cytokines", with lectures by Drs. E. Donnall Thomas, M. Hernández-Bronchud, J.J. Nemunaitis and R.J. O'Reilly.

Meetings in 1994

Instituto Juan March (Madrid)

WORKSHOPS

MOLECULAR BIOLOGY AND ECOLOGY OF GENE TRANSFER AND PROPAGATION PROMOTED BY PLASMIDS

(14-16 February)

Organizers: C. M. Thomas, E.M.H. Wellington, M. Espinosa and R. Díaz Orejas.

Speakers: J.C. Alonso, F. Baquero, P.A. Battaglia, P. Courvalin, F. de la Cruz, D.K. Chatteraj, E. Díaz, R. Díaz Orejas, M. Espinosa, J.C. Fry, K. Gerdes, D.R. Helinski, B. Hohn, E. Lanka, V. de Lorenzo, S. Molin, K. Nordström, R.W. Pickup, C.M. Thomas, J.D. van Elsas, E.M.H. Wellington, B. Wilkins.

Participants: 13 Spanish scientists and 11 from abroad, selected among 46 applications received.

DETERIORATION, STABILITY AND REGENERATION OF THE BRAIN DURING NORMAL AGING

(28 February/2 March)

Organizers: P. D. Coleman, F. Mora and M. Nieto-Sampedro.

Speakers: J. Avila, Y.A. Barde, P.D. Coleman, C.W. Cotman, Y. Lamour, M.P. Mattson, A. Matus, E.G. McGeer, B.S. Meldrum, J. Miquel, F. Mora, M. Nieto-Sampedro, V.H. Perry, M.P. Rathbone, G.S. Roth, R.R. Sturrock, H.B.M. Uylings, M.J. West.

Participants: 20 Spanish scientists and 8 from abroad, selected among 41 applications received.

**GENETIC RECOMBINATION AND DEFECTIVE INTERFERING PARTICLES
IN RNA VIRUSES**

(21-23 March)

Organizers: J.J. Bujarski, S. Schlesinger and J. Romero.

Speakers: V. Agol, P. Ahlquist, J.J. Bujarski, J. Burgýán, E. Domingo, L. Enjuanes, S.P. Goff, T.C. Hall, A.S. Huang, K. Kirkegaard, M.M.C. Lai, T.J. Morris, R.F. Ramig, D.J. Robinson, J. Romero, L. Roux, S. Schlesinger, A.E. Simon, W.J.M. Spaan, E.G. Strauss, S. Wain-Hobson.

Participants: 12 Spanish scientists and 14 from abroad, selected among 41 applications received.

**CELLULAR INTERACTIONS IN THE EARLY DEVELOPMENT OF THE
NERVOUS SYSTEM OF DROSOPHILA**

In collaboration with the E.M.B.O.

(11-13 April)

Organizers: P. Simpson and J. Modolell.

Speakers: S. Artavanis-Tsakonas, J.A. Campos-Ortega, S.B. Carroll, C. Dambly-Chaudière, C.Q. Doe, R.G. Fehon, M. Freeman, A. Ghysen, V. Hartenstein, D. Hartley, Y.N. Jan, C. Klämbt, E. Knust, A. Martínez-Arias, M. Mlodzik, J. Modolell, M.A.T. Muskavitch, B.Z. Shilo, P. Simpson, G.M. Technau, D. van Vactor, C. Zuker.

Participants: 6 Spanish scientists and 15 from abroad, selected among 33 applications received.

RAS, DIFFERENTIATION AND DEVELOPMENT

(25-27 April)

Organizers: J. Downward, E. Santos and D. Martín-Zanca.

Speakers: A. Balmain, G. Bollag, J. Downward, J. Erickson, L.A. Feig, F. Giráldez, F. Karim, K. Kornfeld, J.C. Lacal, A. Levitzki, D.R. Lowy, C.J. Marshall, J. Martín-Pérez, D. Martín-Zanca, J. Moscat, A. Pellicer, M. Perucho, E. Santos, J. Settleman, E.J. Taparowsky, M. Yamamoto.

Participants: 12 Spanish scientists and 15 from abroad, selected among 36 applications received.



HUMAN AND EXPERIMENTAL SKIN CARCINOGENESIS

(9-11 May)

Organizers: A.J.P. Klein-Szanto and M. Quintanilla.

Speakers: A. Balmain, F.F. Becker, J.L. Bos, G.T. Bowden, D.E. Brash, A. Cano, C.J. Conti, G.P. Dotto, N.E. Fusenig, J.L. Jorcano, A.J.P. Klein-Szanto, E.B. Lane, H. Nakazawa, G. Orth, M. Quintanilla, D.R. Roop, J. Schweizer, T.J. Slaga, S.H. Yuspa.

Participants: 10 Spanish scientists and 12 from abroad, selected among 28 applications received.

THE BIOCHEMISTRY AND REGULATION OF PROGRAMMED CELL DEATH

(23-25 May)

Organizers: J.A. Cidlowski, H.R. Horvitz, A. López-Rivas and C. Martínez-A.

Speakers: J.C. Ameisen, R. Buttyan, J.A. Cidlowski, J.J. Cohen, M.K.L. Collins, T.G. Cotter, A. Eastman, D.R. Green, T. Honjo, H.R. Horvitz, J.T. Isaacs, P.H. Krammer, A. López-Rivas, C. Martínez-A., S. Nagata, G. Nuñez, R.W. Oppenheim, S. Orrenius, J.J.T. Owen, M.C. Raff, L.M. Schwartz, J. Yuan.

Participants: 13 Spanish scientists and 13 from abroad, selected among 68 applications received.

RESISTANCE TO VIRAL INFECTIONS

(20-22 June)

Organizers: M.M.C. Lai and L. Enjuanes.

Speakers: L. Enjuanes, M. Esteban, P.A. Furth, F.L. Graham, L. Hennighausen, M.M.C. Lai, S. Makino, J.A. Melero, E. Paoletti, C.M. Rice, H.L. Robinson, J.F. Rodríguez, B. Roizman, J.J. Rossi, S.G. Siddell, W.J.M. Spaan, P. Staeheli.

Participants: 21 Spanish scientists and 10 from abroad, selected among 37 applications received.

ROLES OF GROWTH AND CELL SURVIVAL FACTORS IN VERTEBRATE DEVELOPMENT

(4-6 July)

Organizers: M.C. Raff and F. de Pablo.

Speakers: Y. A. Barde, H. Beug, Y. Courtois, A. Efstratiadis, F. Giráldez, J.B. Gurdon, T.M. Jessell, N. Le Douarin, G. Martin, A. McMahon, D. Metcalf, E. Mitrani, F. de Pablo, P.H. Patterson, M.C. Raff, M.M. Rechler, D.B. Rifkin, J.P. Thiery, M.L. Toribio.

Participants: 11 Spanish scientists and 18 from abroad, selected among 37 applications received.

CHROMATIN STRUCTURE AND GENE EXPRESSION

(26-28 September)

Organizers: A. Wolffe, M. Beato and F. Azorín.

Speakers: F. Azorín, M. Beato, E.M. Bradbury, B.R. Cairns, F.J. Campoy, V.G. Corces, C. Crane-Robinson, E. Di Mauro, S.C.R. Elgin, G. Felsenfeld, W.T. Garrard, M. Grunstein, W. Hörz, J.T. Kadonaga, U.K. Laemmli, A. Ruiz-Carrillo, M.A. Surani, F. Thoma, J.O. Thomas, A.A. Travers, B.M. Turner, K.E. van Holde, A.P. Wolffe, J.L. Workman.

Participants: 5 Spanish scientists and 17 from abroad, selected among 76 applications received.

MOLECULAR MECHANISMS OF SYNAPTIC FUNCTION

(17-19 October)

Organizers: P.H. Seburg and J. Lerma.

Speakers: P. Ascher, M.V.L. Bennett, A.L. De Blas, J. Bockaert, G.L. Collingridge, M.G. Darlison, J. Garthwaite, C.E. Jahr, K. Keinänen, P. Krosgaard-Larsen, J. Lerma, M.L. Mayer, K. Moriyoshi, R.A. Nicoll, J.P. Pin, J. Rossier, J. Sánchez-Prieto, P.H. Seburg, Y. Stern-Bach, G.L. Westbrook.

Participants: 12 Spanish scientists and 17 from abroad, selected among 35 applications received.

**COMPUTATIONAL APPROACHES IN THE ANALYSIS AND ENGINEERING
OF PROTEINS**

(14-16 November)

Organizers: M. Billeter, F.X. Avilés and E. Querol.

Speakers: T.L. Blundell, J.M. Carazo, C. Chothia, J.R. Devereux, K.A. Dill, D. Eisenberg, I. Fita, F. Gago, J. Greer, M. Karplus, M. Levitt, G.M. Maggiora, M.A. Navia, M. Orozo, A. Rey, C. Sander, M.J. Sippl, O. Tapia, J. Thornton, A. Valencia, W.F. van Gunsteren, S. J. Wodak.

Participants: 11 Spanish scientists and 12 from abroad, selected among 60 applications received.

**SIGNAL TRANSDUCTION PATHWAYS ESSENTIAL FOR YEAST
MORPHOGENESIS AND CELL INTEGRITY**

(28-30 November)

Organizers: M. Snyder and C. Nombela.

Speakers: G. Ammerer, J. Ariño, K.J. Blumer, S. Brown, H. Bussey, D. Drubin, A. Durán, B. Errede, G.R. Fink, M.C. Gustin, I. Herskowitz, D.E. Levin, C. Mann, C. Nombela, S.G. Oliver, M.A. Payton, J.R. Pringle, M. Sánchez-Pérez, R. Sentandreu, M. Snyder, F. Verde.

Participants: 15 Spanish scientists and 12 from abroad, selected among 49 applications received.

SESSION OPEN TO THE PUBLIC

-The workshop on THE BIOCHEMISTRY AND REGULATION OF PROGRAMMED CELL DEATH included an open session, with lectures by Drs. M.C. Raff on "Social controls of cell survival and death" and H. R. Horvitz on "Cell death in development and disease".

Meetings in 1995

Instituto Juan March (Madrid)

WORKSHOPS

FLOWER DEVELOPMENT

(13-15 February)

Organizers: J.P. Beltrán, E. Coen and Zs. Schwarz-Sommer.

Speakers: J. Almeida, N. Battey, J.P. Beltrán, G. Bernier, R. Carpenter, E. Coen, G. Coupland, B. Davies, G.W. Haughn, P. Huijser, E.M. Lord, C. Martin, J.M. Martínez-Zapater, E.M. Meyerowitz, J. Paz-Ares, F. Salamini, R.J. Schmidt, Zs. Schwarz-Sommer, A.J. van Tunen, M. Yanofsky.

Participants: 9 Spanish scientists and 19 from abroad, selected among 54 applications.

CELLULAR AND MOLECULAR MECHANISMS IN BEHAVIOUR

(27 February-1 March)

Organizers: A. Ferrús and M. Heisenberg.

Speakers: D.L. Alkon, A. Artola, H. Breer, M.A. Castro-Alamancos, J. Cudeiro, J.M. Delgado-García, R.D. Fernald, A. Ferrús, N. Franceschini, K.G. Götz, M. Heisenberg, E.R. Kandel, E.B. Keverne, M. Moulins, W.A. Phillips, C.H. Rankin, S.P.R. Rose, H. Scheich, A.J. Silva, W. Singer, T. Tully.

Participants: 14 Spanish scientists and 11 from abroad, selected among 40 applications.

IMMUNODEFICIENCIES OF GENETIC ORIGIN

(6-7 March)

Organizers: A. Arnaiz-Villena and A. Fischer.

Speakers: F.W. Alt, A. Arnaiz-Villena, R.M. Blaese, H. von Boehmer, A.O. Carbonara, M. Cooper, A.L. Corbí, A. Corell, A. Fischer, R.A. Gatti, R.S. Geha, W.J. Leonard, B. Mach, T.W. Mak, H.D. Ochs, J.R. Regueiro, F.S. Rosen, G. de Saint Basile, C.I.E. Smith.

Participants: 21 Spanish scientists and 6 from abroad, selected among 30 applications.

1995 MEETINGS

NK CELL RECEPTORS AND RECOGNITION OF THE MAJOR HISTOCOMPATIBILITY COMPLEX ANTIGENS
(25-27 September)

Organizers: J. Strominger, L. Moretta and M. López-Botet.

Speakers: W.H. Chambers, M. Colonna, T. Feizi, F. Garrido, E. Hofer, J.P. Houchins, K. Kärre, V. Kumar, L.L. Lanier, H.G. Ljunggren, E.O. Long, M. López-Botet, A. Moretta, L. Moretta, P.R. Parham, J. Peña, D.H. Raulet, B. Rolstad, W.E. Seaman, J. Strominger, W.M. Yokoyama.

Participants: 14 Spanish scientists and 16 from abroad, selected among 48 applications received.

MOLECULAR MECHANISMS INVOLVED IN EPITHELIAL CELL DIFFERENTIATION

(9-11 October)

Organizers: F.X. Real, A. Zweibaum and H. Beug.

Speakers: H. Beug, C. Birchmeier, W. Birchmeier, M. Bissell, A. Cano, A. García de Herreros, M. Kedinger, R. Montesano, A. Muñoz, H. Ponta, G. Portella, C.S. Potten, E. Pringault, M. Quintanilla, F.X. Real, E. Rodríguez-Boulan, M. Sibilia, G.F. Vande Woude, F.M. Watt, M.C. Weiss, A. Zweibaum.

Participants: 12 Spanish scientists and 14 from abroad, selected among 31 applications received.

SWITCHING TRANSCRIPTION IN DEVELOPMENT

(13-15 noviembre)

Organizers: B. Lewin, M. Beato and J. Modolell.

Speakers: R. Axel, P.A. Baeuerle, M. Beato, A. Bird, N. Brockdorff, P. Chambon, J.E. Darnell, J.L. Goldstein, P. Gruss, E. Hafen, I. Herskowitz, T. Hunter, H. Jäckle, B. Lewin, R. Losick, T. Maniatis, J. Modolell, K. Nasmyth, P. Nurse, V. Pirrotta, R. Treisman.

Participants: 18 Spanish scientists and 11 from abroad, selected among 66 applications received.

G-PROTEINS: STRUCTURAL FEATURES AND THEIR INVOLVEMENT IN THE REGULATION OF CELL GROWTH

(27-29 November)

Organizers: B.F.C. Clark and J.C. Lacal.

Speakers: J. Avila, J.L. Bos, B.F.C. Clark, J.R. Feramisco, J.S. Gutkind, R. Hilgenfeld, J.C. Lacal, S. Narumiya, A. Parmeggiani, J. Pouysségur, D. Ringe, P.B. Sigler, M. Sprinzl, Y. Takai, A. Valencia, B.M. Willumsen, A. Wittinghofer.

Participants: 12 Spanish scientists and 21 from abroad, selected among 44 applications received.

SESSIONS OPEN TO THE PUBLIC

-The workshop on FLOWER DEVELOPMENT included an open session with a lecture by Dr. E.M. Meyerowitz on "Genetic and Molecular Studies of Floral Pattern Formation in *Arabidopsis thaliana*".

-The workshop on CELLULAR AND MOLECULAR MECHANISMS IN BEHAVIOUR included an open session with lectures by Drs. E.R. Kandel, W. Singer and D. L. Alkon.

-The workshop on THREE-DIMENSIONAL STRUCTURE OF BIOLOGICAL MACROMOLECULES included an open session with a lecture by Dr. T.L. Blundell on "From Genes to Proteins to Drugs".

-The workshop on MOLECULAR MECHANISMS INVOLVED IN EPITHELIAL CELL DIFFERENTIATION included an open session with lectures by Drs. M. Bissell on "Breast Cancer: Genes and the Microenvironment" and M.C. Weiss on "Role of the Transcription Factor HNF-4 in Hepatic Differentiation".

-The workshop on SWITCHING TRANSCRIPTION IN DEVELOPMENT included an open session with lectures by Drs. R. Axel on "The Molecular Logic of Smell" and I. Herskowitz on "Yeast Cell Types: at the Interface of Gene Regulation, Cell Biology and Development".

Meetings in 1996

Instituto Juan March (Madrid)

WORKSHOPS

TRANSCRIPTIONAL REGULATION AT A DISTANCE

In collaboration with the E.M.B.O.

(15-17 January)

Organizers: W. Schaffner, V. de Lorenzo and J. Pérez-Martín.

Speakers: V.G. Corces, M. Débarbouillé, R. Dixon, E.P. Geiduschek, J.D. Gralla, W. Hörz, S. Kustu, V. de Lorenzo, B. Magasanik, M.A. Peñalva, J. Pérez-Martín, V. Pirrotta, R.J. Planta, M. Ptashne, J. Rine, M. Salas, P. Sassone-Corsi, W. Schaffner, R. Schleif, B.E. Uhlin.

Participants: 11 Spanish scientists and 16 from abroad, selected among 50 applications.

FROM TRANSCRIPT TO PROTEIN: mRNA PROCESSING, TRANSPORT AND TRANSLATION

(11-13 March)

Organizers: I.W. Mattaj, J. Ortín and J. Valcárcel.

Speakers: M. Bach-Elias, J. G. Belasco, G. Dreyfuss, M.W. Hentze, E. Izaurralde, W. Keller, A.R. Krainer, A.I. Lamond, P. Legrain, J. Ortín, R. Parker, J.D. Richter, M. Rosbash, B. Séraphin, N. Sonenberg, J.A. Steitz, A.M. Tartakoff, J. Valcárcel.

Participants: 11 Spanish scientists and 21 from abroad, selected among 56 applications.

MECHANISMS OF EXPRESSION AND FUNCTION OF MHC CLASS II MOLECULES

(25-27 March)

Organizers: B. Mach and A. Celada.

Speakers: L. Adorini, J.M. Boss, A. Celada, P. Cresswell, R.A. Flavell, R.N. Germain, L.H. Glimcher, G.J. Hämmерling, L. Karlsson, I.M. Kerr, H.R. MacDonald, B. Mach, W. Reith, A.J. Sant, R.D. Schreiber, V. Steimle, J.P.Y. Ting, J. Trowsdale.

Participants: 14 Spanish scientists and 17 from abroad, selected among 36 applications.

ENZYMOLOGY OF DNA-STRAND TRANSFER MECHANISMS

(15-17 April)

Organizers: E. Lanka and F. de la Cruz.

Speakers: J.C. Alonso, T.A. Baker, S. Bolland, D.L. Burns, F. de la Cruz, S.D. Ehrlich, M. Espinosa, S.K. Farrand, E. Haggård-Ljungquist, S.E. Halford, B. Hohn, P.J.J. Hooykaas, S. Hultgren, E. Lanka, M. Llosa, S.W. Matson, R.P. Novick, A.P. Pugsley, M. Russel, W. Saenger, P. Trieu-Cuot, J.C. Wang, P. Zambryski.

Participants: 13 Spanish scientists and 12 from abroad, selected among 27 applications received.

VASCULAR ENDOTHELIUM AND REGULATION OF LEUKOCYTE TRAFFIC

(20-22 May)

Organizers: T.A. Springer and M.O. de Landázuri.

Speakers: K. Alitalo, U.H. von Andrian, E. Dejana, D. Drenckhahn, M.B. Furie, J.M. Harlan, T.B. Issekutz, M.A. Jutila, F.W. Luscinskas, C.R. Mackay, R.P. McEver, M.O. de Landázuri, F. Sánchez-Madrid, C. Wayne Smith, T.A. Springer, D. Vestweber, I.L. Weissman, T.J. Williams.

Participants: 15 Spanish scientists and 15 from abroad, selected among 53 applications received.

CYTOKINES IN INFECTIOUS DISEASES

(3-5 June)

Organizers: A. Sher, M. Fresno and L. Rivas.

Speakers: M. Clerici, M. Esteban, F.D. Finkelman, M. Fresno, M. Kopf, D. Kwiatkowski, J. Langhorne, F.Y. Liew, R.M. Locksley, J.A. Louis, E. Maggi, C. Martínez-A., W. Müller, A. Örn, I.P. Oswald, L. Rivas, L. Romani, P. Scott, A. Sher, G. Trinchieri.

Participants: 13 Spanish scientists and 17 from abroad, selected among 35 applications received.

MOLECULAR BIOLOGY OF SKIN AND SKIN DISEASES

(17-19 June)

Organizers: D.R. Roop and J. L. Jorcano.

Speakers: R.J. Akhurst, J.C. Ansel, Y. Barrandon, P. Bassett, R.E. Burgeson, A.A. Dlugosz, M.W.J. Ferguson, W.L. Havran, D. Hohl, J.L. Jorcano, T.S. Kupper, E.B. Lane, D.R. Roop, A. Sonnenberg, T.T. Sun, J. Uitto, F.M. Watt, S. Werner, S.H. Yuspa.

Participants: 11 Spanish scientists and 19 from abroad, selected among 47 applications received.

PROGRAMMED CELL DEATH IN THE DEVELOPING NERVOUS SYSTEM

(1-3 July)

Organizers: R.W. Oppenheim, E.M. Johnson and J.X. Comella.

Speakers: B.A. Barres, D.E. Bredesen, P.G.H. Clarke, J.X. Comella, A.M. Davies, M. Driscoll, L.A. Greene, C.E. Henderson, H.R. Horvitz, M.D. Jacobson, E.M. Johnson, J.R. Naranjo, E.J. Nordeen, R.W. Oppenheim, E.W. Rubel, A.M. Tolokovsky, J.W. Truman, K. White.

Participants: 15 Spanish scientists and 17 from abroad, selected among 36 applications received.

NF-κB/IκB PROTEINS. THEIR ROLE IN CELL GROWTH, DIFFERENTIATION AND DEVELOPMENT

(8-10 July)

Organizers: R. Bravo and P.S. Lazo.

Speakers: P.A. Baeuerle, D.W. Ballard, D. Baltimore, R. Bravo, C. Gélinas, S. Ghosh, T.D. Gilmore, W.C. Greene, A. Israël, M.J. Lenardo, N. Rice, P.S. Lazo, C. Scheidereit, U. Siebenlist, P.B. Sigler, R. Steward, I.M. Verma, S.A. Wasserman, T. Wirth.

Participants: 7 Spanish scientists and 24 from abroad, selected among 47 applications received.

**CHROMOSOME BEHAVIOUR: THE STRUCTURE AND FUNCTION OF
TELOMERES AND CENTROMERES**
(23-25 September)

Organizers: B.J. Trask, C. Tyler-Smith, F. Azorín and A. Villasante.

Speakers: F. Azorín, W.R.A. Brown, J. Carbon, L. Clarke, H. Cooke, O.N. Danilevskaya, S.M. Gasser, C. Huxley, G. Karpen, D.M.J. Lilley, H.J. Lipps, D. Rhodes, B.J. Trask, C. Tyler-Smith, A. Villasante, H.F. Willard, T.J. Yen, V.A. Zakian.

Participants: 15 Spanish scientists and 14 from abroad, selected among 48 applications received.

RNA VIRAL QUASISPECIES
(7-9 October)

Organizers: S. Wain-Hobson, E. Domingo and C. López Galíndez.

Speakers: C.K. Biebricher, J.M. Coffin, E. Domingo, M. Eigen, J. Holland, N.L. Letvin, L.A. Loeb, C. López Galíndez, B.W.J. Mahy, J.A. Melero, A. Meyerhans, P.D. Minor, A. Moya, S.T. Nichol, D.D. Richman, J.J. Skehel, S. Wain-Hobson, R.G. Webster, E. Wimmer.

Participants: 13 Spanish scientists and 18 from abroad, selected among 37 applications received.

ABSCISIC ACID SIGNAL TRANSDUCTION IN PLANTS
(28-30 October)

Organizers: R.S. Quatrano and M. Pagès.

Speakers: D. Bartels, M.R. Blatt, E.A. Bray, N.H. Chua, T.J. Close, M. Delseny, J. Giraudat, E. Grill, A. Hetherington, T.H.D. Ho, M. Koornneef, A. Leone, D.R. McCarty, J. Mundy, M. Pagès, R.S. Quatrano, J. Salinas, J.I. Schroeder, T.L. Thomas, K. Yamaguchi-Shinozaki.

Participants: 15 Spanish scientists and 15 from abroad, selected among 41 applications received.

OXYGEN REGULATION OF ION CHANNELS AND GENE EXPRESSION

(24-26 November)

Organizers: E. K. Weir and J. López-Barneo.

Speakers: H. Acker, S.L. Archer, P. Boistard, J. Caro, M.F. Czyzyk-Krzeska, L.L. Dugan, A. Franco-Obregón, C. González, G.G. Haddad, J. López-Barneo, C.A. Nurse, C. Peers, O. Pongs, P.J. Ratcliffe, H. Sies, N.B. Standen, E.K. Weir, X-J. Yuan.

Participants: 12 Spanish scientists and 11 from abroad, selected among 24 applications received.

SESSIONS OPEN TO THE PUBLIC

-The workshop on RNA VIRAL QUASISPECIES included an open session with lectures by Drs. John Holland on "The Population Behaviour of RNA Virus Quasispecies and Significance for Virus Diseases" and Simon Wain-Hobson on "Genetic Variation Reveals the Biology and Dynamics of Retroviral Infections".

-The workshop on ABSCISIC ACID SIGNAL TRANSDUCTION IN PLANTS included an open session with a lecture by Dr. Nam-Hai Chua on "Phytochrome Phototransduction Pathways".

Meetings in 1997

Instituto Juan March (Madrid)

WORKSHOPS

TGF- β SIGNALLING IN DEVELOPMENT AND CELL CYCLE CONTROL

(10-12 February)

Organizers: J. Massagué and C. Bernabéu.

Speakers: R.J. Akhurst, B. Amati, J. Bartek, K. Basler, C. Bernabéu, J.M. Blanchard, R. Deryck, P. ten Dijke, T. Doetschman, D. Eick, G.I. Evan, W.M. Gelbart, F.M. Hoffmann, B.L.M. Hogan, H.F. Lodish, J. Massagué, L. Niswander, R.W. Padgett, G. Peters, A.B. Roberts, J. L. Wrana.

Participants: 12 Spanish scientists and 17 from abroad, selected among 66 applications received.

NOVEL BIOCATALYSTS

(10-12 March)

Organizers: S.J. Benkovic and A. Ballesteros.

Speakers: F.X. Avilés, A. Ballesteros, S.J. Benkovic, S.A. Benner, T.C. Bruice, P.S.J. Cheetham, W.F. DeGrado, S. Hecht, D. Herschlag, D. Hilvert, A.J. Kirby, A.M. Klibanov, J.M. Lehn, J. de Mendoza, K. Mosbach, R.E. Offord, R.N. Perham, O. C. Uhlenbeck, J.A. Wells, R.V. Wolfenden.

Participants: 15 Spanish scientists and 14 from abroad, selected among 37 applications received.

SIGNAL TRANSDUCTION IN NEURONAL DEVELOPMENT AND RECOGNITION

(21-23 April)

Organizers: M. Barbacid and D. Pulido.

Speakers: M. Barbacid, Y-A. Barde, A.M. Davies, U. Drescher, L. Erkman, A. Ferrús, J.G. Flanagan, E. Hafen, R. Klein, D.D.M. O'Leary, F. de Pablo, D. Pulido, A.W. Püschel, M.C. Raff, J. Represa, P. Sassone-Corsi, T. Serafini, J.B. Thomas, D. Van Vactor, D.G. Wilkinson.

Participants: 18 Spanish scientists and 11 from abroad, selected among 42 applications received.

100TH MEETING: BIOLOGY AT THE EDGE OF THE NEXT CENTURY
(12-13 May)

Organizers: Centre for International Meetings on Biology

Speakers: S. Brenner, E.M. De Robertis, A. García-Bellido, P.N. Goodfellow, T.M. Jessell, E.R. Kandel, C. Martínez-A., C. Nüsslein-Volhard, G.M. Rubin, L. Stryer, H. Waldmann, D.C. Wiley.

Participants: 156 Spanish scientists and 6 from abroad, directly invited by the Centre. 39 Spanish scientists and 22 from abroad, selected among 65 applications received.

FORTHCOMING MEETINGS IN 1997

MEMBRANE FUSION

(26-28 May)

Organizers: V. Malhotra and A. Velasco.

DNA REPAIR AND GENOME INSTABILITY

(9-11 June)

Organizers: T. Lindahl and C. Pueyo.

BIOCHEMISTRY AND MOLECULAR BIOLOGY OF NON-CONVENTIONAL YEASTS

In collaboration with F.E.B.S.

(7-9 July)

Organizers: C. Gancedo, J.M. Siverio and J.M. Cregg.

PRINCIPLES OF NEURAL INTEGRATION

(22-24 September)

Organizers: C. Gilbert, G. Gasic and C. Acuña.

PROGRAMMED GENE REARRANGEMENT: SITE-SPECIFIC RECOMBINATION

(6-8 October)

Organizers: N.D. F. Grindley and J.C. Alonso.

PLANT MORPHOGENESIS

(20-22 October)

Organizers: M. Van Montagu and J.L. Micol.

DEVELOPMENT AND EVOLUTION

In collaboration with the E.M.B.O.

(3-5 November)

Organizers: W. Gehring and G. Morata.

PLANT VIROIDS AND VIROID-LIKE SATELLITE RNAs FROM PLANTS, ANIMALS AND FUNGI

(1-3 December)

Organizers: H.L. Sänger and R. Flores.

GENERAL SUMMARY OF A HUNDRED MEETINGS

1.779 speakers and professors have been invited to the 100 meetings listed above. Of these, 284 have been Spanish, 706 Europeans from other countries, 718 Americans, and 71 of other nationalities. A further 2.873 participants and students have attended the meetings; of these, 1.584 have been Spanish, 871 Europeans from other countries, 323 Americans, and 95 of other nationalities.

Booklets with the abstracts of the scientific presentations discussed in 87 of these meetings were published. Some 400 copies of each booklet were distributed to research groups and laboratories working on problems relating to the subject of each meeting.

REVIEWS IN SCIENTIFIC JOURNALS AND BOOKS

The meetings organized by the Centre have been reviewed in the following articles and books:

-Haas, W., Kaufman, S. and Martínez-A, C. (1990). The Development and Function of $\gamma\delta$ T Cells. **Immunology Today** 11(10): 340-343.
(On the workshop of the same title, held in June 1990).

-Elgin, S.C.R. (1991). On the Importance of Taking a Firm Position. **The New Biologist** 3(1): 37-41.
(On the workshop *Chromosome Structure and Gene Expression*, held in September 1990).

-Galston, A.W. (1991). On the Trial of a New Regulatory System in Plants. **The New Biologist** 3(5): 450-453.
(On the workshop *Polyamines as Modulators of Plant Development*, held in February 1991).

-Beltrán, J.P. (1991). A Flourishing Time for Flower Development. **The New Biologist** 3(7): 667-670.
(On the workshop *Flower Development*, held in March 1991).

-**Neuronal Cell Death and Repair** (1993). Ed. C. Cuello. Elsevier Science Publishers BV. Amsterdam. The Netherlands.
(Based on the workshop of the same title, held in May 1992).

-Longnecker, D.S., et al (1993). Cell and Molecular Biology Pancreatic Cancer. **International Journal of Pancreatology** 14(1): 47-93.
(Based on the workshop of the same title, held in November 1992).

-Wertz, G.W. and Melero, J.A. (1993). Reverse Genetics of Negative Stranded RNA Viruses. **Virus Research** 30: 215-219.
(On the workshop of the same title, held in February 1993).

- Celada, A. and Nathan, C. (1994). Macrophages Activation Revisited. **Immunology Today** 15(3): 100-102.
(On the workshop *Molecular Mechanisms of Macrophage Activation*, held in June 1993).
- Dickerson, R.E., Goodsell, D. S. And Neidle, S. (1994) "... the Tyranny of the Lattice..." **Proc. Natl. Acad. Sci. USA** 91: 3579-3583.
(On the workshop *DNA-Drug Interactions*, held in November 1993).
- Campos-Ortega, J. (1994). Cellular Interactions in the Developing Nervous System of *Drosophila*. **Cell** 77: 969-975.
(On the workshop of the same title, held in April 1994).
- Lewin, B. (1994). Chromatin and Gene Expression: Constant Questions, but Changing Answers. **Cell** 79: 397-406.
(On the workshop *Chromatin Structure and Gene Expression*, held in September 1994).
- Molecular basis of virus evolution** (1995). Eds. Gibbs, Calisher and García Arenal. Cambridge University Press (Cambridge, UK).
(Based on the workshop *Co-evolution of Viruses, their Hosts and Vectors*, held in February 1991).
- Fischer, A and Arnaiz-Villena, A. (1995). Immunodeficiencies of Genetic Origin. **Immunology Today** 16(11): 510-514.
(On the workshop of the same title, held in March 1995).
- Neurobiology of Nociceptors** (1996). Eds. C. Belmonte and F. Cerveró. Oxford University Press (Oxford).
(Based on the workshop *What do Nociceptors Tell the Brain?*, held in February 1992).
- Vicente, M. and Errington, J. (1996). Structure, Function and Controls in Microbial Division. **Molecular Microbiology** 20(1): 1-7.
(On the workshop of the same title, held in May 1995).

- López-Botet, M., Moretta, L. and Strominger, J. (1996). NK-Cell Receptors and Recognition of MHC Class I Molecules. **Immunology Today** **17:** 212-214.
(On the workshop *NK-Cell Receptors and Recognition of the Major Histocompatibility Complex Antigens*, held in September 1995).

- Dreyfuss, G., Hentze, M. and Lamond, A.I. (1996). From Transcript to Protein. **Cell** **85:** 963-972.
(On the workshop of the same title, held in March 1996).

- Fresno, M., Kopf, M. and Rivas, L. (1996). Cytokines and Infectious Diseases. **Immunology Today** **18:** 56-58.
(On the workshop of the same title, held in June, 1996).

- Henderson, C.E. (1996) Programmed Cell Death in the Developing Nervous System. **Neuron** **17:** 579-585.
(On the workshop of the same title, held in July 1996).

- Baeuerle, P.A. and Baltimore, D. (1996). NF- κ B: Ten Years After. **Cell** **87:** 13-20.
(On the workshop on *NF- κ B/I κ B Proteins. Their Role in Cell Growth, Differentiation and Development*, held in July, 1996).

- Siebenlist, U. (1996). NF- κ B/I κ B Proteins. their Role in Cell Growth, Differentiation and Development. **Biochimica et Biophysica Acta. (Reviews on Cancer)** **1332(1): R7-R13.**
(On the workshop of the same title, held in July, 1996).

- Nichol, S. (1996). RNA viruses. Life on the Edge of Catastrophe. **Nature** **384:** 18-219.
(On the workshop on *RNA Viral Quasispecies*, held in October 1996).

- Bartels, D., Ho, T.H.D. and Quatrano, R.S. **Plant Cell.(in press)**
(On the workshop on *Abscisic Acid Signal Transduction in Plants* held in October 1996).

JUAN MARCH LECTURES ON BIOLOGY

The Plan for International Meetings on Biology, mentioned above, was the continuation of a long series of previous initiatives in the field of Biology undertaken by the Fundación Juan March.

Among these initiatives, the Juan March Lectures on Biology deserve special attention. They were first organized in 1982, have since then been held every year, and will continue in the future within the activities of the Centre for International Meetings on Biology.

The purpose of these lectures is to put Spanish students and professionals of Biology in direct contact with some outstanding world figures in this field. The invited lecturers often take advantage of their visit to Spain to give additional seminars in different laboratories.

The general headings of these cycles and their respective lecturers have been as follows:

1982. THE NEW BIOLOGY

Antonio García-Bellido

- * Rodney Porter
- * César Milstein
- Sydney Brenner

1983. THE NEW NEUROBIOLOGY

- * David H. Hubel
- * Roger Guillemin
- A. Claudio Cuello
- Leslie L. Iversen

1984. CANCER AND DNA

- * Frederick Sanger
- * Aaron Klug
- George Klein
- Manuel Perúcho

1985. DNA AND GENETIC EXPRESSION

- Margarita Salas
- John B. Gurdon
- * Walter Gilbert
- Piet Borst
- Yuri Ovchinnikov

1986. MOLECULAR MEDICINE

- * Max F. Perutz
- Eladio Viñuela
- * Christian de Duve
- David J. Weatherall

1987. CELL RECEPTORS AND CHEMICAL SIGNALS

- Michael J. Berridge
 - Jean-Pierre Changeux
 - Pedro Cuatrecasas
 - Miguel Beato
 - Leo Sachs
 - * Gerald M. Edelman
-

1988. THE NEW IMMUNOLOGY

Brigitte A. Askonas
Roberto J. Poljak
* Susumu Tonegawa
* Baruj Benacerraf

1989. MEMBRANES AND CELL COMPARTMENTS

Nigel Unwin
* George Palade
* H. Gobind Khorana
Gottfried Schatz

1990. MODERN THEORY OF EVOLUTION

John Maynard Smith
* Manfred Eigen
Leslie E. Orgel
Pere Alberch

1991. NEUROPHYSIOLOGY OF VISION

* Torsten N. Wiesel
Jeremy Nathans
Alberto J. Aguayo

1992. ALTERATIONS OF THE GENOME

- * Paul Berg
- Ralph L. Brinster
- Oliver Smithies
- Francisco García-Olmedo

1993. INFLAMMATION

- * John Vane
- Ivan Roitt
- Anthony Cerami
- Salvador Moncada
- * Bengt Samuelsson

1994. DYNAMICS OF MEMBRANE PROTEINS

- * Joseph L. Goldstein
- * Michael S. Brown
- Timothy A. Springer
- Hugh Pelham

1995. NEW FRONTIERS BETWEEN CHEMISTRY
AND BIOLOGY

- * Thomas R. Cech
- Peter B. Dervan
- Greg Winter
- Alan R. Fersht

1996. TRANSCRIPTION FACTORS

- * David Baltimore
- Mark Ptashne
- Walter Gehring
- * François Jacob

1997. RNA PROCESSING

- Walter Keller
- Joan A. Steitz
- Tom Maniatis
- * Phillip A. Sharp

* Nobel laureates.

THE CENTRE FOR INTERNATIONAL MEETINGS ON BIOLOGY IN THE YEARS TO COME

During the years to come, the Centre will continue to facilitate scientific exchange among Spanish and foreign scientists. These experts will have at their disposal an executive team to undertake the organization of meetings and solve the bureaucratic problems involved. In this way, the participating scientists will be able to devote all of their attention to discussing the problems of science, without being distracted by administrative details.

Preference will continue to be given to the small meeting format, because this has repeatedly shown itself to be the most suitable for active interaction among participating scientists. However, no formula for international scientific links is *a priori* excluded from the Centre's initiatives. Specifically, some of the possible types of meeting formats are:

Workshops

These meetings will bring together a small group of Spanish and foreign experts who have made significant contributions to the subject proposed, which can then be analyzed from different points of view in open discussions. Their normal length will be three days. The total number of participants will usually be around fifty.

Lecture Courses

Directed especially at graduates and established scientists working on the area covered in the course, or those who wish to get up to date on certain aspects of that area. Their normal length will also be three days. A limited number of students will be selected to participate.

On the Scientific Council's suggestion, the Centre may invite research groups or individual scientists to participate in initiatives which contribute to the Centre's objectives.

Standard conditions of meetings

When a proposal for a meeting is approved, the Centre will be responsible for: travel and accommodation expenses of all invited scientists; the selection of non-invited participants through posters and advertisements in scientific journals; helping to cover participants' expenses through a limited number of fellowships, and resolving all logistical and material details of the meeting's organization on its own premises. A booklet will be issued with the abstracts of all the scientific presentations discussed in the meeting. In general, the Centre's aim is to relieve the scientific organizers and participants in the meeting of all non-strictly scientific tasks.

Index of Personal Names

Instituto Juan March (Madrid)

A

Acker, H.: 75
Acuña, C.: 33, 80
Adams, D.O.: 49
Adams, J.: 64
Adams, R.P.: 51
Adhya, S.: 40
Adler, L.: 33
Adorini, L.: 71
Agol, V.: 32, 56
Aguayo, A.J.: 91
Aguet, M.: 49
Ahlquist, P.: 56
Air, G.M.: 47
Akhurst, R.J.: 73, 79
Alberch, P.: 24, 91
Albersheim, P.: 31
Alberts, J.R.: 41
Aldrich, R.W.: 51
Alitalo, K.: 72
Alkon, D.L.: 63, 67
Allard, R.W.: 51
Allison, J.P.: 23
Almeida, J.: 63
Alonso, J.C.: 55, 72, 81
Altman, J.: 40
Alt, F.W.: 19, 63
Alvarez-Buylla, A.: 40
Alvarez, F.: 42
Amati, B.: 79
Ameisen, J.C.: 57
Ammerer, G.: 59
Andrén-Sandberg, A.: 41
Andrian, U.H. von: 72
Ansel, J.C.: 73
Antoniw, J.F.: 19
Aranda, A.: 50
Archer, S.L.: 75

Argente, J.: 50
Ariño, J.: 59
Armstrong, C.M.: 51
Arnaiz-Villena, A.: 40, 63, 86
Arnold, H.H.: 65
Arruda, P.: 39
Artavanis-Tsakonas, S.: 56
Artola, A.: 63
Arús, P.: 42
Ascher, P.: 51, 58
Askonas, B.A.: 91
Augustin, A.: 23
Avila, J.: 40, 48, 55, 67
Avilés, F.X.: 32, 59, 79
Axel, R.: 66, 68
Ayala, J.A.: 65
Azorín, F.: 24, 39, 58 74

B

Bablanian, R.: 32
Bach-Elias, M.: 71
Baeuerle, P.A.: 66, 73, 87
Bagni, N.: 34
Baker, R.: 33
Baker, T.A.: 72
Ballard, D.W.: 73
Ballesteros, A.: 79
Ball, L.A.: 47
Balmain, A.: 56, 57
Baltimore, D.: 73, 87, 93
Bandeira, A.: 23
Banerjee, A.K.: 31
Baquero, F.: 55
Baranton, G.: 50
Barbacid, M.: 19, 20, 48, 79
Barclay, A.N.: 41
Barde, Y.-A.: 55, 58, 79

Barlow, G.W.: 41
Barrandon, Y.: 73
Barres, B.A.: 73
Bartek, J.: 79
Bartels, D.: 74, 87
Basler, K.: 79
Bass, A.H.: 33
Basset, P.: 73
Bate, M.: 24, 25, 27
Bateson, P.: 24, 41
Battaglia, P.A.: 55
Battey, N.: 63
Baulcombe, D.: 23
Baumann, G.: 50
Bax, A.: 64
Beachy, R.N.: 23, 47
Beam, K.G.: 51
Beato, M.: 13, 14, 20, 24, 58,
 65, 66, 90
Becker, F.F.: 57
Belasco, J.G.: 71
Belmonte, C.: 39, 86
Beltrán, J.P.: 31, 47, 63, 85
Benacerraf, B.: 91
Benítez, T.: 51
Benkovic, S.J.: 79
Benner, S.A.: 79
Bennett, G.F.: 39
Bennett, M.V.L.: 58
Bennetzen, J.L.: 39
Berg, D.E.: 50
Berg, P.: 92
Bernabéu, C.: 79
Bernier, G.: 63
Bernstein, A.: 48, 64
Berns, A.: 64
Berridge, M.J.: 25, 90

INDEX OF PERSONAL NAMES

- Berthoz, A.: 33
Beug, H.: 58, 66
Beyreuther, K.: 40, 48
Bezanilla, F.: 51
Bianchi, A.L.: 33
Biebricher, C.K.: 74
Benz, M.: 43, 65
Billeter, M.A.: 31
Billeter, M.: 59
Birchmeier, C.: 66
Birchmeier, W.: 66
Bird, A.: 66
Birkhead, T.R.: 41
Bisseling, T.: 35
Bissell, M.: 66, 67
Blaese, R.M.: 63
Blanchard, J.M.: 79
Blas, A.L. De: 58
Blatt, M.R.: 74
Bleecker, A.B.: 47
Bloedel, J.R.: 33
Bluestone, J.A.: 23
Blumer, K.J.: 59
Blumwald, E.: 33
Blundell, T.L.: 32, 59, 64, 67
Boccardo, G.: 23
Bockaert, J.: 58
Bode, W.: 32
Boehmer, H. von: 19, 20, 63
Boer, P.A.J. de: 65
Bogdan, C.: 49
Boistard, P.: 35, 75
Bol, J.F.: 19, 23, 42, 47
Bolen, J.B.: 48
Bollag, G.: 56
Bolland, S.: 72
Boller, T.: 19, 47
Bolz, J.: 49
Boman, H.G.: 41
Bontrop, R.E.: 40
Born, W.: 23
Boronin, A.M.: 64
Borst, J.: 23
Borst, P.: 90
Bos, J.L.: 19, 57, 67
Boscá, L.: 65
Bosemark, N.O.: 42
Boss, J.M.: 71
Botterman, J.: 42
Bouché, J.P.: 65
Bovolenta, P.: 49
Bowden, G.T.: 57
Bowers, C.Y.: 50
Brach, M.A.: 48
Bradbury, E.M.: 58
Brash, D.E.: 57
Bravo, R.: 73
Bray, E.A.: 74
Bredesen, D.E.: 73
Breer, H.: 63
Brenner, M.: 23, 27
Brenner, S.: 13, 14, 80, 89
Briggs, S.P.: 39
Brinster, R.L.: 92
Britten, R.J.: 24
Brockdorff, N.: 66
Brodsky, F.M.: 40
Brown, A.: 25
Brown, M.S.: 92
Brown, S.: 59
Brown, W.R.A.: 74
Brownlee, G.G.: 47
Bruening, G.: 23, 47
Bruice, T.C.: 79
Bujard, H.: 40
Bujarski, J.J.: 56
Buñó, W.: 33
Burakoff, S.J.: 31
Burgeson, R.E.: 73
Burgýán, J.: 23, 56
Burke, R.E.: 33
Burns, D.L.: 72
Burr, B.: 39
Busby, S.: 40
Bussey, H.: 59
Busse, R.: 65
Butyan, R.: 57
- C**
- Cairns, B.R.: 58
Calderón, I.L.: 26
Calisher, C.H.: 34, 86
Caminiti, R.: 33
Campbell, I.D.: 41
Campbell, J.N.: 39
Campbell, R.D.: 40
Campos-Ortega, J. A.: 14, 24,
25, 56, 86
Campoy, F.J.: 58
Cannon, S.C.: 51
Cano, A.: 57, 66
Cantrell, D.: 48
Capellà, G.: 41
Carazo, J.M.: 59
Carbonara, A.O.: 63
Carbonell, J.: 47
Carbonero, P.: 32, 42, 47
Carbon, J.: 74
Caro, J.: 75
Carpenter, R.: 63
Carranza, J.: 41
Carrasco, L.: 32
Carrell, R.W.: 32
Carreras, J.: 48
Carroll, S.B.: 56
Casanueva, F.F.: 50
Castellano, A.: 51

- Castrillo, J.L.: 65
Castro-Alamancos, M.A.: 63
Cate, C. ten: 41
Cattaneo, R.: 47
Cech, T.R.: 92
Cedar, H.: 24
Celada, A.: 49, 65, 71, 86
Celis, J.E.: 25
Cerami, A.: 92
Cerdá Olmedo, E.: 23
Cerniglia, C.E.: 64
Cerveró, F.: 39, 86
Chaires, J.B.: 50
Chalkley, R.: 24
Chamberlin, M.J.: 40
Chambers, W.H.: 66
Chambon, P.: 66
Changeux, J-P.: 90
Chant, J.: 65
Chao, M.V.: 33
Charnay, P.: 65
Chattoraj, D.K.: 55
Cheetham, P.S.J.: 79
Cheron, G.: 33
Chevallier, M.R.: 32
Chien, Y.: 23
Choi, D.: 40
Chothia, C.: 41, 59
Chua, N.H.: 74, 75
Chun, J.: 40
Churchill, M.E.A.: 24
Cidlowski, J.A.: 57
Clapham, D.: 51
Clark, B.F.C.: 67
Clark, D.: 24
Clarke, B.C.: 24
Clarke, L.: 74
Clarke, P.G.H.: 73
Clemens, M.J.: 32
- Clerici, M.: 72
Close, T.J.: 74
Coen, E.: 31, 63
Coffin, J.M.: 34, 74
Cohen, J.J.: 57
Cohen, M.J.: 23
Coleman, P.D.: 55
Coll, M.: 64
Collingridge, G.L.: 58
Collins, E.J.: 40
Collins, M.K.L.: 57
Collins, P.L.: 31, 47
Colmenares, F.: 41
Colonna, M.: 66
Comella, J.X.: 73
Compans, R.W.: 47
Conejero, V.: 19, 33
Conti, C.J.: 57
Conway Morris, S.: 24, 27, 42
Cooke, H.: 74
Cooper, J.: 48
Cooper, M.D.: 23
Cooper, M.: 63
Cooper, T.G.: 42
Corbí, A.L.: 31, 63
Corces, V.G.: 58, 71
Corell, A.: 63
Cotman, C.W.: 55
Cotter, T.G.: 57
Coulombel, L.: 48
Coupland, G.: 63
Courtois, Y.: 58
Coutinho, A.: 19, 20
Couvalin, P.: 55
Craik, C.S.: 32
Crane-Robinson, C.: 24, 58
Cregg, J.M.: 80
Creighton, T.E.: 32
Cresswell, P.: 40, 71
- Creus, J.A.: 34
Crothers, M.D.: 39
Cruz, F. de la: 55, 72
Cuatrecasas, P.: 90
Cubero, J.I.: 51
Cudeiro, J.: 63
Cuello, A.C.: 40, 85, 89
Cunningham, D.D.: 48
Cunningham, J.M.: 65
Czyzyk-Krzeska, M.F.: 75

D

- Dalla-Favera, R.: 19, 64
Dambly-Chaudière, D.: 56
Damilevskaya, O.N.: 74
Dang, C.V.: 64
Dangi, J.: 47
D'Ari, R.: 65
Darlison, M.G.: 58
Darnell, J.E.: 66
David, J.R.: 49
Davie, E.W.: 32
Davies, A.M.: 73, 79
Davies, B.: 63
Davies, N.B.: 41
Débarbouillé, M.: 71
DeFranco, A.L.: 19
DeGrado, W.F.: 79
Dejana, E.: 72
Delacourte, A.: 48
Delgado, M.A.: 26
Delgado-García, J.M.: 33, 63
DeLibero, G.: 23
Delseny, M.: 25, 74
Denny, W.A.: 50
D'Ercole, A.J.: 50
DeRobertis, E.M.: 80
Dervan, P.B.: 92

INDEX OF PERSONAL NAMES

- Derynck, R.: 79
Devereux, J.R.: 59
Di Lauro, R.: 65
Díaz, E.: 55
Díaz de Espada, F.: 20, 41
Díaz Orejas, R.: 55
Díaz-Ruiz, J.R.: 23
Dickerson, R.E.: 39, 50, 86
Dickinson, H.: 42
Diéguez, C.: 50
Dijke, P. ten: 79
Dill, K.A.: 59
Ding, A.: 49
Dixon, J.E.: 48
Dixon, R.: 71
Dlugosz, A.A.: 73
Dobson, C.M.: 64
Doe, C.Q.: 24, 56
Doebley, J.: 39
Doetschman, T.: 79
Domingo, E.: 34, 49, 56, 74
Donachie, W.: 65
Donahue, T.F.: 42
Dooner, H.K.: 39
Dotto, G.P.: 57
Dougherty, W.G.: 23
Dover, G.A.: 24
Downie, J.A.: 35
Downward, J.: 56
Drenckhahn, D.: 72
Drescher, U.: 79
Dreyfuss, G.: 71, 87
Driscoll, M.: 73
Drubin, D.: 59
Duesing, J.: 42
Dugan, L.L.: 75
Duggan, A.W.: 39
Dumboff, E.B.: 34
Dunbar, R.I.M.: 41
- Durán, A.: 59
Duve, C. de: 90
- E**
- Eastman, A.: 57
Ebright, R.H.: 40
Eb, A.J. van der: 49
Eddy, A.A.: 32
Edelman, G.M.: 24, 90
Edidin, M.: 40
Efstratiadis, A.: 58
Ehrenfeld, E.: 32
Ehrlich, S.D.: 72
Eick, D.: 79
Eigen, M.: 74, 91
Eilam, Y.: 32
Eisenberg, D.: 59
Eisenmann, R.: 64
Elgin, S.C.R.: 24, 58, 85
Elliot, R.M.: 47
Elsas, J.D. van: 55
Emerich, D.W.: 35
Emerson, B.M.: 65
Endler, J.A.: 41
Enjuanes, L.: 49, 56, 57
Entian, K.D.: 42
Epstein, W.: 33
Erickson, H.: 65
Erickson, J.: 56
Erkman, L.: 79
Erlich, H.: 40
Errede, B.: 59
Errington, J.: 65, 86
Espinosa, M.: 40, 55, 72
Esplugues, J.V.: 65
Esquinas-Alcázar, J.T.: 51
Esteban, M.: 49, 57, 72
Estelle, M.A.: 25
Estivill, X.: 50
- Etchison, D.: 32
Evan, G.I.: 64, 79
Evans, P.R.: 64
Evans, T.J.: 65
- F**
- Farese, R.V.: 33
Farrand, S.K.: 72
Farré, A.: 41
Fauve, R.M.: 49
Faye, I.: 41
Fearon, E.R.: 19
Fedak, G.: 51
Fehon, R.G.: 56
Feig, L.A.: 56
Feizi, T.: 66
Feldmann, H.: 26
Felíu, J.E.: 33
Felsenfeld, G.: 58
Fenner, F.: 34
Feramisco, J.R.: 26, 67
Ferguson, M.W.J.: 73
Fernald, R.D.: 63
Ferrús, A.: 51, 63, 79
Fersht, A.R.: 92
Fesik, S.W.: 64
Fetz, E.E.: 33
Feyter, R. de: 47
Fields, B.N.: 49
Figdor, C.: 31
Finkelman, F.D.: 72
Fink, G.R.: 59
Fischer, A.: 63, 86
Fischer, R.: 47
Fita, I.: 59
Flaherty, L.: 40
Flanagan, J.G.: 79
Flavell, R.A.: 71
Flavell, R.B.: 24

- Fleckenstein, B.: 49
 Flores, H.E.: 34
 Flores, R.: 81
 Fontdevila, A.: 24
 Ford-Lloyd, B.V.: 51
 Förstermann, U.: 65
 Fortnagel, P.: 64
 Fox, K.R.: 50
 Fran-Kamenetskii, M.D.: 39
 Franceschini, N.: 63
 Franco-Obregón, A.: 75
 Franco, L.: 26
 Frangione, B.: 48
 Franze-Fernández, M.T.: 31
 Fraser, R.S.S.: 19
 Freedling, M.: 25
 Freeman, M.: 56
 Fresno, M.: 72, 87
 Fricker, L.D.: 32
 Fritz, H.: 32
 Frohman, L.A.: 50
 Fromm, M.: 39
 Fry, J.C.: 55
 Fuhrmann, G.F.: 32
 Fujisawa, H.: 49
 Furie, B.: 31
 Furie, M.B.: 72
 Furth, P.A.: 57
 Fusenig, N.E.: 57
- G**
 Gaber, R.F.: 33
 Gago, F.: 50, 59
 Gajdusek, C.: 48, 51
 Gale, M.D.: 42
 Gallar, J.: 39
 Gallego, R.: 33
 Galli, E.: 64
- Galston, A.W.: 34, 85
 Gancedo, C.: 26, 42, 80
 Gancedo, J.M.: 26, 42
 García Alonso, L.: 41
 García-Arenal, F.: 23, 34, 86
 García Barreno, P.: 19
 García Bellido, A.: 13, 14, 23,
 24, 43, 80,
 89
 García de Herreros, A.: 66
 García-Olmedo, F.: 13, 14,
 19, 42,
 47, 92
 García, J.L.: 64
 Garestier, T.: 50
 Garrard, W.T.: 58
 Garrels, J.I.: 25
 Garrido, F.: 20, 40, 66
 Garry, R.F.: 32
 Garthwaite, J.: 58
 Gasic, G.: 14, 80
 Gasser, S.M.: 74
 Gatti, R.A.: 63
 Gaulton, G.N.: 33
 Gavazzi, G.: 39
 Gay, P.: 42
 Gebhart, C.: 42
 Geha, R.S.: 63
 Gehring W.: 81, 93
 Geiduscheck, E.P.: 40, 71
 Gelbart, W.M.: 79
 Gelfand, D.: 34
 Gélinas, C.: 73
 Gemsa, D.: 49
 Gerdes, K.: 55
 Gerlach, W.L.: 23
 Germain, R.N.: 40, 71
 Ghosh, S.: 73
 Ghysen, A.: 23, 24, 56
- Gibbs, A.: 34, 86
 Gigot, C.: 39
 Gilbert, C.: 80
 Gilber, W.: 90
 Gilmore, T.D.: 73
 Giménez, G.: 64
 Giráldez, F.: 56, 58
 Giraudat, J.: 74
 Glimcher, L.H.: 71
 Glimelius, K.: 42
 Glover, D.M.: 23, 27
 Goedert, M.: 48
 Goffeau, A.: 32
 Goff, S.P.: 56
 Goldberg, I.H.: 50
 Goldstein, J.L.: 66, 92
 Gomendio, M.: 41
 Gómez-Campo, C.: 51
 González, A.: 15
 González, C.: 75
 Goodfellow, P.N.: 80
 Gooding, L.: 49
 Goodman, C.S.: 49
 Goodnow, C.C.: 19
 Goodsell, D.S.: 86
 Gorbalyena, A.E.: 34
 Gordon, S.: 49
 Götz, K.G.: 63
 Gourse, R.L.: 40
 Graham, F.L.: 57
 Gralla, J.D.: 71
 Grañena, A.: 48
 Green, D.R.: 57
 Greene, L.A.: 40, 73
 Greene, W.C.: 73
 Greenspan, R.J.: 24, 27
 Greer, J.: 59
 Grierson, D.: 47
 Grill, E.: 74

INDEX OF PERSONAL NAMES

- Grillner, S.: 33
Grindley, N.D.F.: 81
Groffen, J.: 19, 20
Gross, C.A.: 40
Grosschedl, R.: 65
Grossman, A.B.: 50
Grosveld, F.G.: 65
Grunstein, M.: 24, 58
Gruss, P.: 23, 27, 66
Guénet, J.L.: 50
Guilford, T.: 41
Guilfoyle, T.: 47
Guillemin, R.: 89
Guitton, D.: 33
Gunsteren, W.F. van: 59
Gurdon, J.B.: 25, 58, 90
Gustafsson, J.A.: 50
Gustin, M.C.: 59
Gutiérrez-Ramos, J.C.: 31
Gutkind, J.S.: 67
- H**
- Haas, W.: 23, 85
Haddad, G.G.: 75
Haenni, A.L.: 23
Hafen, E.: 24, 43, 66, 79
Hager, G.L.: 24
Haggård-Ljungquist, E.: 72
Hake, S.: 39
Halford, S.E.: 72
Hall, T.C.: 56
Hamann, A.: 31
Hämmerling, G.J.: 40, 71
Hammond, J.R.M.: 26
Handwerker, H.O.: 39
Hansen, T.H.: 40
Harayama, S.: 64
Häring, H.U.: 33, 48
Harlan, J.M.: 72
- Harlow, E.: 19
Hartenstein, V.: 24, 27, 56
Hartley, D.: 56
Hasegawa, P.M.: 33
Hatten, M.E.: 49
Haughn, G.W.: 31, 63
Havran, W.L.: 73
Hay, A.J.: 31
Hayashi, K.: 34, 50
Hayday, A.: 23
Hayward, M.D.: 42
Hecht, S.: 79
Hedgecock, E.: 49
Hedrick, S.M.: 23
Heisenberg, M.: 63
Heldin, C.H.: 48
Helinski, D.R.: 55
Henderson, C.E.: 73, 87
Hennighausen, L.: 57
Hentze, M.W.: 65, 71, 87
Herschlag, D.: 79
Hernández-Bronchud, M.: 48,
 51
Herrera-Estrella, L.: 39, 47
Hershey, J.W.B.: 32
Herskowitz, I.: 59, 66, 68
Hetherington, A.: 74
Heywood, V.H.: 51
Higgins, C.F.: 33
Highstein, S.M.: 33
Hilbers, C.W.: 39, 64
Hilder, V.A.: 47
Hilgenfeld, R.: 67
Hilvert, D.: 79
Hinnen, A.: 26
Hiraga, S.: 65
Hirano, T.: 48
Hiromi, Y.: 24
Ho, T.H.D.: 74, 87
- Hodgkin, J.: 23
Hodgkin, T.: 51
Hoefsloot, L.H.: 48
Hofer, E.: 66
Höfer, M.: 32
Hoffmann, F.M.: 79
Hoffman, B.B.: 65
Hogan, B.L.M.: 79
Hogg, N.: 31
Hohl, D.: 73
Hohn, B.: 55, 72
Hoisington, D.A.: 39
Holde, K.E. van: 58
Holtje, J.V.: 65
Holland, J.: 74, 75
Hollenberg, C.P.: 26, 42
Hollingsworth, T.: 41
Holmberg, S.: 42
Honjo, T.: 57
Hooykaas, P.J.J.: 25, 72
Horvitz, H.R.: 48, 57, 59, 73
Horwitz, M.S.: 49
Hörz, W.: 24, 42, 58, 71
Hoshi, T.: 51
Houchins, J.P.: 66
Hovanessian, A.G.: 32, 49
Huang, A.S.: 56
Hubel, D.H.: 89
Huber, R.: 32
Huijser, P.: 63
Hultgren, S.: 72
Hunter, T.: 48, 66
Huntingford, F.: 41
Huxley, C.: 74
- I**
- Ignarro, L.J.: 65
Ibara, Y.: 48
Iqbal, K.: 48

Isaacs, J.T.: 57
 Iscové, N.N.: 48
 Ishihama, A.: 31
 Israël, A.: 73
 Issekutz, T.B.: 72
 Iversen, L.L.: 89
 Izaurralde, E.: 71

J

Jäckle, H.: 66
 Jackson, R.J.: 32
 Jacobson, M.D.: 73
 Jacob, F.: 93
 Jacquemin, C.: 33
 Jahr, C.E.: 58
 James, T.L.: 64
 Janssen, D.B.: 64
 Jan, Y.N.: 24, 56
 Jaspars, E.M.J.: 23
 Jaynes, J.M.: 47
 Jessell, T.M.: 58, 80
 Jiménez, F.: 24, 49
 Johnson, E.M.: 40, 73
 Johnston, M.: 42
 Jones, A.: 47
 Jones, R.L.: 47
 Jorcano, J.L.: 57, 73
 Jouve, N.: 51
 Jutila, M.A.: 72

K

Kabsch, W.: 64
 Kacelnik, A.: 41
 Kadonaga, J.T.: 58
 Kaer, L. van: 23
 Kalthoff, H.: 41
 Kandel, E.R.: 63, 67, 80

Kappler, J.W.: 19
 Kaptein, R.: 39, 64
 Karim, F.: 56
 Karin, M.: 50, 65,
 Karlsson, L.: 71
 Karp, A.: 42
 Karpen, G.: 74
 Karplus, M.: 59
 Kärre, K.: 66
 Katze, M.G.: 32, 49
 Kaufmann, S.H.E.: 23, 85
 Kazazian, H.H.: 34
 Kearsey, M.J.: 42
 Kedinger, M.: 66
 Keinänen, K.: 58
 Keller, W.: 71, 93
 Kelly, P.A.: 50
 Kenny, J.: 32
 Kermicle, J.: 39
 Kerr, I.M.: 49, 71
 Keshishian, H.: 49
 Keverne, E.B.: 63
 Khorana, H.G.: 91
 Kieff, E.: 49
 Kijne, J.: 35
 Kimble, J.: 25
 Kimmel, C.: 25
 Kirby, A.J.: 79
 Kirkegaard, K.: 56
 Klämbt, C.: 56
 Klein-Szanto, A.J.P.: 57
 Klein, G.: 90
 Klein, J.: 40
 Klein, R.: 79
 Klenk H-D.: 47
 Klessig, D.F.: 19
 Klibanov, A.M.: 79
 Klöppel, G.: 41
 Klug, A.: 26, 39, 90

Knust, E.: 24, 27, 56
 Kohlstaedt, L.: 39
 Kolakofsky, D.: 31, 47
 Kolatkar, P.R.: 41
 Koller, T.: 24
 Koltzenburg, M.: 39
 Konnerth, A.: 51
 Koornneef, M.: 47, 74
 Kopchick, J.J.: 50
 Kopf, M.: 72, 87
 Korc, M.: 41
 Kornfeld, K.: 56
 Kosik, K.S.: 48
 Kotyk, A.: 32
 Krainer, A.R.: 71
 Krammer, P.H.: 57
 Krebbers, E.: 42
 Krebs, J.R.: 41
 Krogsgaard-Larsen, P.: 58
 Kron, K.A.: 34
 Krugh, T.R.: 50
 Krug, R.M.: 31
 Kumar, V.: 66
 Kunst, L.: 42
 Kupper, T.S.: 73
 Kuschmitz, D.: 32
 Kustu, S.: 40, 71
 Kuwada, J.Y.: 49
 Kwan, H.S.: 50
 Kwiatkowski, D.: 72

L

Lacal, J.C.: 56, 67
 Laemmli, U.K.: 24, 58
 Lafita, A.: 11
 Lagunas, R.: 32
 Lai, M.M.C.: 56, 57
 Lamas, S.: 65

INDEX OF PERSONAL NAMES

- Lamberts, S.W.J.: 50
Lamb, C.J.: 33
Lamond, A.I.: 71, 87
LaMotte, R.H.: 39
Lamour, Y.: 55
Landázuri, M.O. de: 72
Landmesser, L.: 49
Lane, E.B.: 57, 73
Langermans, J.A.M.: 49
Langhorne, J.: 72
Lanier, L.L.: 66
Lanka, E.: 55, 72
Lansdorp, P.M.: 48
Larner, J.: 33
Lasa, J.M.: 42
Lasky, L.: 31
Latorre, R.: 51
Läuchli, A.: 33
Lawrence, P.A.: 43
Lazo, P.S.: 73
Leão, C.: 32
Le Douarin, N.: 19, 20, 58
Leemans, J.: 31
Legrand, M.: 19
Legrain, P.: 71
Lehn, J.M.: 79
Leisinger, T.: 64
Lemoine, N.R.: 41
Lenardo, M.J.: 73
Lentz, T.L.: 34
León, J.: 64
Leonard, W.J.: 63
Leone, A.: 74
Lerma, J.: 51, 58
Letvin, N.L.: 74
Levin, D.E.: 59
Levitt, M.: 59
Levitzki, A.: 56
Lewin, B.: 66, 86
- Leyva, A.: 19, 42
Liang, P.: 50
Liebermann, D.A.: 64
Liew, F.Y.: 72
Lifschitz, E.: 31
Lilley, D.M.J.: 74
Lindahl, T.: 80
Lipps, H.J.: 74
Ljunggren, H.G.: 66
Lledo, P.M.: 50
Llosa, M.: 72
Lluís, F.: 41
Lobb, R.R.: 31
Lockskey, R.M.: 72
Lodish, H.F.: 79
Loeb, L.A.: 74
Löhr, M.: 41
Longnecker, D.S.: 41, 85
Long, E.O.: 66
Loon, L.C. van: 19
López-Barneo, J.: 51, 75
López-Bonet, M.: 66, 87
López de Castro, J.A.: 31, 40
López Galíndez, C.: 74
López-García, C.: 40
López-Rivas, A.: 57
Lord, E.M.: 63
Lorenzo, V. de: 55, 64, 71
Lörz, H.: 42
Losick, R.: 66
Louis, J.A.: 72
Lowenstein, C.: 65
Low, M.G.: 33
Lown, J.W.: 50
Lowy, D.R.: 56
Lumsden, A.: 25
Luscinskas, F.W.: 72
Lüttge, U.: 33
- M**
- MacDonald, H.R.: 71
Mach, B.: 49, 63, 71
Mackay, C.R.: 72
MacKinnon, R.: 51
MacMicking, J.D.: 65
Magasanik, B.: 71
Maggiora, G.M.: 59
Maggi, E.: 72
Mahy, B.W.J.: 74
Mak, T.W.: 23, 27, 63
Maki, R.A.: 49, 64
Makino, S.: 57
Malhotra, V.: 80
Malissen, B.: 31, 41
Mandel, G.: 51
Maniatis, T.: 66, 93
Mann, C.: 59
March, C.: 11
March, J.: 11
March, L.: 11
March Ordinas, J.: 11
Mariani, C.: 42
Markham, G.D.: 64
Marky, L.A.: 50
Marletta, M.A.: 65
Marrack, P.: 19, 20
Marshall, C.J.: 56
Martin, C.: 31, 63
Martin, G.: 58
Martin-Lomas, M.: 33
Martín-Pérez, J.: 48, 56
Martín-Tanguy, J.: 34
Martín-Zanca, D.: 48, 56
Martínez-A., C.: 19, 20, 23,
57, 72, 80, 85
Martínez-Arias, A.: 24, 25
27, 56
Martínez-Ripoll, M.: 64

INDEX OF PERSONAL NAMES

- Martínez-Salas, E.: 34
 Martínez-Zapater, J.M.: 25,
 31, 63
 Marty, A.: 51
 Massagué, J.: 79
 Mathews, M.B.: 32, 49
 Mato, J.M.: 33, 48, 64
 Matson, S.W.: 72
 Mattaj, I.W.: 71
 Mattson, M.P.: 55
 Matus, A.: 55
 Matzinger, P.: 19
 Mauel, J.: 49
 Mauro, E. Di: 24, 58
 Mayer, B.: 65
 Mayer, M.L.: 58
 Maynard Smith, J.: 41, 91
 Mayo, M.A.: 23
 McCarty, D.R.: 74
 McClelland, M.: 34, 50
 McCormick, F.: 19, 26
 McEver, R.P.: 72
 McFadden, G.: 49
 McGeer, E.G.: 55
 McGeoch, D.J.: 34
 McMahon, A.: 58
 McMichael, A.: 40
 Meaney, M.J.: 40
 Meins, F.: 19, 47
 Meldrum, B.S.: 55
 Melero, J.A.: 31, 47, 57, 74,
 85
 Mellor, J.: 42
 Mendoza, J. de: 79
 Merrick, W.C.: 32
 Messenguy, F.: 42
 Metcalf, D.: 58
 Meyerhans, A.: 74
 Meyerowitz, E.M.: 31, 63, 67
 Meyer, R.A.: 39
 Michel, T.: 65
 Micol, J.L.: 81
 Miklos, G.L.G.: 24
 Miller, C.: 51
 Milstein, Celia: 20
 Milstein, César: 13, 14, 15,
 20, 24, 41,
 48, 89
 Minor, P.D.: 74
 Miquel, J.: 55
 Mitrani, E.: 58
 Mlodzik, M.: 56
 Modolell, J.: 24, 25, 43, 56,
 65, 66
 Moingeon, P.: 31
 Molin, S.: 55
 Möller, A.P.: 41
 Mollinedo, F.: 64
 Moncada, S.: 65, 92
 Montagu, M. Van: 81
 Montesano, R.: 66
 Mora, F.: 33, 55
 Moras, D.: 39
 Morata, G.: 43, 81
 Moreau-Gachelin, F.: 64
 Moreno, F.: 42
 Moreno, J.: 41
 Moreno, S.: 65
 Moretta, A.: 66
 Moretta, L.: 66, 87
 Moriyoshi, K.: 58
 Moroni, F.: 40
 Morris, T.J.: 56
 Mosbach, K.: 79
 Moscat, J.: 56
 Moss, B.: 49
 Motto, M.: 39
 Moullins, M.: 63
 Moya, A.: 24, 74
 Moyer, S.A.: 31
 Mukherjee, A.: 65
 Müller, G.B.: 24
 Müller, W.: 72
 Mullis, K.B.: 34
 Mundy, J.: 47, 74
 Muñoz, A.: 66
 Murillo Araujo, F.J.: 23
 Muskavitch, M.A.T.: 56

N

- Nadeau, J.H.: 50
 Nagakawa, T.: 41
 Nagata, S.: 57
 Nakazawa, H.: 57
 Nakazawa, T.: 64
 Naranjo, J.R.: 73
 Narumiya, S.: 67
 Nasmyth, K.: 66
 Nathanson, N.: 34
 Nathans, J.: 91
 Nathan, C.: 49, 86
 Navarro, L.: 51
 Navia, M.A.: 59
 Neidle, S.: 50, 86
 Nelson, D.L.: 50
 Nelson, T.: 25, 39
 Nemunaitis, J.J.: 48, 51
 Neuberger, M.: 20
 Neuhaus, G.: 39
 Neurath, H.: 32
 Nichol, S.T.: 74, 87
 Nicola, N.A.: 48
 Nicoll, R.A.: 58
 Niederberger, P.A.: 26
 Nieto-Sampedro, M.: 40, 55
 Niswander, L.: 79

INDEX OF PERSONAL NAMES

Nombela, C.: 59
Nordeen, E.J.: 73
Nordström, K.: 55, 65
Novick, R.P.: 72
Nuñez, G.: 57
Nurse, C.A.: 75
Nurse, P.: 66
Nüsslein-Volhard, C.: 80
Nuss, D.L.: 23

O

Ochoa, J.: 39
Ochs, H.D.: 63
Offord, R.E.: 79
Ogura, T.: 65
Ohashi, Y.: 19
Okorokov, L.A.: 32
Okumura, K.: 31
O'Leary, D.M.: 49, 79
Olivares, J.: 35
Oliver, C.: 50
Oliver, S.G.: 59
Olson, E.N.: 65
Oppenheim, R.W.: 57, 73
O'Reilly, R.J.: 48, 51
Oren, M.: 64
Orgel, L.E.: 91
Orlic, D.: 48
Ornston, L.N.: 64
Örn, A.: 72
Orozco, F.: 51
Orozco, M.: 59
Orrenius, S.: 57
Orth, G.: 57
Ortín, J.: 26, 31, 47, 71
Oste, C.: 34
Oster, G.: 24
Oswald, I.P.: 72
Ovchinnikov, Y.: 90

Owen, J.J.T.: 57

P
Pablo, F. de: 58, 79
Padan, E.: 33
Padgett, R.W.: 79
Pagès, M.: 25, 33, 47, 74
Palade, G.: 91
Palese, P.: 31, 47
Palukaitis, P.: 23
Paoletti, E.: 57
Paolini, R.: 41
Parham, P.R.: 40, 41, 66
Park, L.S.: 48
Parker, G.A.: 41
Parker, R.: 71
Parmeggiani, A.: 67
Patel, D.J.: 50, 64
Paterson, R.G.: 31
Patterson, P.H.: 58
Paulson, J.: 31
Pavlovic, J.: 49
Pawson, T.: 48
Payton, M.A.: 59
Paz-Ares, J.: 31, 42, 63
Peers, C.: 75
Peifer, M.: 25
Pelham, H.: 92
Pellicci, P.G.: 64
Pelletier, G.: 42
Pellicer, A.: 19, 26, 56
Peña, A.: 32
Peña, J.: 66
Peñalva, M.A.: 71
Pérez de la Vega, M.: 51
Pérez-Martín, J.: 71
Perham, R.N.: 79
Perl, E.R.: 39

Perlmutter, R.M.: 48
Perry, V.H.: 40, 55
Perucho, M.: 19, 26, 34, 41, 50, 56, 90
Perutz, M.F.: 90
Peters, G.: 79
Pettersson, R.F.: 47
Phibbs, Jr., P.V.: 64
Phillips, S.E.V.: 64
Phillips, W.A.: 63
Pick, U.: 33
Pickup, R.W.: 55
Pieper, D.H.: 64
Piggot, P.J.: 65
Pintor-Toro, J.A.: 33
Pin, J.P.: 58
Piña, B.: 42
Piñel, E.: 11
Pirrotta, V.: 66, 71
Pitha, P.M.: 49
Planta, R.J.: 71
Poethig, R.S.: 25
Poli, V.: 65
Poljak, R.J.: 41, 91
Pongs, O.: 75
Ponta, H.: 66
Ponz, F.: 47
Portela, A.: 31, 47
Portella, G.: 66
Porter, R.: 89
Portugal, J.: 50
Posselt, U.: 42
Poston, G.: 41
Potten, C.S.: 66
Pour, P.M.: 41
Pouysségur, J.: 67
Powell, W.: 50
Price, D.L.: 48
Pringault, E.: 66

Pringle, J.R.: 59
 Pringle, C.R.: 47
 Probst, A.: 48
 Prohens, J.: 11
 Ptashne, M.: 71, 93
 Pueyo, C.: 80
 Pugsley, A.P.: 72
 Puigdomènec, P.: 25, 39
 Puigserver, A.: 32
 Pulido, D.: 49, 79
 Püschel, A.W.: 79

Q

Qualset, C.O.: 51
 Quatrano, R.S.: 33, 47, 74, 87
 Querol, E.: 59
 Quesenberry, P.J.: 48
 Quintanilla, M.: 57, 66

R

Rabbitts, T.H.: 64
 Rafalski, J.A.: 50
 Raff, M.C.: 23, 57, 58, 59, 79
 Rakic, P.: 40
 Ramig, R.F.: 56
 Ramón y Cajal, S.: 5
 Ramos, J.: 32
 Ramos, J.L.: 64
 Rang, H.P.: 39
 Rankin, C.H.: 63
 Raper, J.A.: 49
 Ratcliffe, P.J.: 75
 Rathbone, M.P.: 55
 Raulet, D.H.: 66
 Ravetch, J.V.: 41
 RayChaudhuri, D.: 65
 Real, F.X.: 66

Ready, D.F.: 24, 27
 Rechler, M.M.: 58
 Reddy, E.P.: 19
 Redondo, T.: 41
 Reeh, P.W.: 39
 Regueiro, J.R.: 63
 Reichardt, L.F.: 49
 Reinhold, L.: 33
 Reith, W.: 71
 Renzi, M. De: 24
 Represa, J.: 79
 Rey, A.: 59
 Rhodes, D.: 24, 39, 74
 Ribeiro, J.M.C.: 65
 Ricciardi, R.P.: 49
 Rice, C.M.: 57
 Rice, N.: 73
 Richman, D.D.: 74
 Richmond, T.J.: 24
 Richter, J.D.: 71
 Rich, A.: 50
 Rico, M.: 64
 Rie, J. van: 47
 Rifkin, D.B.: 58
 Rine, J.: 23, 27, 71
 Ringe, D.: 67
 Río, J. del: 40
 Rivas, L.: 72, 87
 Robakis, N.K.: 48
 Roberts, A.B.: 79
 Roberts, J.: 40
 Robinson, D.J.: 56
 Robinson, H.L.: 57
 Robinson, I.C.A.F.: 50
 Rodríguez, J.F.: 49, 57
 Rodríguez-Boulán, E.: 33, 66
 Rodríguez-Navarro, A.: 32, 33
 Rodríguez-Palenzuela, P.: 42

Rodríguez Robles, A.: 11
 Rodríguez-Tébar, A.: 48
 Roeder, R.G.: 65
 Roitt, I.: 92
 Roizman, B.: 57
 Röllinghoff, M.: 49
 Rolstad, B.: 66
 Romagosa, I.: 42
 Romani, L.: 72
 Romero, G.: 33
 Romero, J.: 56
 Roninson, I.B.: 19, 20
 Roop, D.R.: 57, 73
 Rosbash, M.: 71
 Rose, J.K.: 47
 Rose, S.P.R.: 63
 Rosen, F.S.: 63
 Roses, A.D.: 48
 Rossier, J.: 58
 Rossi, J.J.: 57
 Roth, G.S.: 55
 Rothfield, L.: 65
 Rothman-Denes, L.B.: 40
 Rothman, J.H.: 25
 Rougon, G.: 33
 Roux, L.: 56
 Rowlands, D.J.: 32
 Rubel, E.W.: 73
 Rubenstein, D.I.: 41
 Rubia, F.J.: 33
 Rubin, G.M.: 80
 Rueckert, R.R.: 34
 Ruiz-Argüeso, T.: 35
 Ruiz-Carrillo, A.: 24, 58
 Runneegar, B.: 42
 Russel, M.: 72
 Ryals, J.: 47
 Ryan, C.A.: 19, 32

INDEX OF PERSONAL NAMES

- Ryan, M.J.: 41
Ryder, O.A.: 50
- S**
- Sachs, L.: 90
Saedler, H.: 31, 39
Saenger, W.: 39, 72
Saint Basile, G. de: 63
Sakmann, B.: 51
Salamini, F.: 25, 42, 63
Salas, M.: 14, 15, 39, 40, 71, 90
Salinas, J.: 74
Saltiel, A.R.: 33
Salzer, J.: 41
Samtisteban, P.: 65
Samuelsson, B.: 92
Sánchez, F.: 35
Sánchez Franco, F.: 50
Sánchez-Madrid, F.: 20, 31, 49, 72
Sánchez-Pérez, M.: 59
Sánchez-Prieto, J.: 58
Sánchez-Serrano, J.J.: 32
Sander, C.: 59
Sanger, F.: 90
Sänger, H.L.: 81
Sanonetti, P.J.: 65
Santarén, Juan F.: 25
Santos, E.: 56
Sant, A.J.: 71
Sarnow, P.: 32
Sassone-Corsi, P.: 71, 79
Scanlon, M.F.: 50
Scarpa, A.: 41
Scarpelli, D.G.: 41
Schachner, N.: 49
Schaffner, W.: 71
Schaible, H.G.: 39
- Schatz, G.: 91
Scheffers, W.A.: 32
Scheich, H.: 63
Scheidereit, C.: 73
Schell, J.: 47
Schibler, U.: 65
Schindler, C.: 49
Schleif, R.: 40
Schleif, R.: 71
Schlesinger, S.: 56
Schlessinger, J.: 48
Schmidt, R.F.: 39
Schmidt, R.J.: 63
Schneider, R.J.: 32
Schreiber, R.D.: 48, 71
Schroeder, J.I.: 47, 74
Schubert, M.: 31
Schulman, A.: 42
Schütz, G.: 65
Schwab, M.: 19
Schwab, M.E.: 49
Schwartz, L.M.: 57
Schwartz, R.H.: 19, 20
Schwarz-Sommer, Zs.: 63
Schweizer, J.: 57
Scott, P.: 72
Scutt, C.P.: 31
Seaman, W.E.: 66
Sederoff, R.: 50
Seeburg, P.H.: 58
Seilacher, A.: 24, 42
Sentandreu, R.: 59
Sentenac, A.: 42
Señarís, R.M.: 50
Serafini-Fracassini, D.: 34
Serafini, T.: 79
Séraphin, B.: 71
Serrano, R.: 33
Settleman, J.: 56
- Shaltiel, S.: 32
Sharp, P.A.: 93
Shatkin, A.J.: 32
Shatz, C.J.: 49
Sher, A.: 49, 72
Shevach, E.M.: 23
Shaw, S.: 31
Shilo, B.Z.: 56
Shinoda, Y.: 33
Shope, R.E.: 34
Sibilia, M.: 66
Siddell, S.G.: 57
Siebenlist, U.: 73, 87
Sies, H.: 75
Sigler, P.B.: 39, 67, 73
Silva, A.J.: 63
Silverman, R.H.: 49
Simchen, G.: 26
Simister, N.E.: 41
Simon, A.E.: 56
Simpson, A.J.G.: 50
Simpson, P.: 24, 25, 43, 56
Simpson, R.T.: 24
Singer, J.W.: 48
Singer, W.: 63, 67
Sippel, A.E.: 24
Sippl, M.J.: 59
Sisodia, S.S.: 48
Siverio, J.M.: 80
Skehel, J.J.: 49, 74
Slaga, T.J.: 57
Slamon, D.: 19, 20
Slocum, R.D.: 34
Slonimski, P.: 26
Smith, C.I.E.: 63
Smith, C.J.: 48
Smith, G.L.: 49
Smith, J.C.: 25
Smith, T.A.: 34

- Smith, T.W.: 65
Smithies, O.: 92
Snape, J.W.: 51
Sminsky, J.: 34
Snyder, M.: 59
Sogo, J.M.: 24
Sommer, H.: 31
Sonenberg, N.: 32, 71
Sonneberg, A.: 73
Soria, B.: 51
Spaan, W.J.M.: 56, 57
Spaink, H.P.: 35
Spain, J.C.: 64
Spena, A.: 25, 47
Spicer, R.A.: 42
Sprent, J.: 19, 20
Springer, T.A.: 31, 72, 92
Sprinzl, M.: 67
Stackebrant, E.: 34
Staebeli, P.: 49, 57
Stahl, F.W.: 23, 27
Standen, N.B.: 75
Stastny, P.: 40
Stearns, S.: 24
Steimle, V.: 71
Steitz, J.A.: 71, 93
Steriade, M.: 33
Stern-Bach, Y.: 58
Stern, C.: 25
Stevens, R.L.: 32
Steward, R.: 73
St. Johnston, D.: 43
Straeten, D. van der: 47
Stragier, P.: 40
Stralfors, P.: 33
Strauss, E.G.: 56
Strick, P.L.: 33
Strominger, J.: 23, 27, 66, 87
Struhl, K.: 26, 42
- Stryer, L.: 80
Stuart, D.: 34, 64
Stühmer, W.: 51
Sturrock, R.R.: 55
Subirana, J.A.: 39
Suck, D.: 39
Suh, W.C.: 40
Summers, D.F.: 31
Sun, T.T.: 73
Surani, M.A.: 58
Sussex, I.: 25
Suzuki, K.: 32
Szabo, V.: 39
Szolcsányi, J.: 39
- T**
- Takai, Y.: 67
Taniguchi, T.: 64
Tannenbaum, S.R.: 65
Taparowsky, E.J.: 56
Tapia, O.: 59
Tartakoff, A.M.: 71
Taylor, S.I.: 48
Technau, G.M.: 56
Tedder, T.F.: 31
Tessier-Lavigne, M.: 49
Thevelein, J.M.: 32
Thiery, J.P.: 58
Thireos, G.: 42
Thoma, F.: 24, 58
Thomas, C.M.: 55
Thomas, J.B.: 79
Thomas, J.O.: 58
Thomas, T.L.: 74
Thomas, E. Donnall: 48, 51
Thompson, R.D.: 31
Thornton, J.: 59
- Tiburcio, A.F.: 34
Tiedje, J.M.: 64
Timmis, K.N.: 64
Ting, J.P.Y.: 71
Tolkovsky, A.M.: 73
Tonegawa, S.: 23, 27, 91
Tordo, N.: 31
Torebjörk, E.: 39
Toribio, M.L.: 58
Torok-Storb, B.: 48
Townsend, C.M.: 41
Tran Thanh Van, K.: 31
Trask, B.J.: 74
Travers, A.A.: 24, 39, 58
Travers, P.: 40
Treisman, R.: 66
Trieu-Cuot, P.: 72
Trillmich, F.: 41
Trinchieri, G.: 72
Trinick, J.: 41
Trowsdale, J.: 40, 71
Truman, J.W.: 73
Tully, T.: 63
Tunen, A.J. van: 63
Turk, V.: 32
Turnell, W.G.: 48
Turner, B.M.: 58
Tyler-Smith, C.: 74
- U**
- Uhlenbeck, O.C.: 79
Uhlén, B.E.: 71
Uhrig, E.: 42
Uitto, J.: 73
Ullrich, A.: 48
Unterman, R.: 64
Unwin, N.: 91

INDEX OF PERSONAL NAMES

Uylings, H.B.M.: 55

V

Vactor, D. van: 56, 79

Valcárcel, J.: 71

Valencia, A.: 59, 67

Vallbona, P.: 11

Vande Woude, G.F.: 66

Vandekerckhove, J.: 25

Vandenbunder, B.: 64

Vane, J.: 92

Varani, G.: 64

Varela-Nieto, I.: 33

Vaysse, N.: 41

Velasco, A.: 80

Vendrell, J.: 32

Venis, M.A.: 47

Verde, F.: 59

Verma, I.M.: 73

Vestweber, D.: 72

Veziñhet, F.: 26

Vicente, M.: 65, 86

Villasante, A.: 74

Villiers, E.M. de: 19

Viñuela, E.: 13, 90

Viotti, A.: 39

Visser, R.: 42

Vives, J.: 20, 41

Voorma, H.O.: 32

Vrba, E.S.: 24, 27

Vries, S.C. de: 25

W

Wagner, E.F.: 65

Wagner, G.P.: 24

Wain-Hobson, S.: 49, 56, 74,

75

Wake, D.B.: 24

Wakelin, L.P.G.: 50

Walden, R.: 42

Waldmann, H.: 19, 80

Walsh, F.S.: 49

Walter, J.: 49

Wang, J.C.: 39, 72

Waring, M.J.: 50

Wasserman, S.A.: 73

Watanabe, Y.: 23

Waterfield, M.D. 48

Watt, F.M.: 66, 73

Wayne Smith, C.: 72

Weatherall, D.J.: 90

Webster, R.G.: 34, 74

Weigert, M.: 19

Weinberg, R.A.: 19

Weir, E.K.: 75

Weissman, I.L.: 72

Weiss, M.C.: 66, 67

Wellington, E.M.H.: 55

Wells, J.A.: 79

Welsh, J.: 50

Werner-Felmayer, G.: 65

Werner, S.: 73

Wertz, G.W.: 31, 47, 85

Westbrook, G.L.: 58

Westermarck, B.: 41

West, M.J.: 55

White, K.: 73

White, M.F.: 48

Wieloch, T.: 40

Wiesel, T.N.: 91

Wigler, M.H.: 26

Wilcox, M.: 25

Wiley, D.C.: 80

Wilkins, B.: 55

Wilkinson, D.G.: 79

Willard, H.F.: 74

Williams, A.F.: 31

Williams, B.R.G.: 49

Williams, G.T.: 40

Williams, P.A.: 64

Williams, T.J.: 72

Willis, W.D. Jr.: 39

Willumsen, B.M.: 67

Wilson, A.: 24, 27

Wimmer, E.: 32, 74

Wingfield, J.C.: 41

Winter, G.: 92

Wirth, T.: 73

Wisniewski, H.M.: 48

Witholt, B.: 64

Wittinghofer, A.: 67

Wodak, S.J.: 59

Wold, W.: 49

Woldringh, C.L.: 65

Wolfenden, R.W.: 79

Wolffe, A.P.: 58

Workman, J.L.: 24, 58

Woutersen, R.A.: 41

Wrana, J.L.: 79

Wrange, Ö.: 24

Wüthrich, K.: 32, 64

Wu, C.: 24

Wyn Jones, R.G.: 33

X

Xie, Q.-w.: 49

Y

Yamaguchi-Shinozaki, K.: 74

Yamamoto, M.: 56

Yaniv, M.: 65

Yanofsky, M.: 63

Yen, T.J.: 74

Yokoyama, W.M.: 66

- Young, M.W.: 24
Yuan, J.: 57
Yuan, X-J.: 75
Yuspa, S.H.: 57, 73
Yuste, J.L.: 11

Z

- Zabel, P.: 47
Zafra, F.: 40
Zagotta, W.N.: 51
Zaitlin, M.: 23, 47
Zakian, V.A.: 74
Zambryski, P.: 72
Zaret, K.S.: 65
Zeyer, J.: 64
Ziff, E.: 64
Zimmermann, W.: 41
Zimmer, C.: 50
Zipursky, L.: 24
Zischler, H.: 50
Zitomer, R.S.: 42
Zohary, D.: 51
Zuker, C.: 56
Zweibaum, A.: 66
Zylstra, G.J.: 64

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