Future ISICR Meetings

Oct. 26 - 30, 2003
Cairns, Australia
www.cytokines2003.conf.au/

•

Oct. 21-25, 2004
San Juan, Puerto Rico
(Joint with ICS)

ISICR WWW Site

www.ISICR.org

ISICR Business Office

ISICR@faseb.org
TEL: 301-571-8319
FAX: 301-530-7049

ISICR Newsletter Editors

Howard Young
youngh@mail.ncifcrf.gov
Fax: 301-846-1673

Seng-Lai (Thomas) Tan
tan_seng-lai@lilly.com
Tel: 317-277-2626

Hannah Nguyen
nguyenh@methylgene.com

Pat Fitzgerald-Bocarsly
Bocarsly@umdnj.edu
Fax: 973-972-7293

ISICR
INTERNATIONAL SOCIETY FOR INTERFERON AND CYTOKINE RESEARCH

April 2003
Volume 10, No. 2

Dr. Michel Revel Elected to ISICR Honorary Membership

By Thomas Tan

Dr. Michel Revel, Professor in the Department of Molecular Genetics at the Weizmann Institute of Science, Rehovot, Israel, and Chief Scientist at InterPharm Laboratories Ltd., received the 2002 ISICR Honorary Membership Award at the Society's Annual Meeting, October 6-11, 2002 in Torino, Italy.

Dr. Michel Revel

The honorary award recognizes outstanding individuals who have dedicated much of their career and have made substantial contributions to the field of Interferon/cytokine research . Honorary members are the treasures of the society who provide us with a historical perspective and a valued research tradition. Recipients over the past 5 years include Thomas Merigan (2001), Peter Lengyel (2000), Derek Burke and Edward DeMaeyer (1999), Samuel Baron and Ernest Knight (1998), and Gerhard Bodo and Ion Gresser (1997).

Dr. Revel received his B.S. degree in biology and his Ph.D. degree in Biochemistry (1963) from University of Strasbourg, France, the city where he was born in 1938. He studied with Professor Paul Mandel. In 1963, Dr. Revel received his M.D. degree from the Medical School of the same University. During his post-doctoral fellowship at Harvard Medical School, he studied mammalian messenger RNA with Prof. Howard Hiatt. From 1964 to 1968, he worked in Paris with Prof. Francois Gros, who was a Director of the Pasteur Institute, counselor of Mitterand, and Permanent Secretary of the French Academie des Sciences. Together they discovered the initiation factors of protein synthesis that control where and how much the ribosomes start translating mRNA.

Continued on next page

In 1968, Michel Revel, his Strasbourg-born spouse Claire and four children immigrated to Israel, to the Weizmann Institute of Science in Rehovot. Dr Revel was appointed full professor at the Weizmann Institute in 1973, in today's Department of Molecular Genetics. He continued his work on initiation and mRNA translation control, and started studying viral RNA translation and the effects of interferon (IFN), collaborating with Ernesto and Rebecca Falcoff. In the early 70's, his laboratory with those of Peter Lengyel and Ian Kerr, pioneered the studies of the mechanisms by which interferons inhibit viral gene expression and mRNA translation.

Dr. Revel is a recipient of the 1999 Israel Prize for Medicine and an elected Fellow of the New York Academy of Science. Dr. Revel was among the first academics in the late 1970s to commercialize his biological research in Israel and helped jumpstart the biotechnology industry in the country. He was credited for the identification of the gene for IFNβ, and its constitutive mass-production in Chinese Hamster Ovary (CHO) cells, which the technology transfer arm of the Weizmann Institute of Science used as the basis for a new company in conjunction with InterPharm, a subsidiary of Ares-Serono (Geneva, Switzerland). Serono's recombinant IFNβ, produced at InterPharm, is now marketed worldwide for the treatment of multiple sclerosis. Located in the large science-based industry park next to the Weizmann Institute of Science, InterPharm is today the biggest of the 160 companies in the very active biotechnology sector of Israel hi-tech industries. Dr Revel is the past chairman of the Israel National Biotechnology Committee that advises the government for developing infrastructures for applied biomedical research. As its chief scientist, Dr Revel continues to contribute to the scientific and medical activities of InterPharm within the Serono group, in addition to his basic research.

Dr. Revel's research contributions include elucidating the molecular mechanisms that underlie the biological effects of IFN, and cloning IFN-induced genes. His work with Dr Judith Chebath demonstrated that the IFN-induced 2'-5' A synthetase mediates the antiviral effect of IFN on picornaviruses. By assay of this IFN-induced gene, his laboratory provided a pharmacodynamic demonstration that IFNβ injected s.c. or i.m. is active in man. With Israeli physicians, Dr. Revel pioneered clinical applications of human IFNβ, such as papillomavirus genital warts, and the topical treatment of recurrent Herpes. His research on the regulation of histocompatibility antigen (HLA) genes by IFNβ and IFNγ was seminal for the use of IFNβ in auto-immune multiple sclerosis, based on the ability of IFNβ to prevent activation of a transcription factor necessary for IFNγ to induce class II HLA.

Another cytokine gene originally cloned and studied by Dr. Revel's group is IL-6, in particular for its effects on growth control and differentiation of tumor cells, and its hematopoietic effects. CHO-expressed recombinant IL-6 and a fused IL-6/IL-6-receptor chimera, produced at InterPharm, have been found to stimulate the differentiation of nerve-myelinating glial cells and exert neuroprotective effects that may be clinically applicable. Presently, Revel's group focuses on the mechanisms by which signaling through the IL-6 family receptor gp130 activates myelin gene transcription in embryonic cells and causes the trans-differentiation of malignant melanoma cells to a glial phenotype. Demyelinating neurological diseases remain a clinical challenge and, whereas IFNβ acts mainly by reducing immune attacks on myelin and nerves, IL-6 or derived molecules may be of interest in promoting remyelination and neuroprotection.

Dr. Revel is also active in the field of Bioethics, trying to define the limits of the permissible in the human applications of new genetic and reproductive technologies. Since its foundation in1993, he is a member of the International Bioethics Committee of Unesco, and is the Chairman of the Bioethics Committee of the Israel Academy of Sciences and Humanities. He draws from his education in the Jewish religious tradition and from a French humanism inspired by the bioethics writings of his mentor Prof. Francois Gros.

A brief conversation with Michel Revel

1. What was it like to be a biology student in Strasbourg in the late 1950s and early 1960s?

Nothing very special. My formative years were really with F. Gros at the Pasteur, and knowing Jacques Monod and Francois Jacob. Also, in 1968 the student revolution was occurring.

2. Is this where you met your wife?

We were both born in Strasbourg and educated there. We met at the Jewish school. She has doctorate in Biophysics from Strasbourg. We have a son who is a gynecologist (IVF) and a daughter who is a pediatric oncologist (both obtained MDs at the Hadassah University Hospital in Jerusalem). Another son is an Israeli diplomat, who was head of the Israel embassy in Quatar (Arab emirate) and lately deputy-head of the Israel mission to the European Union in Brussels. My wife Claire and I enjoy 12 grandchildren in Israel.

3. How often do you visit France these days?

About 3 times a year. Mainly for the Unesco IBC meetings. I was just in Strasbourg for a bi-national meeting of Weizmann Institute and Strasbourg scientists.

4. You were a research fellow at the Department of Medicine at Harvard Medical School. Was this your first trip to the US? Any cultural shock?

It was my first trip (since then I have been on sabbaticals at Yale, at Sloan-Kettering in NYC and at Mount Sinai in Toronto). The cultural shock of my post-doc was small, thanks to my brother Jean-Paul Revel who was a professor of anatomy at Harvard and is now at Cal-Tech.

5. So whom did you work with at Harvard and what was your research project?

I worked at the Bet-Israel Hospital with the Chief of Medicine, Howard Hiatt, We showed that rat liver mRNA was stable, which was a surprise since in E. coli the Monod-Jacob paradigm was mRNA instability. I also discovered there that initiation of mRNA translation was a distinct event, involving ribosome activation.

6. Can you describe the Weizmann Institute of Science?

It is the best-known basic research institution in Israel. It has only graduate students and post docs. A permanent staff of 300, and about 1000 scientists. It has five faculties: applied mathematics, physics, chemistry, biology and biochemistry-biophysics. About 60% is in biology. The president is Prof. Ilan Chet. One of my early students, Prof. Yoram Groner was vice-president. Serono supports four research groups: Prof. Menachem Rubinstein, Prof. David Wallach, Prof. Tsvee Lapidot and mine. (Rubinstein and Wallach were post-docs in my group before becoming independent). The royalties of IFNβ (Rebif) and other products are over $20 million per year, and overall the royalties of applied research amount to about $50 million, making the Weizmann a leader in the world in science applications. Chaim Weizmann was the first President of the State of Israel and the Institute was founded for him in 1950. Chaim Weizmann believed that Science is the key to peace and welfare. Another professor at the Weizmann Institute, Prof. Ephraim Katzir was the 4th President of the State of Israel.

7. Why did you return to Israel?

In 1967, the six-day war, which almost destroyed Israel, was a great shock to us who were educated after the Holocaust in the Zionist view that Jewish identity can only be realized by returning to our ancient biblical homeland.

8. Where does Israeli biotechnology stand today?

There are about 160 companies, 4000 employees and over $1 billion US of yearly sales. However, there are only about 10 large companies (InterPharm is the biggest with 275 workers). Compugen is well known in post-genomics, bioinformatics. Biotechnology General (growth hormone, hepatitis vaccine) and Pharmos (cannabis derivatives as neuroprotectors) created by Prof. Hayim Aviv (a former student of mine) are very successful. XTL produces human monoclonal antibodies. Proneuron has proprietary technology for nerve regeneration in spinal cord lesions. Teva is a very large pharmaceutical company with a biotech product, copaxon, a polymer discovered at the Weizmann Institute and used to treat multiple sclerosis.

9. What is the biggest challenge for Israel to succeed in biotechnology in your opinion?

We were very optimistic until 2000, because the growth of the biotech sector was the fastest. The crisis that results from the political situation and intifada against Israel has been very harmful and many companies are in difficult times. The biggest challenge is to achieve peace or at least quiet, and resume medically oriented development.

10. Do you think Israel will become a biotechnology powerhouse?

Israel has a very strong potential: it is today a leader in research on human embryo stem cells for transplantation in heart diseases, diabetes or neurological disorders. Life science research is strong and I remain confident that Biotech will be a strong part of Israel industry.

11. What are your responsibilities at InterPharm?

Only medico-scientific, pro-marketing activities, including teaching physicians about IFNβ and multiple sclerosis research. I am still hoping to see IFNβ topical application for genital Herpes being commer-cialized. I am also helping the development of IL-6 for neuropathies, and that of the other cytokines from the Weizmann research (IL-18 binding protein from Menachem Rubinstein, and TNF-binding protein from David Wallach).

12. Besides your research on myelin gene activation by IL-6 signaling, and your activities at InterPharm, I understand you devote also much of your time to bioethics?

The committee of the Israel Academy of Science that I chair has written reports: on embryo stem cells (including therapeutic cloning – allowing the ethical development of this field in Israel); on large-scale, population-based DNA banks (allowing the activity of a company, Idgene, that uses thousand of DNA samples for genetic association between human polymorphism and diseases); and is writing on the limits of prenatal and pre-implantation diagnostics. My work at the Unesco IBC also takes much time: I wrote on genetic counseling, and embryo stem cells. I participated in writing the Universal Declaration on the Human Genome and Human Rights (1997) and we are now working on a Declaration on DNA Information. You may see some of these activities at websites: stwww.weizmann.ac.il/bioethics www.unesco.org/ibc

These activities on bioethics also include much research on the Jewish sources of medical ethics, and Jewish philosophy. ISICR

THE ISICR NEWSLETTER CELEBRATES ITS 10 YEAR ANNIVERSARY!!!!

This issue is the 2nd in the 10th year of the ISICR Newsletter. Many thanks to the Associate editors, past and present, who have contributed to make this newsletter an important benefit of ISICR membership. As always, we welcome input (especially chocolate) from the membership. If you have any information or news that you would like to see included in the newsletter, please send it via email to any of the editors. If you would like to become an Associate Editor, your name will appear on the front cover of this publication!! Just think of the fame and glory, not to mention the potential publishing contracts (we made that up). Just contact Howard Young for your assignments.

2003 ISICR Awards

The ISICR Awards Committee invites nominations for **2003 Milstein Awards**, and **Honorary Membership**. The deadline for the nominations is **June 1, 2003**.

The Milstein Award ($20,000)

Individuals who have made exceptional contributions to research related to interferons and cytokines either in a basic or clinical field. Milstein awards are made possible by the generous gift of Mrs. Seymour Milstein and family through the Milstein Foundation. This award represents a pinnacle of scientific achievement in our field and is an important landmark of the society.

Honorary Membership

Individuals who have dedicated much of their careers to the interferon/cytokine field and have made substantive contributions. Honorary members are the treasure of the society who provide us with a historical perspective and valued research tradition. We invite your nominations for eligible candidates for this prestigious symbol of recognition by our society for outstanding achievements. A brief exposition of the reason for your nomination and other supportive documents (CV, if available) should be sent to the ISICR President:

Dr. Keiko Ozato
National Institutes of Health
LMGR/NICHD, Bldg 6 Rm 2A01
Bethesda, MD 20892
FAX: 301-480-9354
E-mail: ozatok@dir6.nichd.nih.gov

The nominations will be collated, and passed on to the Chair of the Awards Committee in June. This committee will then prepare a short list of candidates and vote for winners of the awards. As specified in the ISICR Constitution, the final vote of the Awards Committee is subject to the approval of the ISICR Board of Directors.

Young Investigator Awards ($1,000)

Eligibility: ISICR members and are less than 8 years after receiving a Ph.D or M.D degree. Every year up to five Young Investigator Awards are presented to ISICR members who have made notable contributions to either basic or clinical research within 8 years after receiving their Ph.D or M.D.. This award is provided by a generous gift of the Milstein Foundation. We urge every eligible individual to apply for the awards. We also ask more senior laboratory advisers to encourage their associates to apply. Send your 2003 Meeting abstract and CV to:

Dr.Paula Pitha-Rowe,
Chair, ISICR Awards Committee
Johns Hopkins University
Dept. of Oncology, Rm 221
1650 Orleans Street
Baltimore, MD 21206
FAX: 410-955-0840,
Email: parowe@jhmi.edu

We plan on having a check-off box in the abstract form for easy identification of the eligible candidates. A brief note describing your accomplishments and a letter of recommendation from your adviser, are strongly encouraged. The deadline is the same as that of the Meeting abstract for the 2003 ISICR Meeting.

The Christina Fleischmann Memorial Award to Young Women Investigators ($1,000)

The rules for this ISICR award are the same as for the Milstein Young Investigator Award (see above) except for gender and that candidates are less than 10 years after receiving a PhD or M.D. degree.

Travel Awards

ISICR members who intend to attend the 2003 ISICR meeting in Cairns, Australia are eligible for Travel Awards. They are provided primarily through the membership fees, based on the scientific merit of the abstract and financial necessity. However, this award does not exempt payment of the registration fee. Please note that there are no age restrictions to this award. However if both senior and junior members from the same laboratory apply for an award, preference will be given to the junior member. Send your meeting abstract and a note explaining the need for a Travel Award to Dr. Paula Pitha-Rowe, Chair, ISICR Awards Committee (the deadline is the same as that of the Meeting abstract, June 30).

New ISICR Members

The ISICR welcomes the following new members to the society.

We look forward to their active participation in the Annual Meeting and in those ISICR committees that they wish to serve on.

Marco De Andrea
Turin, Italy

Rana Dutta
Baltimore, MD

Jean Francois Goetschy
Basel, Switzerland

Peter C. Heinrich
Aachen, Germany

Ricky W. Johnstone
East Melbourne, Australia

Robert M. Krug
Austin, TX

Yongzhong Li
Chicago, IL

Nilesh R. Maiti
Cleveland, OH

Ashley Mansell
East Melbourne, Australia

Kita Masakazu
Kyoto, Japan

Cindy L. Miller
Vancouver, Canada

Paul A. Moore
Rockville, MD

J. Reddy Neralurramareddy
Boston, MA

Meredith A. O'Keeffe
Parkville, Australia

Karen E. Pinder
Baltimore, MD

Nina M. Pustoshiova.
Akademicheskaya, Russia

Valeria Serban
Philadelphia, PA

Nywana Sizemore
Cleveland, OH

Mark J. Smyth
East Melbourne, Australia

Robyn Starr
Parkville, Australia

Jacques Theze
Paris, France

Jiahua Zhu
Chapel Hill, NC

Reviews of Interest

Bodmer JL, Schneider P, Tschopp J The molecular architecture of the TNF superfamily. *Trends Biochem Sci* 2002, 27:19-26.

Coussens LM, Werb Z Inflammation and cancer. *Nature* 2002, 420: 860-867.

Hanada T, Yoshimura A Regulation of cytokine signaling and inflammation. *Cytokine & Growth Factor Rev* 2002, 13:413-421.

Hill N, Sarvetnick N Cytokines: promoters and dampeners of autoimmunity. *Curr Op in Immunol* 2002, 14:791-797.

Hofmann SR, Ettinger R, Zhou Y-J et al. Cytokines and their role in lymphoid development, differentiation and homeostasis. *Curr Opin Allergy Clin Immunol* 2002, 2:495-506.

Kracht M, Saklatvala J Transcriptional and post-transcriptional control of gene expression in inflammation. *Cytokine* 2002, 20:91-106.

Lankford CSR, Frucht DM A unique role for IL-23 in promoting cellular immunity. *J Leuk Biol* 2003, 73: 49-56.

McCann FE, Suhling K, Carlin LM et al. Imaging immune surveillance by T cells and NK cells. *Immunol Rev* 2002, 189:179-192.

Mocellin S, Panelli MC, Wang E, et al. The dual role of IL-10**.** *Trends Immunol* 2003, 24: 36-43.

Moustakas A, Heldin CH From mono- to oligo-Smads: The heart of the matter in TGF-beta signal transduction. *Gene Dev* 2002, 16: 1867-1871.

Levy, DE, Marie I, Prakash, A Ringing the interferon alarm: differential regulation of gene expression at the interface between innate and adaptive immunity. *Curr Op in Immuno*l 2003, 15:52-58.

Lieberman LA, Hunter CA Regulatory pathways involved in the infection-induced production of IFN-γ by NK cells. *Microbes and Infection* 2002, 4:1531-1538.

Liew FY The role of innate cytokines in inflammatory response. *Immunol Lett* 2003, 85: 131-134.

Sprent J, Surh CD Cytokines and T cell homeostasis. *Immunol Lett* 2003, 85:145-149.

Trinchieri G Interleukin-12 and the regulation of innate resistance and adaptive immunity. *Nat Rev Immunol* 2003, 3:133-46

.

Whiteside TL Cytokine Assays. In Cytokines:Receptors and Cell Signaling; a supplement to *Biotechniques* 2002, 33:4-15.

"Who are these famous interferon research scientists?"

Murphy's Laws of Work (slightly adapted for the lab)

1. To err is human, to forgive is not lab policy.
2. Don't be irreplaceable. If you can't be replaced, you can't be promoted.
3. The more irrational the data, the more convoluted the model.
4. A pat on the back is only a few centimeters from a kick in the pants.
5. Eat one live toad the first thing in the morning and nothing worse will happen to you the rest of the day.
6. Never ask two questions in an email to a scientist you do not know. The reply will discuss the one you are least interested in and say nothing about the other.
7. When the lab chiefs talk about improving productivity, they are never talking about their own labs.
8. If at first you don't succeed, try again. Then quit. No use being a darn fool about it.
9. There will always be beer cans rolling on the floor of your car when the boss asks for a ride home from the lab.
10. Mother said there would be days like this, but she never said there would be so many.
11. Keep your boss's boss off your boss's back.
12. Everything can be filed under "miscellaneous results."
13. Never delay the ending of a lab meeting or the beginning of a pizza/beer hour.
14. You can go anywhere you want if you look serious and carry a rack of microfuge tubes.
15. Anyone can do any number of experiments provided it isn't the experiment he/she is supposed to be doing.
16. Important drafts of manuscripts that contain no errors will develop errors when being sent as email attachments.
17. The last person that left the lab will be the one held responsible for everything that goes wrong.
18. There is never enough time to do it right the first time, but there is always enough time to do it over.
19. If you are good, you will be assigned all the work. If you are really good, you will get out of it.

"It's better to give than to lend and it costs about the same."
- Philip Gibbs

Clinical Trials

More information on this list can be obtained at http://clinicaltrials.gov [CT], http://www.centerwatch.com/search.asp [CW], or http://clinicalstudies.info.nih.gov [CCNIH].

Identification of biological markers (**cytokines**, **chemokines**, antibodies) in retinal vasculitis, comparing patients with primary retinal vasculitis and those with retinal vasculitis patients with Behcet's syndrome and HIV-infected patients undergoing HAART therapy. Protocol Number 03-EI-0068. Sponsored by the National Eye Institute. *Contact:* Patient Recruitment and Public Liaison Office, Building 61, 10 Cloister Court, Bethesda, Maryland 20892-4754. Toll Free: 1-800-411-1222; TTY: 1-800-594-9774 (local), 1-866-411-1010 (toll free), Fax: 301-480-9793, Email: prpl@mail.cc.nih.gov. (From CT, CCNIH)

Imatinib Mesylate with or without **Interferon Alfa** or Cytarabine compared with Interferon Alfa Followed by allogeneic stem cell transplantation in treating patients with newly diagnosed chronic phase Chronic Myelogenous Leukemia. Study ID Numbers CDR0000271424; III-MK-CML-IV; EU-20248. Sponsored by Medizinische Klinik Mannheim. In Germany and Switzerland. *Contact* (Germany): Ruediger Hehlmann, MD, Medizinische Klinik Mannheim. *Contact* (Switzerland): Walter Weber-Stadelmann, MD, Basel, CH 4051, Switzerland, Phone: 011-41-61-261-0225. (Found in CT)

Phase II evaluation of immunization with an HLA-A2 multi-epitope peptide vaccine containing MART-1, gp100, and Tyrosinase peptides alone or in combination with **GM-CSF**, **Interferon Alpha2b**, or **GM-CSF + Interferon Alpha2b** in patients with metastatic melanoma. Trial # 43699. *Contact:* Lori Elder, Assistant Director, University of Virginia School of Medicine, Clinical Trials Office, One Morton Drive, Suite 200, Charlottesville, VA 22903, Phone: 434-924-8530; Fax: 434-243-5999; Email: uvaclintrials@virginia.edu. (From CW)

A randomized trial examining the use of **Daclizumab** (also called **Zenapax** or anti-**CD25**; or anti-**Interleukin-2 Receptor** antibody) in Wegener's Granulomatosis. Protocol Number: 02-I-0213. Contact: Cheryl A. Talar-Williams, P.A.-C, National Institutes of Health, Building 10, Room 11B13,10 Center Drive; Bethesda, Maryland 20892, Phone: (301) 402-4542, Fax: (301) 402-8477, Email: ctwilliams@atlas.niaid.nih.gov. (From CCNIH)

Study of MDX-CTLA4 combined with **Interleukin-2** for the treatment of patients with metastatic melanoma. Protocol Number: 03-C-0109. Contact: Patient Recruitment and Public Liaison Office, Building 61, 10 Cloister Court, Bethesda, Maryland 20892-4754. Toll Free: 1-800-411-1222; TTY: 1-800-594-9774 (local), 1-866-411-1010 (toll free), Fax: 301-480-9793, Email: prpl@mail.cc.nih.gov. (From CCNIH)

Radiolabeled monoclonal antibody plus Rituximab with and without **Filgrastim** and **Interleukin-11** in treating patients with relapsed or refractory Non-Hodgkin's Lymphoma. Study ID Numbers CDR0000068503; MAYO-MC998C. Sponsored by the Mayo Clinic Cancer Center, National Cancer Institute (NCI). Contact: Thomas E. Witzig, MD; Phone: 507-284-2111; Mayo Clinic Cancer Center, Rochester, Minnesota, 55905. (From CT)

High-dose **Interferon alfa** in treating patients with Stage II or Stage III melanoma. Study ID Numbers CDR0000066727; E-1697; SWOG-E1697; CLB-500103; CAN-NCIC-ME.10. Sponsored by the Eastern Cooperative Oncology Group; National Cancer Institute (NCI); Southwest Oncology Group; Cancer and Leukemia Group B; National Cancer Institute of Canada. In 46 US States, Canada, Australia and South Africa. *Contacts:* Sanjiv S. Agarwala, MD, University of Pittsburgh Cancer Institute; Lawrence E. Flaherty, MD, Barbara Ann Karmanos Cancer Institute; William Edgar Carson, MD, Arthur G. James Cancer Hospital & Richard J. Solove Research Institute; and Neill Allan Iscoe, MD, Toronto Sunnybrook Regional Cancer Centre. (From CT)

Efficacy and safety of **granulocyte-macrophage colony-stimulating factor** (**GM-CSF;** sargramostim) in patients with Pulmonary Alveolar Proteinosis. Study ID Numbers FD-R-002016; FD-R-002016-01.

Sponsored by FDA Office of Orphan Products Development *Contact:* Mani S. Kavuru, M.D., Phone: 216-445-6972, Email: kavurum@ccf.org. (From CT)

Phase II study of **TNFerade™** gene therapy + radiation + 5-FU and Cisplatin in locally advanced, resectable esophageal cancer. Trial# 44071. *Contact:* Rhodora D. Francisco, RN, BSN, University of Texas/ MD Anderson, 1515 Holcombe Blvd, Box 445, Houston, TX 77030-4009, Phone: 713-745-4537, Email: rfrancisco@mdanderson.org. (From CW)

Low dose **Peginterferon** and Ribavirin therapy for patients with Chronic Hepatitis C infected with genotype 2 or 3. Protocol number: 03-DK-0136. *Contact:* Patient Recruitment and Public Liaison Office, Building 61, 10 Cloister Court, Bethesda, Maryland 20892-4754. Toll Free: 1-800-411-1222; TTY: 1-800-594-9774 (local), 1-866-411-1010 (toll free), Fax: 301-480-9793, Email: prpl@mail.cc.nih.gov. (From CCNIH)

Pre-operative **IL13-PE38QQR** in patients with recurrent or progressive malignant glioma. Study ID Number IL13PEI-103. Sponsored by Neopharm; Food and Drug Administration (FDA). In the US, Germany and Israel. *Contacts:* David Croteau, MD, FRCP(C), Phone: 847-295-8678, Email: dcroteau@neophrm.com; Amy Grahn, Phone: 847-295-8678, Email: agrahn@neophrm.com. (From CT)

Interleukin-12 and **Interleukin-2** in treating patients with Mycosis Fungoides. Study ID Numbers CDR0000258239; UPCC-10401; NCI-1831. Sponsored by the University of Pennsylvania Cancer Center; National Cancer Institute (NCI). *Contact:* Alain Rook, MD, University of Pennsylvania Cancer Center. (From CT)

Use of a protease inhibitor and of **Interleukin-2 (IL-2)** in the treatment of early HIV infection. Sponsored by the National Institute of Allergy and Infectious Diseases (NIAID). Study ID Numbers AIEDRP AI-07-001; CTN #124. *Contacts:* Dr. Rafick-Pierre Sekaly; Danielle Rouleau, Centre Hospitalier de la Universite de Montreal (CHUM), Montreal, Quebec, Canada ; Phone: 514-281-6000 Ext. 6265; Email: danielle.rouleau@ssss.gouv.qc.ca; Dr Jean-Pierre Routy, Institut Thoracique de Montreal, Montreal, Quebec, Canada ; Phone: 514-843-2090 ; Email : routyjp@muhchem.mcgill.ca; Dr Christos Tsoukas, Centre de traitment d'immunodeficience, Montreal, Quebec, Canada ; Phone:514-934-8035 ; Email : tsoukas@is.much.mcgill.ca; Dr Brian Conway, Viridae Clinical Sciences / University of British Columbia, Vancouver, British Columbia, Canada, Phone : 604-689-9404, Email : brian_conway@viridae.com. (From CT)

Study of Remicade (Infliximab; **Anti-TNF alpha Chimeric Monoclonal Antibody**) in Psoriatic Arthritis. Study ID Number CO168T50. Sponsored by Centocor. In US and Canada. *Contact:* Dija Atta, Email: DAtta@cntus.jnj.com. (From CT) ISICR

Answer to mystery picture:
Alick Isaacs and Sam Baron

BioCoRE@NCSA

http://biocore.ncsa.uiuc.edu/

The Theoretical and Computational Biophysics (TCB) Group at the University of Illinois is proud to announce the initial public release of The Theoretical and Computational Biophysics (TCB) Group at the University of Illinois is proud to announce the initial public release of BioCoRE@NCSA, a collaborative research environment at the National Center for Supercomputer Applications. The TCB Group develops BioCoRE with support from the NIH's National Center for Research Resources. The BioCoRE@NCSA effort is also funded by the NSF. BioCoRE is a collaborative work environment for biomedical research, research management and training. A resource-centered platform, BioCoRE offers scientists, working together or alone, a seamless interface to a broad range of local and remote technologies such as discipline-specific and general tools, data, and visualization solutions. In creating unprecedented proximity to colleagues' expertise and knowledge, BioCoRE empowers scientists everywhere, establishing equal access to research and training opportunities. To harness and streamline collaborative capabilities across temporal and physical boundaries in research and training, BioCoRE builds on the transparent use of and communication between technological resources (hardware and software) and databases. BioCoRE features powerful yet easy-to-use tools, among them co-authoring papers and other documents, running applications on supercomputers, sharing molecular visualization over the Internet, notifying project team members of recent project changes by email, chatting, keeping a lab book, and other practical features. The TCB Group encourages BioCoRE@NCSA users to be closely involved in the development process through reporting bugs, contributing fixes, regular feedback mechanisms, periodic surveys and via other means.

Questions or comments may be directed to biocore@ncsa.uiuc.edu.

We are eager to hear from you, and thank you for using our software!

Bioverse

http://
bioverse.compbio.washington.edu

Bioverse 1.0 is an attempt to develop a framework to integrate single molecule data with genomic/proteomic data. This is still an experimental release, but before we proceed with the next one, we wanted to solicit feedback on features and bugs (some of which we're already working on) and any other comments that would help improve this resource.

One of the things possible in this release is the ability to interactively browse contextual and similarity networks. The contextual maps are based on using interaction information that's out there (from 2-hybrid experiments, PDB com-plexes, literature, etc.) and mapping it to related sequences.

We are in the process of developing a highly flexible, interactive and manipulatable client-based three-dimensional viewer that can be used to include information from other organisms and select and deselect edges using arbitrary specifications.

Like we say above, all feedback would be greatly appreciated so we can make this resource as useful as possible. Thanks!

The Bioverse Team
Jason McDermott, administrator

Data Mining Courses Offered Online @CCSU

Central Connecticut State University (CCSU) announces online courses in data mining leading to a Master of Science in Data Mining.

All courses in the data mining MS program are offered online. This means that class is as close as your computer, whether you live in Boston, Beijing, or Bangalore. Further, all courses are asynchronous, meaning that students can work when they want to work, whether at 3:00 in the afternoon, or 3:00 in the morning.

The 33-credit program, which can be completed in two years, consists

of courses in data mining, artificial intelligence, statistical analysis, and computer science. The MS in data mining is fully licensed by the State of Connecticut Department of Higher Education. Each course is taught by the doctoral-level professor who designed the course.

The program stresses the solution of real-world problems, using applications and case studies, while gaining a deep appreciation of the underlying models. These appli-cations include customer relationship management, credit-card fraud, and profit/cost optimization. Students will apply methodologies such as decision trees, market basket analysis, neural networks, association rules, and cluster detection. Students will gain strong exposure to state-of-the-art software such as the Clementine data mining suite from SPSS.

Data mining is the search for interesting patterns and trends in large databases using statistical methods. The MIT Technology Review chose data mining as one of ten emerging technologies that will change the world. Data mining expertise is the most sought after among information technology professionals, according to the 1999 Information Week National Salary Survey. In a 2001 KDNuggets survey, 27% of data mining professionals earned more than $100,000 (US) annually.

Courses available online, beginning September 3, include Introduction to Data Mining, and Applied Data Mining. Courses to be offered later this year include Web Mining, and Neural Networks. (The Intro to Data Mining course is a pre-requisite for the Web Mining course.) To register for these courses, proceed to OnlineCSU at www.onlinecsu.net.

For more information about the MS in data mining, including how to apply, please visit www.ccsu.edu/datamining, or contact Program Director Daniel T. Larose, Ph.D. at larosed@-ccsu.edu.

GTdb - Genotype Database

http://gtdb.sourceforge.net

GTdb is database designed to store genotype results for all kind of markers, organisms and tissue types. The database consist of core structure which captures information common to markers, alleles and sequence variation measurements in general. The core is separate from method, instrument and lab specific data. The GTdb project contains the relational database implementation and software needed to load and export the data, web GUI and SOAP API The GTdb project is part of the Genomeutwin consortium

Objectives
Open source database for genotype data produced by different methods (microsatellites and SNPs) XML data transfer format for the data Common, normalized data model for different implementations (XML and relational database) Modular design. Mixing between the core and instrument/method specific data should be avoided

PhosphoBase

http://www.cbs.dtu.dk/databases/PhosphoBase/

New features of PhosphoBase version 2.0 include:
- large increase in the number of data entries
- keyword-based search of the entire database
- pattern-based search for kinase motifs in your sequence
- www-links to Medline records and protein sequence databases

PhosphoBase contains information about phosphorylated residues in proteins and data about peptide phosphorylation by a variety of protein kinases. The data are collected from literature and compiled into a common format. The current release of PhosphoBase (October 1998, version 2.0) comprises 414 phosphoprotein entries covering 1052 phosphorylatable serine, threonine and tyrosine residues. The kinetic data from peptide phosphorylation assays for approximately 330 oligopeptides is also included. The database entries are cross-referenced to the corresponding records in the Swiss-Prot protein database and literature references are linked to MedLine records.

PsiCSI: Secondary structure from sequence and chemical shifts

http://protinfo.compbio.washington.edu/

PsiCSI uses neural networks to translate chemical shifts to

secondary structure information and combine it with sequence based prediction algorithms (PsiPred). For a rigorously jack-knifed set of 92 proteins, PsiCSI made 36% fewer errors than CSI, achieving a sustained 3-state accuracy of 89%. In addition, because of the sequence based component, the method remains effective with sparse and incomplete chemical shift data. A webserver is available at Hong Hung (lhhung at compbio.washington.edu)

PubMed Browser

http://www.pmbrowser.info/

Announcement of the availability of an alternative interface to the PubMed database of medical literature. Created using Perl and the XML Web Services provided by the NCBI.

Features include: Export checked abstracts in RIS format. PubMed Search bookmarklet. Rank relations: computes weighted ranking of abstracts related to (max 10) checked articles. XML button for RSS feed of current query (updated daily). Send query to XplorMed for further analysis. Graph occurrences of search terms over time. Refine search by MESH terms. View related abstracts in PubMed Browser. Clipboard.

Send regular search results by email using BioMail. Optional text extracts in search results.

RAT draft genome annotations fgenesh++

http://genome.ucsc.edu/cgi-bin/hgGateway?org=Rat

http://www.softberry.com/berry.phtml?topic=ratexp
We're pleased to announce the release of fgenesh++ gene annotation on the Nov. 2002 rat assembly produced by the Baylor College of Medicine Rat Genome Sequencing Center and the Rat Genome Sequencing Consortium.

Fgenesh++ annotated: 43008 genes includes 28955 genes supported by NR proteins, among them 3763 genes correponding RAT refseq mRNA

ID and Name of similar protein added after ## in name line of fasta files *.pro Refseq corresponding proteins additionally marked NM_..

Fgenesh++ predictions are based on complex fully automatic script that mapped known Refseq RNA, predict genes and refine predicted genes that have protein support from other organisms.

Reference: Solovyev V.V. (2001) Statistical approaches in Eukaryotic gene prediction. In Handbook of Statistical genetics (eds. Balding D. et al.), John Wiley & Sons, Ltd., p. 83-127.)

Rfam: A new database of multiple alignments and covariance models of non-coding RNA families

http://www.sanger.ac.uk/Software/Rfam/
http://rfam.wustl.edu/

Rfam is a database of structure-annotated multiple sequence alignments, covariance models and family annotation for a number of non-coding RNA families. Rfam 2.0 contains 30 such families. The seed alignments are hand curated and aligned using available data, and covariance models are built from these alignments using the INFERNAL 0.52 software suite (http://infernal.wustl.edu/). The full alignments are created by searching a subset of the EMBL nucleotide database using the covariance model, and then aligning all hits above a family specific threshold to the model. Rfam 2.0 annotates 65072 regions in the EMBL database.

The database is also available for download in flatfile format from: ftp://ftp.sanger.ac.uk/pub/databases/Rfam/ ftp://ftp.genetics.wustl.edu/pub/eddy/Rfam/ For local searching the INFERNAL package is also required: http://infernal.wustl.edu/

Rfam is maintained by a consortium of researchers at the Wellcome Trust Sanger Institute, Cambridge, UK, and Washington University, St. Louis, USA.

The Signaling Gateway

http://www.signaling-gateway.org

The Signaling Gateway is a new one-stop FREE resource for cell signaling research, brought to you by the Alliance for Cellular Signaling (AfCS) and Nature Publishing Group. Use the link below to sign up for your free weekly e-alert http://www.signaling-gateway.org/registration/cgi-bin/registration.cgi?mode= ealert

The Signaling Gateway features the following sections:

Molecule Pages
The site provides access to the 'Molecule Pages' - an up to the minute database of key information on a comprehensive set of well over 3,000 cell signaling proteins. The current data set includes information collated from numerous online resources and is continually updated. Over the coming months, this will be supplemented with peer-reviewed information entered by specially invited expert authors.

Signaling update
Updated weekly, the Signaling Update section of the site includes:
- accessible digests of the current signaling literature
- links to relevant primary research papers
- signaling news
- signaling jobs
- signaling conference calendar

AfCS Data Center
The site provides an entry point to the vast resource of freely available signaling data generated by AfCS laboratories.

To celebrate the launch of the Signaling Gateway, Nature has published a selection of articles which provides an overview of the Alliance for Cellular Signaling and its activities. This is available free online at http://www.signaling-gateway.org

If you are already a registrant at Signaling Update, the Alliance for Cellular Signaling website (www.afcs.org) or Nature's website (www.nature.com), you may enter your username and password from those sites to log in at the Signaling Gateway.

Produced with support from Genetech, Lilly and the National Institute of General Medical Sciences.

The AfCS is supported by National Institute of General Medical Sciences, National Institute of Allergy and Infectious Diseases, National Cancer Institute, Merck Genome Research Institute, Lilly, Aventis Pharmaceuticals, Johnson and Johnson and Novartis Pharma AG.

Release 23.0 of TrEMBL

ftp.ebi.ac.uk/pub/databases/trembl
http://srs.ebi.ac.uk/

This TrEMBL release has been produced in synch with Swiss-Prot release 41. It was created from the EMBL Nucleotide Sequence Database release 73 and contains 921'952 entries and 40'914'860 amino acids.

TrEMBL is split in two main sections: SP-TrEMBL and REM-TrEMBL: SP-TrEMBL (Swiss-Prot TrEMBL) contains the entries (830'525) which should be eventually incorporated into Swiss-Prot. Swiss-Prot accession numbers have been assigned for all SP-TrEMBL entries.

SP-TrEMBL is organized in subsections:

arc.dat (Archaea):1736 entries
arp.dat (Complete Archaeal proteomes): 31625 entries
fun.dat (Fungi): 15977 entries
hum.dat (Human): 34880 entries
inv.dat (Invertebrates): 79680 entries
mam.dat (Other Mammals): 12223 entries
mhc.dat (MHC proteins): 8813 entries
org.dat (Organelles): 73538 entries
phg.dat (Bacteriophages): 6448 entries
pln.dat (Plants): 80929 entries
pro.dat (Prokaryotes): 79736 entries
prp.dat (Complete Prokaryotic Proteomes): 181432 entries
rod.dat (Rodents): 40143 entries
unc.dat (Unclassified): 331 entries
vrl.dat (Viruses): 82490 entries
vrt.dat (Other Vertebrates): 14889 entries
vrv.dat (Retroviruses): 85655 entries

107'123 new entries have been integrated in SP-TrEMBL. The sequences of 1713 SP-TrEMBL entries have been updated and the annotation has been updated in 252'549 entries.

In the document deleteac.txt, you will find a list of all accession numbers which were previously present in TrEMBL, but which have now been deleted from the database.

REM-TrEMBL (REMaining TrEMBL) contains the entries (91'427) that we do not want to include in Swiss-Prot.

ACCESS/DATA DISTRIBUTION

TrEMBL is also available on the SWISS-PROT CD-ROM. SWISS-PROT + TrEMBL is

searchable on the following servers at the EBI:
FASTA3 (http://www.ebi.ac.uk/fasta33/)
BLAST2 (http://www.ebi.ac.uk/blast2/)
Scanps (http://www.ebi.ac.uk/scanps/)
MPSrch (http://www.ebi.ac.uk/MPsrch/)

For each TrEMBL release, a synchronized version of the concurrent SWISS-PROT release is distributed at ftp.ebi.ac.uk/pub/databases/trembl/swissprot/ We also produce every week a complete non-redundant protein sequence collection by providing three compressed files (these are in the directory /pub/databases/sp_tr_nrdb on the EBI FTP server: sprot.dat.gz, trembl.dat.gz and trembl_new.dat.gz.)

TrEMBL and Swiss-Prot in XML format

A release version of TrEMBL and Swiss-Prot in XML format is provided with this release of TrEMBL. More information is available at http://www.ebi.ac.uk/swissprot/SP-ML and the data can be downloaded from ftp://ftp.ebi.ac.uk/pub/databases/trembl/xml ftp://ftp.ebi.ac.uk/pub/databases/sp_tr_nrdb/xml

TrEMBL HAS BEEN PREPARED BY: Maria Jesus Martin, Claire O'Donovan, Philippe Aldebert, Nicola Althorpe, Rolf Apweiler, Daniel Barrell, Kirsty Bates, Paul Browne, Daniel Barrell, Kirill Degtyarenko, Gill Fraser, Alexander Fedetov, Andre Hackmann, Alexander Kanapin, Youla Karavidopoulou, Paul Kersey, Ernst Kretschmann, Kati Laiho, Minna Lehvaslaiho, Michele Magrane, Maria Jesus Martin, Michelle McHale, Virginie Mittard, Nicola Mulder, Claire O'Donovan, John F. O'Rourke, Sandra Orchard, Astrid Rakow, Kai Runte, Sandra van den Broek, Eleanor Whitfield and Allyson Williams at the EMBL Outstation - European Bioinformatics Institute (EBI) in Hinxton, UK; Amos Bairoch, Alexandre Gattiker, Isabelle Phan and Sandrine Pilbout at the Swiss Institute of Bioinformatics in Geneva, Switzerland.

Maria Jesus Martin
Sequence Database Group Coordinator
EMBL Outstation EBI
Wellcome Trust Genome Campus
Hinxton, Cambridge, CB10 1SD
UK

Meeting Announcement

Recent advances in cytokine detection

Chair: Dr Catherine Derry, Kings College London

Date: June 27th 2003

Location: The Basement Lecture Theatre at 43 Gordon Square (part of Birkbeck College), London, WC1H

Topics include: **Intracellular cytokine staining, ELISPOT, Cytokine detection by Quantitative PCR, Cytometric Bead Array, Antigen-specific T cells and their potential for Immunotherapy, Cytokine Analysis using STarStation software and the Luminex 100, Simultaneous analysis of cytokines and chemokines in biological samples**.

There will be plenty of opportunities to discuss the use suitability of these techniques for your individual research together with any technical problems you might be having

Web site: www.EuroSciCon.com/cytokine.htm
Address: EuoScicon
PO Box 3079
Barnet Herts
EN5 4ZD
Phone: (+44) 0709-216-5730
FAX: (+44) 0709-211-4307
Email: enquiries@euroscicon.com

Contact name:Dr S. Cohen
Registration deadline: 1st June
Abstract receipt deadline: May 15th
Notification of abstract acceptance: June 1st

Yours sincerely

Dr S.B.A. Cohen PhD, MIBiol, CBiol, MRCPath, FWIF
Phone (+44) 0709-216-5730
FAX (+44) 0709-211-4307
emailSharacohen@bigfoot.com

ISICR Symposium at AAI Meeting

The ISICR annually presents a Guest Symposium as part of the Annual Meeting of the American Association of Immunologists. This year the meeting was held on May 7, in Denver Colorado.

If ISICR members are attending future AAI meetings and would like to organize the Annual symposium, please contact the ISICR President.

ISICR Guest Symposium
Frontier of Interferon and Cytokine Research : Chair : Keiko Ozato
Speaker List

Sidney Pestka, MD.
"**Stepping into Cells to Assess Receptor Assembly"**
UMDJ-Robert Wood Johnson Medical School,
Department of Molecular Genetics, Microbiology
and Immunology
Piscataway, N J. 08854
TEL 732-235-5116
pestka@umdnj.edu

Ganes Sen, Ph.D
"Mechanism of induction and functions of viral stress-inducible genes"
Cleveland Clinic Foundation
Department of Molecular biology
Cleveland OH 44195
TEL 216-444-0636
seng@ccf.org

Michael David
"Interferon and interferon regulated genes"
University of California, San Diego Department of Biology
9500 Gilman Drive
Bonner Hall 3138
La Jolla, CA 92093-0322
TEL 858- 822-1108
mdavid@ucsd.edu

Keiko Ozato, Ph.D.
"The role of IRFs in toll like receptor signaling in dendritic cells"
National Institutes of Health,
Laboratory of Molecular Growth Regulation, NICHD
Bethesda MD 20892
TEL 301-496-918
ozatok@nih.gov

HOORAY FOR CHOCOLATE!!!!

**

Chocolate is derived from cocoa beans. Bean = vegetable.

**

Sugar is derived from either sugar cane or sugar BEETS.
Both of them are plants, in the vegetable category.
Thus, **chocolate** is a vegetable.

**

To go one step further, **chocolate** candy bars also contain milk, which is dairy. So, candy bars are a health food.

**

Chocolate-covered raisins, cherries, orange slices and strawberries all count as fruit, so eat as many as you want.

Remember - - -
"STRESSED" spelled backward is **"DESSERTS"**
Send this to four people and you will lose 2 pounds.

Send this to all the people you know (or ever knew), and you will lose 10 pounds.
If you destroy this message, you will gain 10 pounds immediately.

Attend the 2003 ISICR Meeting!!!!!!

2003 ISICR MEETING INFO

ABSTRACT SUBMISSION

IMPORTANT DATES

Final Submission Date: 30 June 2003 for oral or poster selection, 30 July 2003 for poster only selection

Acceptance Notification: 26 July 2003

Registration Deadline: 30 June 2003 - for early bird rates, 30 July 2003 to ensure your abstract is included in the conference proceedings if you have been selected - payment must have been received

Program Streams

The Program Organising Committee (POC) accepts submissions of abstracts of original contributions on any topic related to the following program streams, but is not exclusive of others:

signal transduction
cytokines and cancer
infectious disease
inflammation
gene regulation
cytokine receptors
clinical uses of cytokines
negative regulation of signaling
tumour immunity
toll-like receptors
cytokines and neurodegeneration
stem cell differentiation
apoptosis
genomics
dendritic cell subsets
cytokine signaling and drug development
structure-function

Presentation Types

Submissions will be accepted for oral presentation and poster presentation. Although authors may indicate their preference for type of presentation, the final acceptance with regard to presentation type will be at the discretion of the Program Organising Committee. Submissions are reviewed and minimum scores must be achieved to ensure the highest possible standard of presentations at the conference.

ACCOMMODATION

The conference has secured rooms at a special conference rates at several hotels. To make your booking complete the details on the registration form. As the international rugby world cup is on in Australia during October and November and some matches are scheduled for Cairns, it is highly recommended that you book your accommodation when registering at the early bird rate to ensure your requirements are met. This is critical if you wish to extend your stay either side of the conference dates. You will need to select your hotel, indicate arrival and departure dates, arrival time and pay one nights accommodation as a deposit. Your booking will not be secured unless your payment is processed by September 20, 2003. Cancellation of accommodation bookings one month prior to the conference will not incur a fee. Some hotels charge 50% of the deposit for cancellations 2 weeks or less upon receipt of written notice, and no refunds will be made for cancellations of 24 hours or less notice. Bookings made less than one month before the conference will be subject to availability

INTERNATIONAL SOCIETY FOR INTERFERON AND CYTOKINE RESEARCH

9650 Rockville Pike, Bethesda, Maryland 20814-3998 USA
Telephone # (301) 571-8319 ♦ Fax # (301) 530-7049
EMAIL: *isicr@faseb.org*

2003 NEW MEMBERSHIP APPLICATION

Please Print or Type Legibly

Name_____
(First) (Middle) (Last)

Department_____

Organization_____

Street Address/PO #_____

Address_____
(City) (State/Province) (Zip) (Country)

ATTENTION: *Street Address and zip + 4 now required by Postal Service for delivery. (US Only)*

PLEASE RETURN THIS APPLICATION WITH YOUR REMITTANCE
U.S. Currency ONLY
(checks to be drawn on a U.S. Bank)
Make checks payable to: ISICR or International Society for Interferon and Cytokine Research

For Credit Card payments, see below.

ISICR Federal Tax ID #: 59-2471233

Telephone ( )_____ Fax ( ) _____

E-Mail address:_____

Dues payments entitle a member to receive the annual Directory of Members, Newsletters, annual meeting program, and all meeting announcements.

MEMBERSHIP DUES	ONE-YEAR	TWO-YEAR	THREE YEAR
Regular Members (2003)	$50.00	$90.OO	$120.00
Emeritus Members (2003)	$25.00	N/A	N/A
Student Members (2003)	$10.00	N/A	N/A

(Students/post-docs please complete box on lower portion of form)

JOURNAL OF INTERFERON AND CYTOKINE RESEARCH

At Member Rates (Circle One)	$196.00 (USA Print)	$196.00 (Foreign Print)
	$235.00 (USA Print & Online)	$235.00 (Foreign Print & Online)
	$196.00 (USA Online Only)	$196.00 (Foreign Online Only)

Online questions, contact the Publisher (Mary Ann Liebert) directly at (914) 834-3100.
To assure proper crediting of dues and processing of Journals, please remit dues promptly

TOTAL PAYMENT $_____

PLEASE TYPE OR PRINT LEGIBLY

CREDIT CARD INFORMATION (Please Circle One) American Express VISA Master Card Discover

Card Number_____ Name on Card_____

Expiration Date _____Authorized Signature_____

NOTE: Credit Card Charges will be processed by the Federation of American Society for Experimental Biology.

STUDENT / POST-DOC MEMBERSHIP

I certify that _____is a candidate for an advanced degree or a post-doctoral fellow in a field
Please Print Name
related to Interferon and Cytokine Research Institution_____Department_____

_____ Print Name_____
(signature of dept. head or research advisor)

INTERNATIONAL SOCIETY FOR INTERFERON and CYTOKINE RESEARCH
9650 Rockville Pike
Bethesda, MD 20814-3998
U.S.A.

NON-PROFIT ORG.
U.S. POSTAGE
PAID
BETHESDA, MD
20814
PERMIT NO. 4982