

This is the first edition of our Departmental Newsletter in the new millennium. It is also the first year when we will produce three issues rather than the traditional two. Thus, you can expect a spring edition in June and a fall edition in late October or early November.

This issue begins with a fascinating report on research training in our Department, written superbly by our Chairman with assistance of Drs. Michael Pinsky and Pat Kochanek. You will also find information on participation in various national and international meetings with a large number of our prominent faculty members serving as invited speakers and many receiving well-deserved awards for their various activities.

As usual, the Newsletter is the product of many, not just the team serving in the Editorial Group, including Drs. Winter, Pinsky, Kochanek, Patel, and Gyulai, and as usual Patti Boyle not only editing others' contributions but also personally writing many of the included stories. We also appreciate Joanne Woodson's professional service as our secretary.

Already in late February, we had a pre-taste of summer weather, which will definitely be upon us by the time the next issue is published. In the meantime, we wish you all a pleasant Pittsburgh spring.

Ake Grenvik, MD, Editor

## Training Our Next Generation of Clinician-Investigators

by Leonard Firestone, MD, Patrick Kochanek, MD, and Michael Pinsky, MD

**A**s growth in the national budget for health care continues to decline, it is gratifying to see federal investment in clinical and basic health-related research enjoy an unprecedented surge.

As a result, faculty members who wish to pursue careers as clinician-investigators will now find a range of funding opportunities beyond even the fantasy of a decade ago. So how do young faculty members capitalize on this trend? And how can our Department help promote their success? The answers lie in appropriate, well-timed use of training awards, derived from local, foundation, and federal sources.

Research inevitably requires resources: professional effort, equipment and supplies, technical support, etc. Recognizing this, more than a decade ago, Drs. Winter and Motoyama wisely introduced our Department's demonstrably successful **Seed Grant Program** for departmental fellows and faculty. Twice each year, a request for proposals is distributed among Department members, and submitted proposals are reviewed by our Scientific Affairs Committee (chaired by Dr. Kochanek). Budgets are limited to a



Pediatric CCM fellows Dr. Margaret Satchell (left), winner of the 2000 Society of Critical Care Medicine Scientific Award, and Kimberly Statler, recipient of the 1999 Women in Neurotrauma Award from the National Neurotrauma Society.

maximum of \$8000; notably, it is not mandatory for applicants to be sponsored by a mentor,

and professional effort cannot be budgeted. In contrast, applicants for a more intensive



research training experience, the **Schertz Research Fellowship**, are expected to identify a research mentor. This is a yearlong, intramurally sponsored program that provides for 80% dedicated research time, and a stipend intermediate between that of clinical fellows and of faculty members. Graduates of this Fellowship in recent years have evolved highly successful academic careers with prestigious independent funding.

Three years ago, the National Heart, Lung, and Blood Institute awarded our Department the first truly **Multidisciplinary Critical Care Medicine Research Training Program (T32)**. Entitled "Experimental Therapeutics in Critical Illness," with Professor Michael Pinsky as Principal Investigator, this program provides physicians from all critical care-related specialties who are preparing for an academic research career with up to 100% protected time to gain exposure to either clinical or laboratory investigation. Program mentors are authorities in immunobiology, cellular and organ-system cardiopulmonary physiology, and outcomes research in health care management; and all have strong track records as investigators and educators, as well as long-term extramural funding for their laboratories.



*N.I.H. Research Training Program (T32) fellow Scott Gunn, MD (above) is focusing on cardiopulmonary physiology with co-mentors Drs. Michael Pinsky and John Gorcsan.*

The interdisciplinary approach to investigation is the unique feature of this Training Program. Recent trainees include David Nunley, MD and Michael Dishart, MD. Dr. Nunley, who studied "Immunological aspects of lung transplantation," is currently Assistant Professor of Pulmonary and Critical Care Medicine at Emory, and is involved in Emory's lung transplantation programs. Dr. Dishart pursued "Quantification of left ventricular ejection efficiency in ischemia," then accepted a position on the cardiac anesthesiology staff at West Penn Hospital. A current fellow, Scott Gunn, MD, is focusing on cardiopulmonary physiology under the co-mentorship of Drs. Pinsky and Gorcsan.

Collaboration among our Safar Center for Resuscitation Research, our **Pediatric Critical Care Medicine Fellowship Training Program**, and researchers at the Rangos Research Center and Carnegie Mellon University has created an exceptional opportunity for research training. "Traumatic brain injury mechanisms" is the major focus for faculty and fellows, as recently emphasized in Dr. Kochanek's **T32** application to the National Institute of Neurological Disorders and Stroke (NINDS), as well as the neurotrauma work of the 27 funded mentors associated with the Center. During the past five years, ten Pediatric Critical Care Medicine fellows have received research training at the Center; recent award recipients include Dr. Michael Bell (1998 Society of Critical Care Medi-

cine *In Training Award*), Dr. Margaret Satchell (2000 Society of Critical Care Medicine *Scientific Award* winner), and Dr. Kimberly Statler (1999 National Neurotrauma Society *Women in Neurotrauma Award*). Three highly successful recent Program graduates include Dr. Robert Clark, now independently funded by NIH; Dr. Michael Whalen, now on the Harvard Medical School faculty; and Dr. Michael Bell, now a faculty member at Children's National Medical Center in Washington, DC and an active researcher at the NINDS.

To create research education opportunities specifically designed for fellows and faculty in anesthesiology, Dr. Firestone is laying plans to apply to NIH for a formal **Training Program for Anesthesiologists (T32)**. Currently, such programs are available at only eight anesthesiology departments nationally: Harvard (MGH); University of Pennsylvania; Mayo Medical School; University of California, San Francisco; Medical College of Wisconsin; Washington University; Duke; and Columbia University. Mentorship areas of particular strength in our Department's T32 could include health services and epidemiology, clinical pharmacology, immunological responses in the perioperative period, molecular pharmacol-





ogy of anesthesia, *in vivo* brain imaging, and cerebral protection. Another NIH-sponsored research Training Program in Anesthesiology application in our Department's future is in the **Clinical Pharmacology of Pediatric Anesthesia**, to dovetail with our Pediatric Anesthesia Clinical Fellowship recently accredited by ACGME.

Our hospitals have also recognized the need to support the next generation of clinician investigators. For example, Children's Hospital of Pittsburgh sponsors a funding mechanism for new faculty, administered by the office of their Medical Director. The

*Discovering the future of medicine has clearly become one of today's national priorities. Consequently, there are more options today for research training support than ever before. The only limit is one's imagination and commitment.*

UPMC Health System awards between four and eight grants, of \$25,000 each annually, from its **Competitive Medical Research Fund**. Young faculty members with innovative, patient-oriented, scientific hypotheses, who are not yet funded, stand the best chance of competing successfully.

National foundations, such as the **Foundation for Anesthesia Education and Research**, also sponsor separate **Starter and New Investigator Awards**, specifically geared toward either basic, clinical, or education sciences. All typically require the supervision of a mentor, who is usually an acknowledged expert in the relevant field of study. These awards, commonly used as stepping-stones to the individual NIH training grants described below, garner the research skills, preliminary data, and manuscripts that enhance an applicant's competitiveness. Analogous awards are available through relevant societies in our subspecialties (Society for Critical Care Medicine; Society for Ambulatory Anesthesia; etc.).

At present, NIH offers Faculty F32, "CAP," K23, and K08 individual training grants through most NIH Institutes (including its newest, the Agency for Healthcare Policy and Research). **Individual**



*1999 Charles Schertz Fellow Dr. Randall Ruppel is a member of Dr. Patrick Kochanek's investigative group studying biochemical responses to severe traumatic brain injury in infants and children.*

**Postdoctoral National Research Service Awards (F32)** are grants for full-time research training to health scientists and physicians "to broaden their scientific background and extend their potential for research in areas that reflect the national need for biomedical research." **Clinical Associate Physician (CAP) Awards** are career development grants issued as competitive supplements to funded General Clinical Research Centers (GCRCs) and are "intended to increase the number of scientists trained to conduct high quality clinical research." Our School of Medicine has one of the (approximately 70) funded GCRCs in America. Thus, CAP awards are available to our faculty members, who have recently used them to great advantage. **Mentored Clinical Scientist Development Awards in Anesthesiology (K08)** are designed to "support the development of academic

physician scientists, by providing funds for a period of supervised research and study for clinicians who have the commitment and potential to develop into productive independent investigators. Developmental experiences may occur in either laboratory or clinical research." **Mentored Patient-Oriented Research Career Development Awards (K23)** are designed to support the development of investigators committed to focusing their research endeavors on patient-oriented research. This mechanism provides support for a period of supervised study and research for clinically trained professionals who have the potential to develop into productive clinical investigators focusing on patient-oriented research.

Discovering the future of medicine has clearly become one of today's national priorities. Consequently, there are more options today for research training support than ever before. The only limit is one's imagination and commitment.



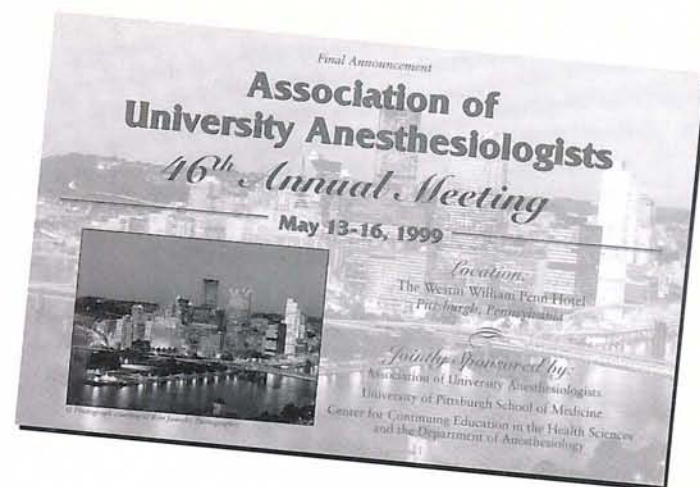
## 46<sup>th</sup> Annual AUA Meeting in Pittsburgh: A Showcase for Success

The Association of University Anesthesiologists (AUA), one of the oldest and most prestigious professional associations in our specialty, held its 46<sup>th</sup> Annual Program in Pittsburgh in May. Jointly sponsored by the AUA, our School of Medicine's Center for Continuing Education in the Health Sciences, and our Department, the meeting achieved exceptionally high satisfaction ratings by the 200-plus AUA members who attended, as well as generous praise for the host department.

The Program was a product of planning efforts by our Department's AUA members: Drs. Peter Winter, Nick Bircher, Barbara Brandom, Ryan Cook, Doris Cope, Peter Davis, Miro Klain, Phil Lebowitz, Etsuro Motoyama, Sivam Ramanathan, Jim

Snyder, and Ann Thompson. The meeting was opened in the Grand Ballroom of the Pittsburgh landmark William Penn Hotel, with a greeting by Department Chair Leonard Firestone, MD and our (then new) Senior Vice Chancellor/Dean Arthur Levine, MD acknowledging the eminence and contributions of our Department in Pittsburgh, the challenges facing our field today, and his resolute support of the AUA's mission to promote academic excellence in anesthesiology, critical care, and pain medicine.

In the ensuing two days, the "Host Program" featured riveting presentations by Alison Cole, PhD, Program Administrator for Anesthesiology at the National Institute of General Medical Sciences; Cyril Wecht, MD, Allegheny County's famous coroner; Marlene Behrmann, PhD, a cognitive neuroscientist at Carnegie Mellon University; and, Pradeep Khosla, PhD, Director of the CMU Robotics Institute. Two Plenary Lectures are an AUA tradition; these were delivered by Dennis Choi, MD, PhD, Professor and Chair of Neurology at Washington University and "excitotoxicity" pioneer ("Zinc and Brain Damage After Global Ischemia"), and Michael Klein, PhD, Professor of Chemistry and Director of the Center for Molecular Modeling at Penn



("Computer Simulation Studies of Membrane Proteins"). The Scientific Advisory Board culled 16 oral presentations from the nearly 100 abstract submissions; 2 of these 16 were invited from Dr. Xu's laboratory in our Department. Five others (Drs. Ferenc Gyulai, Robert M. Mihalek, Armando Rotondi, Brian Williams, and Yan Xu) were successful in the competition for poster presentations. The Educational Advisory Board, chaired by Doris Cope, MD (Professor and Clinical Director of our Department's Pain Medicine Program), included a presentation by Chuck Friedman, MD (Pitt's own Associate Vice Chancellor for Biomedical Informatics) entitled "Information Technology and Healthcare." The AUA President's Panel (organized by Jerry Reves, MD, Professor and Chair at Duke) also focused on information technology, specifically, anesthesia systems; outcome studies; and connectivity/information exchange.

At the end of each day, receptions were held to familiarize the AUA membership with the culture of our City; the sites chosen by the Program Committee included the John Heinz III Pittsburgh Regional Hospital Center, as well as the landmark Urban Ballroom at the Penn Hotel (a masterpiece of Art Deco design). Finally, the "spouse program" featured visits to several splendid, world-class destinations that w Pittsburghers often take for granted: Fallingwater, the Warhol Museum, the Duquesne Incline, Clayton, and the Frick Art Museum.

In financial terms, the meeting was (thankfully) a "break-even" for the AUA. But more than one attendee remarked that the Pittsburgh meeting "hit a new high-water mark in quality, all around." How appropriate for our River City!

Faculty wishing to learn more about the AUA, including its history and mission, can visit its website at [www.auaweb.org](http://www.auaweb.org).



Dr. Leonard Firestone opened the AUA Meeting as Chairman of our Hosting Department.



## Dr. Ake Grenvik Receives SCCM Lifetime Achievement Award

by Patti Boyle, Production Editor

At the Society of Critical Care Medicine's 29<sup>th</sup> Educational & Scientific Symposium in February the SCCM honored **Ake Grenvik**, MD, PhD, with its highest award. The Lifetime Achievement Award recognizes Dr. Grenvik's enduring contributions to the field of critical care medicine.

Dr. Grenvik is a graduate of the Karolinska Institute in Stockholm. He earned his PhD at the University of Uppsala, and also completed training in general and cardiothoracic surgery in his native Sweden. Dr. Grenvik continued his training in anesthesiology and critical care medicine when he immigrated to the US in 1968. Though widely traveled and known throughout the world in critical care medicine, Dr. Grenvik has devoted his entire career to the University of Pittsburgh School of Medicine, where he has served in numerous capacities since his first appointment as Visiting Associate Professor.

Dr. Grenvik is a former Director of the Multidisciplinary Critical Care Training Program, but over the years his students have included critical care nurses, respiratory therapists, and emergency medical personnel, as well as CCM fellows and medical students. He has served



*SCCM President Robert Taylor, MD presents the Society's Lifetime Achievement Award to Ake Grenvik, MD, PhD at the 29th Educational & Scientific Symposium.*

as Chief of the Division of Critical Care Medicine and as Medical Director of Presbyterian-University Hospital's ICU and Respiratory Therapy Department. Dr. Grenvik's work is extensively published in journals, books, films, and video/ audio tapes. His research interests run the gamut from clinical care issues, to ICU staffing and management concerns, to outcomes research. He has also served in an editorial capacity for numerous journals and textbooks.

Dr. Grenvik has been active in serving on committees and as a consultant — both at UPMC and on the national and international society levels — for issues such as organ and tissue transplantation, ethics and human rights, trauma and critical care. Distinguished Service Professor of Critical Care Medicine for the past five years, Dr. Grenvik maintains membership in many professional associations. He is a founding member and past president of the Society of

Critical Care Medicine.

The Department would like to recognize Dr. Grenvik and thank him for his life of unparalleled service and achievement in the field of anesthesiology and critical care medicine. Congratulations, Dr. Grenvik, on your well-deserved award!

## Alumni Honors

Two graduates of the MCCTP were among the recipients of Distinguished Service Awards conferred at the American College of Critical Care Medicine's Awards Convocation 2000, held at the SCCM Symposium in Orlando. John Hoyt, MD and Dan Thompson, MD both completed fellowships in critical care medicine at UPMC. Drs. Hoyt and Thompson both hold faculty appointments in our School of Medicine and continue to contribute to our MCCTP.

## Board Certified

The following MCCTP alumni have passed their respective specialty board examinations: **Jan Kasal**, **Abrar Khan**, **Sava Nemi**, and **Ramesh Venkataraman**, Internal Medicine; **Penny Sappington**, Infectious Disease; and **Sarah Hussain**, Nephrology. In addition, Pediatric Critical Care Medicine Fellow **Hulya Bayir** passed the Board exam in General Pediatrics.

## Dr. Tisherman Wins Award for Excellence

The Society of Critical Care Medicine presented its Shubin-Weil Award for Excellence to Samuel A. Tisherman, MD at the SCCM's National Meeting in Orlando, FL in February. This award is named in honor of Dr. Max Harry Weil and in memory of his close collaborator, Dr. Herbert Shubin. Dr. Weil (along with Drs. Peter Safar, Peter Winter, Ake Grenvik, and others) was one of the founders of the SCCM. The recipient of the Shubin-Weil Award is selected for a combination of attributes that model excellence both in teaching and in the clinical practice of critical care medicine. The award recognizes the recipient as an outstanding clinician/teacher who, by example and leadership, has substantially furthered the expert and appropriate use of life-support interventions.



*Sam Tisherman, MD receives the Shubin-Weil Award from Max Harry Weil, MD, SCCM Founding President.*





Raymond Planinsic

## Dr. Raymond Planinsic Directs HTA

Raymond M. Planinsic, MD was appointed to succeed Yoogoo Kang, MD as Director of the Hepatic Transplantation Anesthesiology (HTA) Division during the summer of 1999.

Dr. Planinsic's immediate goals for the Division include continuing to provide world-class care for patients with end-stage liver disease who are referred to UPMC for transplantation. This care includes preoperative evaluation and risk assessment, collaboration (with transplantation surgeons and hepatologists) in candidate selection, and intraoperative anesthetic management.

Another Division goal is to continue to provide excellent opportunities for residents and fellows to learn about the perioperative care of patients with liver disease. Since Dr. Planinsic assumed Division leadership, the Hepatic Transplantation Anesthesiology manual has been updated, and the new Director plans to revise and update the HTA resident lecture series, as well. Members of the Division also propose collaboration with the divisions of Transplantation Surgery and Hepatology, along with CCM faculty from the Liver Transplant ICU, in the publication of a textbook on liver transplantation. This text will

complement the two texts already written by UPMC physicians in the fields of renal and small bowel transplantation, thus completing a series of texts in the field of transplantation from UPMC. Current HTA faculty, along with alumni from the Division, will be responsible for the anesthesiology section. This major part of the text (in the field of hepatic transplantation anesthesiology) is aimed as the revision of the Department's 1986 book, edited by Drs. Peter Winter and Yoogoo Kang.

Dr. Planinsic also plans to increase clinical research in liver transplant anesthesiology at UPMC Presbyterian. In collaboration with the members of the HTA Division and with Transplantation Surgery, he has secured a research contract for a Phase IIb/III clinical trial of a bioengineered clotting factor. The agent is used to reduce intraoperative bleeding during orthotopic liver transplantation.

Under Dr. Planinsic's direction, the HTA Division is also seeing an upgrade of the equipment required for the intraoperative care of liver transplant patients. Last fall, the Division purchased a new transesophageal echocardiography monitor, along with 10 new thromboelastography machines and computers. Dr. Planinsic also plans to update the databases

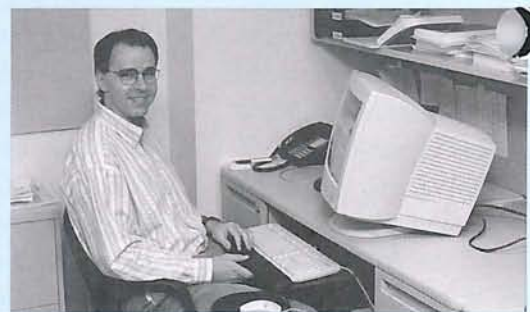
for preoperative and postoperative HTA services, for both clinical and research purposes.

Dr. Planinsic received his medical degree from Mount Sinai School of Medicine in New York City. Board certified in both internal medicine and

anesthesiology, he joined the faculty at UPMC in January 1993. Other members of the HTA Division include Drs. Shushma Aggarwal, Charles Boucek, Ibtesam Hilmi, and Susan Milroy.

## CCM Hosts Researcher from Zurich

The Department of Anesthesiology/CCM welcomes **Vladimir Kaplan, MD**, of Zurich, Switzerland as Visiting Research Assistant Professor in the Division of Critical Care Medicine. Dr. Kaplan is an accomplished researcher who has published several papers on various topics in pulmonary and critical care medicine. He is interested in acquiring more experience in research, particularly in epidemiology and investigation of costs



*Vladimir Kaplan, MD of Zurich, Switzerland, visiting research assistant professor in the Division of Critical Care Medicine.*

and outcome in intensive care. Dr. Kaplan is board certified in Internal Medicine and Pulmonary Medicine and has recently taken the board exam in Critical Care Medicine. He and his wife Zuzana, who is an anesthesiologist, were born in Czechoslovakia; both currently hold positions at the University Hospital in Zurich. While at the UPMC, Dr. Kaplan will be collaborating with Dr. **Derek Angus**, examining factors influencing ICU-related outcome in community-acquired pneumonia by performing a meta-analysis of numerous studies in this field. The investigators are also exploring methodological issues in the area of meta-analysis data acquisition. Dr. Kaplan's visit is supported by a stipend from the University of Zurich.



## Department Gains Research Asset in Dr. Russ Delude

When the Department recruited Mitchell Fink, MD as the new Chief of Critical Care Medicine, it was also successful in persuading his colleague, Russell Delude, PhD, to accompany him to Pittsburgh. Dr. Delude is a molecular biologist and immunologist with interests in intracellular signal transduction, inflammation, sepsis, and epithelial biology. He received his undergraduate training at Worcester Polytechnical Institute, better known as WPI, in Massachusetts, and earned a graduate degree in molecular biology at Vanderbilt University in Nashville. He was awarded the prestigious Evans Memorial Postdoctoral Fellowship from Boston University Medical School where he performed research at Boston City Hospital in the laboratory of Douglas Golenbock, MD. Dr. Golenbock is an infectious disease specialist studying signaling triggered by the interaction of lipopolysaccharide (LPS; endotoxin) with cell-surface receptors on monocytes and macrophages.

After leaving Dr. Golenbock's laboratory, Russ joined Dr. Fink's laboratory at the Beth Israel Deaconess Medical Center and Harvard Medical



*Russell Delude, PhD in the laboratory he shares with Dr. Mitch Fink. The lab is being renovated and outfitted to accommodate the researchers' cellular and molecular biological studies.*

School. Less than 18 months after arriving at Harvard, Russ obtained an RO1 award from the NIH, establishing his credentials as a fully independent investigator. Even though he has been at Pitt for only a short time, Russ has already proved his enormous value to the CCM Division by helping Dr. Derek Angus write a major RO1 application that is currently undergoing review at the NIH. Russ is also a co-investigator on Dr. Fink's RO1 grant, as well as Dr. Fink's component of the Trauma Center Grant directed by Dr. Tim Billiar (Chairman, Department of Surgery). Russ is an author or co-author of 14 peer-reviewed papers, including major publications in such prestigious journals as the *Proceedings of the National Academy of Sciences USA*, the

*Journal of Biological Chemistry*, the *Journal of Immunology*, and *Gastroenterology*.

Dr. Delude and Dr. Fink occupy 1000 square feet of laboratory space on the tenth floor of Scaife Hall. This laboratory space is currently being renovated and outfitted for cellular and molecular biological studies. In addition, Drs. Delude and Fink are actively recruiting post-doctoral research fellows to assist with their research program.

## International Meetings

### Dr. Schaefer Co-Moderator at International Forum

The Laerdal Research Foundation sponsored an international forum in December 1999 on the role and opportunity of simulation in airway management training. The forum was held at the historic Utstein Abbey in Norway. Invited participants included representatives from various countries and professional societies related to trauma, anesthesia, and critical care medicine. **John J. Schaefer, MD**, Director of the Department's Human Simulation Center, was an invited co-moderator at this meeting. Dr. Schaefer is co-inventor of one the new simulators used in teaching difficult airway management and has developed curricula and performance-evaluation tools related to its use. At the Laerdal forum Dr. Schaefer made presentations on the role and opportunity of simulation in training and educational research, and also discussed the simulation training experience in Pittsburgh. This year he has been invited to speak on simulation at the 13<sup>th</sup> Annual Trauma Anesthesia and Critical Care Symposium in Germany, at Airmed 2000 in Norway, and at the international meeting of the Society for Airway Management in Montreal.



## Dr. Pei Tang Receives NIH RO1 Grant

The century-long quest for the mechanism of general anesthesia remains a clinical and scientific challenge. Although extensive studies suggest that



*Pei Tang, PhD recipient of a National Institutes of Health RO1 grant.*

general anesthetics exert their action by interacting with excitable membrane proteins in the central nervous system, the characteristics and molecular nature of this interaction remain largely unknown. Pei Tang, PhD, Associate Professor of Anesthesiology and Pharmacology, has been awarded an RO1 grant from the National Institutes of Health for her research entitled "Anesthetic sites in transmembrane peptides by NMR."

In Dr. Tang's study, two well-characterized channel-forming peptides, gramicidin A and the M2 segment of nicotinic acetylcholine receptors, are used as simplified models of transmembrane proteins to elucidate the possible details of anesthetic-protein interaction, using state-of-the-art nuclear magnetic resonance techniques. The project focuses on three specific aims: 1) to identify the unifying characteristics of specific anesthetic interaction with channel-forming peptides; 2) to determine the dose-dependence of anesthetic modulation of peptide-solvent interaction and channel structure; and 3) to relate functional

effects on the channels with direct anesthetic-peptide structural interactions and conformational changes.

The ultimate goal is to advance understanding of the molecular mechanism and site of general anesthesia, from the structural and protein-dynamics perspective. Along with Dr. Yan Xu in our Department, Dr. Tang is responsible for the School of Medicine's only high-resolution NMR facility.

## Division of Critical Care Medicine Receives First Laerdal Center Grant

**Acute Care Medicine: From Bench to Bedside and Beyond," Michael R. Pinsky, MD Program Director**

The objective of this Center Grant is to continue to develop an integrated research program to assess the processes of acute illness as they affect cardiovascular function and outcome.

"Since researchers in the Division of Critical Care Medicine are performing several inter-related projects that comprise an overarching theme of mechanisms of disease and treatment in acute care medicine, forming them into a program project seems to be the logical next step," says Dr. Pinsky. "We feel that these studies in cardiopulmonary, renal disease, and outcomes research reflect the spirit of the Laerdal funding process because they address clinically relevant issues from the perspective of disease mechanism to reach at realistic patient care advances."

Although our Department has previously received grant support from the Laerdal Foundation for many single research projects, this is the first time that the Foundation has decided to move from

single-project to program-project funding. With these moneys the Division plans to complete numerous collaborative studies in a more efficient fashion.

## CCM Facilities in Scaife Hall Enhanced for Large-Scale Research

The north hall of the 6<sup>th</sup> floor Scaife, which houses offices of the Division of Critical Care Medicine, is in the middle of an extensive, three-stage restructuring, which began in November 1999. By the time of this printing, the hallway and internal space will be two-thirds complete. The space is being renovated into a series of state-of-the-art research offices, computer facilities, and conference rooms to house investigators involved in the three NIH-funded RO-1 projects on Outcomes in Critical Care, led by Drs. Derek Angus, Luke Chelluri, and Armando Rotondi. Our Multidisciplinary Critical Care Research Training Program (T32, funded by the National Heart, Lung, and Blood Institute and directed by Dr. Michael Pinsky) will also be housed in this space. The project will serve to unify the numerous clinical and research staff and fellows who are now widely dispersed throughout the Medical Center. Ms. Deborah Sparrow, the Chairman's Administrative Assistant for Special Projects, has overseen this ambitious construction program, working closely with faculty and administrative staff from the CCM Division to insure smooth transition from construction chaos to new office space. Construction is scheduled for completion in April 2000.





Ferenc Gyulai

### Dr. Gyulai Receives Prestigious IARS and NIH Awards

The International Anesthesia Research Society (IARS) presented its prestigious IARS Clinical Scholarship Award for 2000 to Dr. **Ferenc Gyulai** for his application entitled "Anesthetic Mechanisms by *In Vivo* Human Brain Imaging." In the same month, Dr. Gyulai was also notified that his mentored Clinical Scientist Development Award (KO8) on the same topic was funded until 2004. Dr. Gyulai's training mentors are Drs. Mark Mintun and L. Ward Firestone.

Dr. Gyulai's project focuses on dissecting the GABA<sub>A</sub>-receptor hypothesis of general anesthetic action in the living human brain. Although abundant *in vitro* data support that the GABA<sub>A</sub>-receptor is an important target for general anesthetics, the relevance of data derived from such models remains untested in humans. Using positron emission tomography (PET), Dr. Gyulai's group recently showed that isoflurane enhances GABA<sub>A</sub>-receptor ligand binding *in vivo* in the human brain, in a dose-dependent and specific manner. This was the first human, *in vivo* demonstration that a neuroreceptor population undergoes a change in response to anesthesia. To elucidate the mechanism of this

enhancement, Dr. Gyulai will use state-of-the-art PET technology to test the **specific hypothesis** that the volatile anesthetic isoflurane specifically and dose-dependently increases GABA<sub>A</sub>-receptor *apparent affinity* for its ligand <sup>11</sup>C-flumazenil. The *functional relevance* of these effects will be tested by measuring regional neuronal metabolism using <sup>18</sup>F-deoxyglucose PET in the presence and absence of 1.0 and 2.0 MAC isoflurane. The GABA<sub>A</sub>-receptor hypothesis predicts that general anesthetics would produce *quantitatively similar* dose-dependent effects on GABA<sub>A</sub>-receptor conformation and regional cerebral metabolism. The *specificity* of these effects on receptor conformation and neuronal metabolism will then be determined by measuring GABA<sub>A</sub>-receptor affinity and density in the presence of general anesthetics that do not affect the GABA<sub>A</sub>-receptor, such as nitrous oxide + IV fentanyl.

### Dr. Statler Receives Laerdal Grant

**Kimberly Statler**, MD received a Laerdal Grant of \$7500 for her project: *MRI assessment of cerebral blood flow and calcium accumulation after traumatic brain injury in rats: Effect of isoflurane versus fentanyl.*

### Dr. Clermont Awarded Founders Grant

**Gilles Clermont**, MD has been awarded one of only three annual Founders Grants sponsored by the Society of Critical Care Medicine. Dr. Clermont's grant was awarded in the area of health services research-related



Gilles Clermont, MD receives an SCCM Founders Grant, presented by Society President Robert Taylor, MD.

projects in critical care. Founders Grants provide an opportunity for investigators to acquire funding for salary support for one year, with a second year of support based on competitive renewal. The award was presented Feb. 12 at the annual meeting of the SCCM in Orlando, Fla. Dr. Clermont's study aims to determine the impact of full-time intensivists, and of ICU management type (closed vs. open), on outcome and resource use in critically ill patients. This research will make use of the Project Impact database, with information on more than 50,000 ICU admissions, including the type and staffing level of the intensive care units.

### Promotions

**Rita Patel**, MD was promoted to Associate Professor of Anesthesiology/CCM, effective July 1, 2000.

**Erin Sullivan**, MD was promoted to Associate Professor of Anesthesiology/CCM, effective February 1, 2000.

**John Williams**, MD was promoted to Associate Professor of Anesthesiology/CCM effective May 1, 2000.

**Sten Rubertsson**, MD, a former CCM fellow, was recently promoted to Associate Professor at the University of Uppsala School of Medicine in Sweden.





Barbara Brandom

LEFT TO RIGHT:  
Derek Angus  
Ann Thompson  
Steven Orebaugh  
Peter Safar



## Barbara Brandom becomes MH Registry Medical Director

Barbara W. Brandom, MD, Professor of Anesthesiology/CCM at Children's Hospital of Pittsburgh, has been named Medical Director of the North American Malignant Hyperthermia Registry. Dr. Brandom has been interested in MH since early in her tenure at Children's Hospital. MH is a pharmacogenetic disease that usually remains subclinical, but can become lethal in the presence of certain anesthetic drugs. The condition is familial, but the precise mode of inheritance is not yet known. It is likely that several different genetic loci contribute to the expression of this syndrome.

The MH Registry provides database services to diagnostic and referral sites. Founded in Hershey, PA in the mid-1980s by Dr. Marilyn Larach, it recently moved to Pittsburgh, in response to a proposal submitted by Dr. Brandom. "There are MH-susceptible families in our region," she says, "and deaths from MH were recorded in our hospitals in the 1960s. Dantrolene, the specific antidote for an acute episode of MH, was studied here in the 1970s."

Dr. Brandom's involvement with MH was born of a professional interest in the anesthetic complications frequently experienced by pediatric patients, and was nurtured by the desire to save lives by early intervention. She has been a volunteer consultant for the Hotline of the Malignant Hyperthermia Association of the USA (MHAUS) since 1992. MH Hotline Consultants are physicians who specialize in MH crisis treatment and can provide additional expertise to medical professionals — pre-, post-, or intra-operatively — on a 24-hour basis, 365 days a year. In 1997, Dr. Brandom assumed the role of Chair of the Hotline's Quality Assessment Committee. Her involvement with MHAUS led to other collaborations, including a case-control study using data in the MH Registry and collection of samples for genetic analysis of MH susceptibility. The possibility of developing a prospective genetic test for MH susceptibility in patients is one reason that the Registry was moved to Pittsburgh. The Registry is the largest and most complete repository of the phenotypic data on MH that exists in North America.

## Faculty Briefs

**Derek C. Angus, MB, ChB**, was a guest co-editor of the Winter 1999 issue of *New Horizons: The Science and Practice of Acute Medicine*, a journal published quarterly by the Society of Critical Care Medicine. The Winter 1999 issue was entitled "Cardiac Surgery and Critical Care Medicine."

**Ann Thompson, MD**, former Secretary of the Society of Critical Care Medicine, has been elected to a one-year term as the Society's President-Elect. She will assume the office of President of the SCCM in 2001.

**Steven Orebaugh, MD** organized and conducted a seminar and workshop on Difficult Airway Management for the meeting of the American Academy of Emergency Medicine in San Antonio, Texas in February.

**Peter Safar, MD** was the invited keynote speaker for the 3<sup>rd</sup> International Symposium on Coma and Death, which convened in Havana, Cuba in February.

The American Heart Association invited Safar Center for Resuscitation Research investigators to participate in discussions concerning proposed changes in guidelines for resuscitation and emergency care. **Drs. Peter Safar, Nicholas Bircher, Wilhelm Behringer, Robert Hickey, Lawrence Katz, Uwe Ebmeyer, and Fritz Sterz** — all current or former Safar Center researchers with a background in cardiac arrest and CPR — provided input on the issues of the AHA's "Guidelines 2000" at the meeting this past February in Dallas, Texas.

**Drs. Mitchell Fink and Michael Pinsky** of the Division of Critical Care Medicine were invited speakers at the 5<sup>th</sup> World Congress on Trauma, Shock, Inflammation and Sepsis in Munich, Germany, Feb. 29 to Mar. 4 this year. Other speakers included Drs. Tim Billiar, Chairman of the Department of Surgery, Andrew Peitzman, director of the UPMC Trauma Center, and former MCCTP fellows Perren Cobb, MD and Anthony Suffredini, MD.

**Mitchell Fink, MD** was one of six Millennium Speakers at the Society of Critical Care Medicine's 29th Educational & Scientific Symposium in February. Dr. Fink spoke on the topic "Exploring the Cellular Basis for Organ System Dysfunction in Sepsis and Shock."







Peter Winter

### Dr. Winter Assumes IRB Vice-Chairmanship

**P**eter Winter, MD, Professor Emeritus and former Department Chair, has been elected to serve as Vice Chair of the University of Pittsburgh School of Medicine's Institutional Review Board. The IRB has the primary responsibility of protecting patients and subjects in clinical research and assuring compliance with federal regulations governing clinical research. The Board assists in facilitating clinical research at the Medical Center.

**D**r. Winter has had prior experience in the field, having chaired the Institutional Review Board at the University of Washington. He has been a member of this Board at the University of Pittsburgh School of Medicine for the past year. In the long ago, Dr. Winter trained under the chairmanship of Dr. Henry Beecher, Dorr Professor of Anesthesia Research at the Massachusetts General Hospital. Dr. Beecher's seminal work on misconduct in clinical research led current IRB process and standards adopted worldwide.

Margaret Satchell  
Mark Hall  
Kim Statler

### Safar Center and PCCM Well-Represented at SCCM

**S**afar Center for Resuscitation Research investigators presented 17 papers at the SCCM meeting, nine of these in traumatic brain injury research. Eight papers resulted from Dr. Safar's work in suspended animation and hemorrhagic shock. Notably, 16 of the 17 papers were presented by fellows. In addition, there were four other abstracts from PCCM fellows and faculty not located at the Safar Center. Combined, the Safar Center and PCCM Division presented 21 papers at the meeting. Finally, fellows received the following awards: Margaret Satchell, MD received the Scientific Award (Robert Clark, mentor). This was the highest-scoring abstract presented at the meeting. Mark Hall, MD won the award in Pediatrics (Joseph Carcillo mentor). Randy Ruppel, MD, Neal Seidberg, MD, and Kim Statler, MD received educational scholarships.

### CCM Faculty Present Abstracts

**F**aculty of the Division of Critical Care Medicine presented the following abstracts at the SCCM Symposium:

Chelluri L, Mendelsohn AB, Sirio C, Belle S, Donahoe M, Pinsky MR, Reeder S, Rotondi A, Schulz R, Angus D, Wisniewski S. *Age and hospital costs in patients receiving prolonged mechanical ventilation.*

Chelluri L, Im K, Sirio C, Donahoe M, Belle S, Pinsky MR, Reeder S, Rotondi A, Schulz R, Angus D, Mendelsohn AB, Wisniewski S. *Impact of insurance status on reimbursement for patients requiring prolonged mechanical ventilation (MV).*

Clermont G, Angus DC, Linde-Zwirble WT, Pinsky MR. *Gender differences in the use of mechanical ventilation.*

Delgado E, Hete B, Miro AM, Hoffman LA, Tasota FJ, Pinsky MR. *Continuous bi-directional tracheal gas insufflation (Bl-TGI) eliminates TGI induced auto-peep and maintains CO<sub>2</sub> elimination efficiency.*

### International Liver Transplantation Society

**T**he Fifth Congress of the International Liver Transplantation Society (ILTS) was held in Pittsburgh August 26-28, 1999. **Raymond Planinsic**, MD, Director of Hepatic Transplantation Anesthesia at

UPMC Presbyterian, participated as a panel member in a plenary session entitled "Anesthesia/Critical Care Medicine on Hepatopulmonary Syndrome and Pulmonary Hypertension." The Congress also featured a Gala Reception and Banquet honoring Thomas E. Starzl, MD, PhD the University of Pittsburgh's pioneering liver transplantation surgeon.

**A**ccording to Yoogoo Kang, MD, the Society's founding president and Dr. Planinsic's predecessor, the ILTS was founded in 1990 by a group of committed individuals at the liver transplantation meeting in Pittsburgh. The goal of the Society is to raise the standard of care for patients requiring liver transplantation and to promote education and research by collaborative exchange of information within the medical and scientific communities, as well as by dissemination of information to the public. Dr. Kang is now Merryll and Sam Israel Professor and Chairman of the Department of Anesthesiology at Tulane University School of Medicine, New Orleans.





John Kellum  
Michael Pinsky

## International Symposium on Intensive Care and Emergency Medicine

Three faculty members from the Division of Critical Care Medicine participated in the 20<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine held in Brussels, Belgium March 21-24. Dr. **Derek Angus** addressed a plenary session on the opening morning of the symposium entitled "The cost of dying." Drs. **John Kellum**, and **Michael Pinsky**, as well as Dr. Angus, presented talks and tutorials on topics such as: clinical trials, acute renal failure, gastric tonometry, mechanical ventilation, sepsis, cost-effectiveness, evidence-based medicine, and intensive care beyond 2000.

## Abstracts Presented at IARS Congress

Four abstracts from UPMC Presbyterian and Magee Women's Hospital were accepted for presentation at the 74<sup>th</sup> Clinical and Scientific Congress of the International Anesthesia Research Society March 10-14 in Honolulu. The reported results are all variants of clinical investigations, ranging from population epidemiology to *in vivo* functional brain imaging.

Lauri J. Adler, MD, Gordon Mandell, MD, Sandy Makishima, MD, Manuel Vallejo, MD, and Sivam Ramanathan, MD presented *Review of 100 Parturients Requiring Intensive Care Unit Admission and Anesthesia Involvement from 1992-1995*.

Jiro Kurata, MD, PhD, Keith R. Thulborn, MD, PhD, Ferenc E. Gyulai, MD, and Leonard L. Firestone, MD's presentation was entitled *Pain-Induced Cerebral Activation in Very-High-Field Functional Magnetic Resonance Imaging*.

Manuel C. Vallejo, MD, Sandra Makishima, MD, Gordon Mandell, MD, and Sivam Ramanathan, MD presented their report, *Efficacy of 0.05% or 0.07% Ropivacaine for Walking Epidural Analgesia*.

Kenichi Tanaka, MD, Raymond Planinsic, MD, Jose A. Carranza, MD, and Yoogoo Kang, MD presented *Effect of Epinephrine on Clot Formation: An in-vitro Thromboelastographic Study*.

## Surgical Colleagues Remembered

The UPMC recently mourned the passing of two of its most distinguished surgeons, father and son Drs. James and Charles Watson. James Rose Watson, MD, retired professor of surgery, died Oct. 31, 1999. Surviving the elder Dr. Watson by less than three months, Charles Gray Watson, MD died on Jan 16, 2000 at the age of 63. Faculty of the Department of Anesthesiology and Critical Care Medicine may remember either or both of the Watsons for their surgical expertise, their professional collegiality, or their personal warmth. The University of Pittsburgh School of Medicine's endowed Watson Professorship was established in honor of the family that continues to produce generation after generation of fine surgeons.

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