Drs. George Gregory (center), Rod Phibbs (left) and Joe Kitterman (right) honored for discovery of CPAP by the Neonatal Society in the United Kingdom.

UCSF Neurointensive Care Nursery opened in 2008.

Pictured (l-to r): Drs. David Rowitch, Tom Shimotake, Susan Johnson, NNP, Kelly Fagen, RN.
Dear Faculty, Fellows and Staff,

In the annual letter, I will cover important developments, the potential for financial impact on the Division given the current economic situation in California, and our prospects and plans for progress in the coming year. The photo above is from the 2009 Tooley dinner in honor of Dr. Roberto Romero (pictured front row center between (left) Dr. Linda Guidice, Chair of OB/Gyn and Reproductive Science, and (right) Dr. Diana Farmer, Chief of Pediatric Surgery at UCSF.

I. Impact of Economic Stress, or 寧為太平犬，不做亂世人

As we are all aware, the University of California is suffering under the economic strain and this will affect UCSF, the Department of Pediatrics and the Division. The regents have already imposed significant cuts in state support going to the departments and salary reduction to faculty, as well as a hiring freeze for staff. Due to these stresses and unfavorable changes in payer mix, coupled with over optimistic predictions for revenue growth, the Department of Pediatrics is facing significant budget deficits estimated in the range of $3-5 million in the upcoming year. All divisions were asked to make cuts in
their annual operating budget. The Division of Neonatology was set a target by the Department of Pediatrics for cuts, which I think will be manageable because of enhanced extramural support for some faculty, effort reduction and cost-sharing with San Francisco General Hospital (SFGH) and other divisions. Through these measures we have already surpassed our target spending reductions, and I think we are in a sound position looking forward, even anticipating the possibility that further cuts will be required. No changes in staffing are envisaged. Positive developments that could further assuage the situation in the Division include access to new discretionary funds, access to new development funds, backstop agreements with community/UCSF host institutions and enhanced grant support for fellows, faculty and staff. I remain optimistic about our ability to maintain, if not increase, current staffing levels.

II. People

**Dr. Roberta Bruni.** Dr. Bruni has joined Cynthia Ewing at Natividad ICN as the second neonatologist. Dr. Bruni has recently relocated to California from Connecticut. With Dr. Bruni on board, we can anticipate more consistency in patient coverage at Natividad. Welcome Dr. Bruni!

**Dr. Sonia Bonifacio.** Dr. Bonifacio graduated from the Fellowship and will be based at Moffitt-Long Hospital. She plans to further investigate infants at risk for neurological injury in the context of the Neurointensive Care Nursery with mentor, Donna Ferriero. Dr. Bonifacio has focused on imaging techniques to help stratify patients at risk for severe neurological injury that have undergone hypothermia.

**Dr. Trevor Burt.** Dr. Burt graduated from the Fellowship and will be based at SFGH. Dr. Burt will continue his studies with Dr. Mike McCune that investigate the regulation of the immune system, in particular, regulatory T-cells.

**Dr. Janet Shimotake.** Dr. Shimotake has graduated from the Fellowship program and will be leaving to take a position at Kaiser Permanente San Francisco where she will join Dr. Carlos Botas. Janet has done a wonderful job as a fellow and her research yielded interesting findings on vasculogenesis in the setting of hypoxic ischemic brain injury. We look forward to ongoing contact with Dr. Shimotake.
**Dr. Ann Zovein.** Dr. Zovein trained in Neonatology at UCLA and was awarded a Pediatric Scientist Development Program Award for her research in embryonic vasculogenesis and hematopoiesis under the guidance of Luisa Iruela-Arispe, PhD. Dr. Zovein was selected after a nationwide open search for a laboratory position at the Cardiovascular Research Institute (CVRI). She will be a new/joint recruit between CVRI and Neonatology. We anticipate that Dr. Zovein will be relocating to San Francisco sometime in 2010.

**Transitions:**

![Drs. Roberta Cilio and Olivier Danhaive (2009 Tooley dinner).](image)

**Drs. Roberta Cilio and Olivier Danhaive.** Drs. Cilio and Danhaive have been visiting this past year from the Bambino Gesú Hospital in Rome, Italy, and they will be returning there this summer. While at UCSF, Dr. Danhaive has engaged in research with Phil Ballard and he has been able to present his work at the most recent SPR meeting. Dr. Danhaive was based mainly at SFGH. Dr. Cilio has been involved in development of our neurophysiological monitoring and interpretation systems in the NICN. Àrrivedérci for now, Olivier and Roberta.

**Dr. Bob Piecuch and Rod Phibbs.** Drs. Piecuch and Phibbs will both be reducing their effort in the course of this year. Rod has announced his retirement from UCSF as of December 2009 after a long career of distinguished contributions.

**III. Places**

No new community ICN sites have been added. Strategic planning for further development in the community ICNs is ongoing. In the long-term, it seems critical to maintain relationships with Santa Rosa Memorial Hospital, Valley Care and Natividad to help preserve a referral base in the surrounding areas.

**The follow-up clinic** is becoming busier as we start to see NICN patients along with our usual coverage for infants <1.5 Kilograms. Fortunately, the follow-up clinic has been protected against any budgetary cuts for the coming year and we have plans to possibly expand our services to provide satellite clinics – two new sites. Also, there is interest in increasing neurology integration with the follow-up clinic and we anticipate recruitment for an Associate Director of the clinic in the coming year.
IV. Vision for the Division

The leadership has generated an inclusive plan for organization of major efforts within the Division to provide career development opportunities, falling into three categories: 1) clinical and administrative, 2) training, 3) clinical and basic/lab-based research.

1) Clinical and Administrative

Tooley ICN. The Tooley ICN has seen a busy year with a 20% increase in our patient census compared with 12-18 months ago. While the increase in patient census is also reflected in revenue, efforts are underway to improve consistency in our billing and revenue collection procedures, according to Yao Sun, Director of Clinical Programs.

Drs. Kris and Yao Sun at 2009 Tooley dinner.

The Tooley ICN has been recognized in several ways for its excellent care. First, UCSF Neonatology was ranked #12 in the country in US News & World Reports. Second, the ICN tied for 1st place in the Peoples Choice satisfaction survey at UCSF. Lastly, our strong reputation for clinical research internationally was emphasized with an award to Drs. George Gregory and colleagues, Joseph Kitterman and Rod Phibbs, for their seminal 1971 paper describing CPAP (see cover).

The Neonatology website has been launched, thanks to help from Colin Fahrion, and can be accessed at www.neonatology.ucsf.edu. Please check out the site and provide feedback and comments to Drs. Rowitch, Sun and Shimotake as we endeavor to make this a useful and (eventually accurate) source of information.

Quality Improvement: Thanks go to Mike Kuzniewicz who has taken leadership in data collection and numerous QI projects within the ICN.

A major focus continues to be issues related to Infection control. Our rate of bloodstream infections has decreased from 5.9/1000 live days to 2.2/1000 live days in the past year. Further efforts are underway to reach our goal of 0% bloodstream infections. Ongoing hand hygiene education will have the goal of increasing our compliance for proper hand washing and antiseptic gel application.
Another important project is the **Neurointensive Care Nursery (NICN)**, which has accepted 68 referrals for therapeutic hypothermia since opening in July 2008. The aim of this service is to develop a co-management model with neurology and a strong nursing component to optimize delivery of neuro-protective therapies as well as serve as a research platform for future clinical trials of new approaches that could optimize care for infants at risk for neurological injury. A retreat is planned this summer to further develop goals of the NICN. I would like to acknowledge efforts of **Drs. Tom Shimotake, Sonia Bonifacio, Sally Sehring, Fernando Gonzalez, Bob Piecuch, Yao Sun**, and **Hannah Glass** who have taken major roles in implementing NICN protocols. *Sue Pelsoquin* has led the nursing effort and is building a superb team of NICN nurses. The NICN has been featured in the local press on KGO-TV and in the San Francisco Chronicle during the past year. Look for upcoming coverage of the NICN in the journal *Nature* in the next few months.

These quality improvement efforts will help develop a higher standard of care for our patients. Our reputation for excellence will no doubt be further augmented by the move to the new **Mission Bay UCSF Children’s Hospital**. Plans for the new hospital are continuing including a vigorous development effort for new programs.

**Case of the Year?**

Humbly submitted for consideration is this year’s case of an infant that presented with apparent Maple Syrup Urine Disease, but turned out to have *Pseudo-Maple Syrup Urine Disease* due to maternal ingestion of fenugreek. A sweet outcome, to be sure.
2) Training Program

We are happy to welcome three new fellows to the program:

Mark Dzietko, M.D., completed his medical education at Humboldt-Universitat, Berlin Germany and his pediatric residency at Charite-Universitatsmedizin in Berlin, where he also completed his postdoctoral training. He has been active in research studying the role of erythropoietin in neurodegeneration and brain development, and at UCSF he plans to continue to train in this area with Donna Ferriero. He has worked in a clinical nursery setting for three years in Germany, with much of the last year being entirely in a University NICU. He and his wife are looking forward to relocating to San Francisco with their 3 year old son Emil.

Gavin Henderson, M.D., Ph.D. Gavin completed his undergraduate education at UC Davis, then his MD/PhD at The University of North Carolina School of Medicine, Chapel Hill. He worked in Ronald Swanstrom’s lab studying the role of pro gene mutations in HIV resistance to the protease inhibitor class of antiretroviral drugs, but he is now interested in exploring other areas of research in microbiology during fellowship.

Mark Peterson, M.D. completed his undergraduate and medical education at The University of Iowa, where he was a Howard Hughes Research Internship recipient. His undergraduate research focused on the response of microglia to trauma and/or epileptic activity in rat brain hippocampal slices. He trained in pediatrics resident at Stanford University, where he was awarded a Letter of Teaching Distinction for his teaching of medical students and recognized for his outstanding clinical performance. During fellowship, Mark intends to further his studies on the role of inflammatory cells during brain injury.

Other Fellowship News. Our fellowship selection for two slots through the match in 2010 is ongoing. Our fellowship slots are highly competitive with a current acceptance rate of about 1/25 applicants. Notable events in the training program this year included:
1) The Annual Fellows Retreat in which feedback to the Program was provided.
2) Our annual review of the program took place on June 17th with the Tooley Visiting Professor, Dr. Roberto Romero and all members of the Internal Advisory Board. This was
an exciting meeting in which the fellows presented their research and received useful comments.

3) The NICHD T32-funded Training Program is currently in its 30th year and we have resubmitted the competitive renewal of the training grant to continue our efforts. Our goal is also to try to expand Epidemiology and Bioinformatics into a new area of focus in the joint Neonatology–MFM program with leadership from Aaron Caughey, Tom Newman and Gabriel Escobar of the Kaiser-Permenente Division of Research.

4) Dr. Cindy Tran obtained a prestigious Pediatric Scientist Development Program fellowship. Congratulations, Cindy!

5) Dr. Kathleen VandenBerg has successfully developed training at UCSF for NIDCAP and APIB. The NIDCAP and APIB training center at UCSF is one of 16 worldwide centers in which training in evidence-based, individualized developmental and family centered care is provided. For further details consult our website.

3) Research

A) Clinical Research.

Senior investigators in the Division, Roberta Ballard and Ron Clyman will lead development of the clinical research program. Several active trials are ongoing in the nursery, such as BAMRI, PREMRI, Tolsurf pilot and so on. Moving forward, it will be important to better coordinate the many research studies in the ICN to support progress on as many projects as feasible with our patient population. Equally, we will be discussing systems that could help educate families to facilitate their participation in ICN-based research projects.

Roberta Ballard, Phil Ballard and Roberta Keller received the exciting news that the Tolsurf multi-center project will be funded and added to our repertoire of activities on the unit. This study opens many new opportunities for participation by Division Faculty and Fellows.

A major goal for the NICN interdisciplinary teams this year will be “getting the word out,” describing the unique knowledge and perspective we are developing in the form of research papers, clinical review and practice articles.
B)  Basic/Lab-Based Research

**Dr. Rowitch** will lead development and oversee lab-based investigation in the Division. This will measured by:

1. Traditional metrics such as papers published by the Division, extramural-funding obtained, honors and awards, and most importantly, new opportunities for fully independent lab-based investigators. In the latter respect, we will be interested to partner with outside departments and research units, such as CVRI, when appropriate.

2. Development of integrated programs for translational research, which incorporate both basic science and clinical research components. This idea is demonstrated by the historical links of the CVRI to the ICN. The Newborn Brain Research Institute (NBRI) was also conceived as a translational research project linked to the NICN. **Dr. Rowitch** and **Donna Ferriero** are helping to organize a UCSF Intellectual and Developmental Disabilities Research Center (IDDRC). This NICHD-funded program is designed to support core facilities, and have proposed new cores in neuropathology, neurogenetics, neuroimaging and informatics to help encourage new lines of patient-oriented investigation into human neurological disorders.

**William H. Tooley 2009 Lecturer – Dr. Roberto Romero**

Rowitch presents plaque of appreciation to Dr. Romero.

During the last weeks of June we were visited by Dr. Roberto Romero, Chief of the Perinatal Branch of NICHD, director of Intramural Program for Perinatology at the NIH and DHHS, Professor of Obstetrics and Genetics at Wayne State University. We all benefited from interactions with Dr. Romero who is prime a role model for academic research, an insightful administrator at NICHD and an exceptionally gracious person. The opportunity to have a perinatologist visit as the Tooley Lecturer this year also created for the first time a joint hosting of the dinner between Obstetrics, Pediatric Surgery and Neonatology. Dr. Romero’s visit has, I think, inspired us to consider ways that our inter-departmental efforts can be enhanced. We look forward to further interactions with Dr. Romero moving forward.
Dr. Mike Harrison (pictured with Gretchen Harrison) is one of the truly great innovators at UCSF, and gave an interesting and entertaining talk on the origins of Fetal Surgery and the Fetal Treatment Center at the 2009 Tooley dinner. This year, for the first time, the Tooley dinner was jointly hosted by the Division of Neonatology, the Department of Obstetrics, Gynecology and Reproductive Sciences, and the Division of Pediatric Surgery.

**Division Productivity 2008-present.** In the past 18 months the fellows have published 10 papers and reviews and the faculty have published 73 papers and reviews. See the Appendix below for further details. These numbers indicated that the Division continues to be a leader in academic productivity amongst our peer institutions in Neonatology in the country.

**In sum.** While the Division is under increased financial pressure, it appears that we can meet cuts that have been requested by the Department of Pediatrics without significant impact to the composition our faculty, fellows and staff. We have made progress in terms of clinical revenue, quality improvement and new models of clinical practice, which should continue to distinguish the division as a place of clinical innovation. In addition, clinical research and basic research is in a strong growth mode. There seem to be excellent opportunities for junior faculty to develop strong research portfolios in these areas. Junior faculty recruitment has also been continuing at an excellent rate. Given the financial pressures today extramural support will be of increasing importance as we move forward. We also plan to mount a more vigorous development campaign to provide additional avenues of support for our efforts.

Thanks to all of you for your superb work in the ICN, on the research bench and staff support offices during these busy and “interesting” times.

David H. Rowitch, MD, PhD, Chief of Neonatology
Appendix:
List of all peer-reviewed research papers and reviews published or in press from the past 18 months (2008-present)

FELLOWS

Bonifacio, Sonia

Burt, Trevor
3. Burt TD, Mold JM, Kappas A, McCune JM. Activation, proliferation and maturation of human T lymphocytes is induced in vitro by the Heme Oxygenase-1 (HO-1) inhibitor Tin Mesoporphyrin (SnMP), and requires interaction with CD14+ monocytes. Manuscript in preparation.

Jhaveri, Namrata
Premies Angels: Pictured (l-to-r) Drs. Sonia Bonifacio, Liz Rogers (in typical on call garb) and former Division faculty member, Shannon Hamrick.

Rogers, Liz

Sanders, Tim

Tran, Cindy

FACULTY

Ballard, Phil
Ballard, Roberta


Clyman, Ron


Gonzalez, Fernando


Monica Hajdena-Dawson


Hawgood, Sam


7. Chapters:

Keller, Roberta


Kitterman, Joseph


Kuzniewicz, Michael


Lee, Henry

Maltepe, Emin

Martinez, Alma
McCulley, David

Ballard, Tom Rando, Colin Partridge, Donna Ferriero and Linda Guidice

Partridge, Colin

Petryniak, Magda

Rowitch, David
5. Yang ZJ, Ellis T, Markant SL, Read TA, Kessler JD, Bourboulas M, Schüller U, Machold R, Fishell G, Rowitch DH, Wainwright BJ, Wechsler-Reya RJ. Medulloblastoma...
can be initiated by deletion of Patched in lineage-restricted progenitors or stem cells.  


Drs. Tippi MacKenzie and Sally Sehring.

Sehring, Sally


Shotkin, Alan


Sniderman, Susan

Taeusch, William

VandenBerg, Kathy