This issue celebrates our continued growth in research development in the department.

At a recent faculty meeting, department faculty agreed that together we wished to build a “Known Research Program” that would be recognized nationally as an Anesthesia Department that contributed significantly to research. To this end, we have started recruiting nationally for basic and clinical science anesthesiologists, in order to add to our current strengths and develop a critical mass of research-interested faculty. This will help develop our resident and fellow’s research interest and mentor junior faculty who are taking early steps in this area.

We already have significant bench strength in the number of faculty actively publishing in their areas of interest. To name a few, the Vice Chair of Research, Professor Sonia Vaida, continues to publish extensively on airway-related research, while Professor Piotr Janicki is mentoring multiple faculty, doing research and publishing widely on Genomic Wide Association Studies in areas such as Post-Operative Nausea and Vomiting. Dr. Dmitri Bezinover is continuing to publish work on liver transplantation-related liver perfusion, while Dr. Yakov Vorobeychik is researching and publishing on chronic pain interventions. Dr. Sanjib Adhikary is addressing acute pain and regional anesthetic techniques. Based on the Associate Vice Chair for Basic Science Research, Dr. Ruiz-Velasco’s expertise in Nociceptin research, various investigators such as Dr. Greg Weller and Dr. Kane High are looking at the role of this congener in the laboratory and patients. Further, Dr. Priti Dalal is continuing her interest in evaluating the pediatric airway and acute pain management in children, while Drs. Rao and Rajan are evaluating blood pressure measurement techniques. Simulation and Education research is ongoing by Drs. Lisa Sinz and Bosseau Murray. At last count, 18 of our now 56 faculty are involved in research of some form or other and we hope to extend this in future years.

As we further develop our research effort we are pleased to welcome, Dr. Diane McCloskey as our new research coordinator as well as Christopher Haskins, BS, David Marcus, BS, Lauren Miller, BS and Ruth Jarbadan, BS, who serve as new technologists in our laboratories. Christine Mulvey was hired into an administrative position to coordinate both the Clinical Simulation Center and department research activities. Recognizing the increasing management that a growing research program requires, we have also appointed Kathleen Gingrich, BS, to serve as Research Manager for the department. We are also very pleased that we were able to refurbish part of the “old simulation lab” into a new research lab for Dr. Daniel Morgan.

In November, Dr. Ruiz-Velasco chaired the first monthly Basic/Translational research meeting at which the different principals of research efforts presented, briefly, their ongoing research plans. This forum, which will be held monthly on a Friday afternoon, is open to all interested faculty and is a forum for the discussion of research ideas and problem solving for our growing basic/translational science group.
Basic Science Research

Sonia Vaida, MD
Professor of Anesthesiology & OB-GYN

The basic science research conducted under the leadership of Victor Ruiz-Velasco, Ph.D., has contributed greatly to the academic progress of our department. The main focus of the research in Dr. Ruiz-Velasco’s laboratory is to study mechanisms by which opioid receptors regulate Ca2+ channel function in neurons. His research, largely funded by NIH grants, has resulted in numerous publications in highly ranked scientific journals. The latest publication from his lab titled “Gβ2 and Gβ4 participate in the opioid and adrenergic receptor-mediated Ca2+ channel modulation in rat sympathetic neurons” was published together with Drs. Saifeldin Mahmoud and Jong Yun in the prestigious Journal of Physiology. This manuscript was among the Editor’s Choice papers from each of the first 10 dedicated Neuroscience issues of the Journal of Physiology.

Translational Research Laboratory

Daniel Morgan, PhD
Assistant Professor of Anesthesiology & Pharmacology

The primary focus of my laboratory is to better understand the receptor desensitization mechanisms that are responsible for tolerance to G-protein coupled receptor (GPCR)-directed agonists. In particular, my lab is working to elucidate the biochemical pathways responsible for causing tolerance to cannabinoid drugs such as Δ⁹-THC. To address this question we have produced mutant mice expressing a desensitization-resistant form of the cannabinoid receptor 1 (CB₁). These mutant mice lack putative phosphorylation sites for G-protein coupled receptor kinase (GRK), a kinase that is responsible for mediating desensitization of many GPCRs. This mutation prevents the CB₁ receptor from turning itself off when it is continuously exposed to an agonist such as Δ⁹-THC. Our mutant mice display reduced tolerance when they are given daily injections of Δ⁹-THC. Recent work from Chavkin and colleagues at the University of Washington has shown that c-Jun N-terminal kinase (JNK) is responsible for mediating acute tolerance to morphine, a ligand for the G-protein coupled mu opioid receptor. Since we find that tolerance is delayed but not prevented in our mutant mice we decided to explore whether JNK might mediate the residual tolerance observed in our mutant mice. We find that tolerance to the analgesic effects of Δ¹-TTHC is completely blocked when we treat mutants with an inhibitor of JNK. This finding identifies a second mechanism of CB₁ receptor desensitization that requires JNK signaling and suggests that coordinated action of both GRK and JNK signaling pathways are responsible for tolerance to Δ⁹-THC. My lab is currently identifying the targets of JNK signaling that are responsible for Δ⁹-THC tolerance. Since tolerance is a critical limitation to the use of Δ⁹-THC for the long-term treatment of pain in humans these findings have tremendous clinical importance for the treatment of pain with cannabinoid drugs.
Farewell and Thank You!

The Department of Anesthesia would like to bid a fond farewell to one of our beloved and long time coworkers, Karen Bowman. Karen has decided to retire after 36 years of service to Penn State College of Medicine and after 24 years working in the Department of Anesthesia. Karen started work at PSCOM back in February, 1976 where she spent one year in the Department of Radiology, then the next five years in Financial Management, and finally six years working for the Chair of Medicine prior to starting work in the Anesthesia Department. Karen has decided to pursue a Bachelors Degree at Penn State Harrisburg. The Department held a farewell reception in her honor; she will be missed!

Congratulations - Innovation Award!

Victor Ruiz-Velasco, Ph.D. was recognized on November 7, by members of the Penn State Hershey community to celebrate the spirit of innovation during the 2nd annual Innovation Awards.

The Innovation Awards recognized faculty whose ideas moved forward through execution of a licensing agreement, starting a company or earning a patent between July 1, 2011 and June 30, 2012.

This year at the ASA Run for the Warriors, our team consisted of thirteen talented athletes who were able to raise $870 towards this great fundraiser.
Chair’s Corner (continued)

To develop the research potential of our residents, Dr. Vaida heads the Resident Research Committee with Drs. Adhikary, Budde, Cherian and Singbartl. This committee oversees the research education and progress of each resident in their respective academic projects. The successful completion of a Resident Academic Project is a requirement for each resident to graduate from our residency program. The success of this project which requires as deliverables, a manuscript submitted in the format suitable for publication and presentation of this project during Grand Rounds is adjudicated by Associate and Full Professors in the department.

Since my last writing, further significant events have occurred. Foremost, we have had the 5 yearly reviews by the ACGME of our Core Residency Program, as well as our three fellowship programs, namely Chronic Pain, Adult Cardiac Anesthesiology and Pediatric Anesthesiology. Drs. Jill Eckert, Arne Budde and Carolyn Barbieri as well as Jenn Swierczynski and Doug McDonald, are to be congratulated on the fact that we have received word that the Core Program has been approved for the next 5 years. We also congratulate Drs. Pat McQuillan and Greg Weller with Linda Sanger for reapproval of the Pediatric Program, Dr. David Giampetro with Connie Williard for the Chronic Pain Program, and Dr. Kodavatiganti with Linda Sanger for re-approval of the Adult Cardiac Anesthesiology Program. Meanwhile, we are on track for developing our Critical Care Fellowship with Dr. Anita Malhotra as the planned Program Director.

While we have welcomed many new members, three are also leaving the department. Dr. Kodavatiganti will leave the position as Director of Pediatric Cardiac Anesthesiology and Cardiac Fellowship Program Director, to join Children’s Hospital of Pennsylvania where he will practice only Pediatric Cardiac Anesthesiology. We thank him for his major contributions to the department in the last 5 years. Then Tavenner Bonsall, who has served as my Assistant over the last 3 years, will be leaving with her husband to live in Boston, where he received a promotion to a new position. Tav has done an outstanding job in her position in the department and will serve as a model for those who follow. We are very pleased that Carla Perry has taken on this position and welcome Jennifer Jacovino who has taken over from Karen Bowman. Karen has served our department admirably over the last 24 years and there is more on her in these pages.

The next very important event is our move to the New Children’s Hospital on January 13. Here we will staff six operating rooms and two pediatric anesthesia procedure rooms. In order to do so we have welcomed many new faculty and CRNAs in these pages of Anesthesiology News. We must particularly thank Dr. Katie Donahue, Director of Periop and Dr. Pat McQuillan, Director of Anesthesia for the Children’s Hospital, for the immense amount of work they have done to realize these new sites in the Children’s Hospital. These beautiful OR’s, recovery rooms and anesthesia sites stand as testament to their efforts.

Finally it remains for me to thank our Faculty, Residents, CRNAs, Administrative staff, Quality Improvement and Research staff for all they do for our department and patients.
Please Welcome Our New Faculty (continued)

Julia Caldwell, MD joins the Department of Anesthesiology as an Assistant Professor, specializing in general and regional anesthesia. Dr. Caldwell completed her Anesthesia Residency at the University of Michigan, then completed a Fellowship in Interventional Pain Management at the University of Texas MD Anderson Cancer Center. She earned her medical degree at the University of Cincinnati and undergraduate degree at Penn State University. Dr. Caldwell served the last two years in private practice in Wyoming.

Shannon Grap, MD joins the Department of Anesthesiology as an Assistant Professor, specializing in Pediatric Anesthesia. Dr. Grap completed her Anesthesia Residency here at the Penn State Hershey Medical Center. She then completed a Fellowship in Pediatric Anesthesia at the Children’s National Medical Center in Washington, D.C. Dr. Grap earned her medical degree at the Penn State College of Medicine.

Revati Kanekar, MBBS, MD joins the faculty of the Department of Anesthesiology as a Clinical Instructor, practicing general anesthesia. Dr. Kanekar completed her Anesthesia Residency here at the Penn State Hershey Medical Center. She earned her medical degree at the University of Bombay (now known as University of Mumbai).

Paul Menocci, DO joins the faculty of the Department of Anesthesiology as a Clinical Instructor, practicing general anesthesia. Dr. Menocci completed his Anesthesia Residency here at the Penn State Hershey Medical Center. He earned his medical degree at the Chicago College of Osteopathic Medicine.

Daniel Morgan, PhD joins us as a Basic Scientist in the Department of Anesthesiology. Dr. Morgan received his PhD in Microbiology, Molecular Genetics, and Immunology from Rutgers University/UMDNJ in 2004 and joins us from Indiana University where he served as Research Faculty and Postdoctoral Fellow. See page 2 for more information on Dr. Morgan’s laboratory research.

Kai Singbartl, MD, MPH joins the Department of Anesthesiology as an Associate Professor, specializing in critical care and clinical anesthesia and translational research. Dr. Singbartl completed his Anesthesia Residency at the Universitätsklinikum Münster in Germany, where he also completed a Fellowship in Critical Care Anesthesia. He earned his medical degree at University of Würzburg, Germany. Dr. Singbartl served the last five years as a Critical Care Anesthesiologist at the University of Pittsburgh School of Medicine.
Please Welcome Our New CRNA’s

Kathleen Bond, CRNA
Erica Elliot, CRNA
Alicia Harris, CRNA
Jill Keller, CRNA, MSN
Corey Linebaugh, CRNA, MSN

Please Welcome Our New Administrative & Research Staff

Christopher Haskins, BS
Jennifer Jacovino
David Marcus, BS
Diane McCloskey, PhD
Lauren Miller, BS
Carla Perry

Department of Anesthesiology, 2012 - 2013
The department would like to commend all the residents and attendings who presented at the ASA meeting, this past October in Washington D.C. Foundation for Anesthesia Education and Research.

**FAER Scholars**
Theodore Cios, MD
Andrew Waberski, MD

**Abstracts**
Dmitri Bezinover, MD, PhD - “Successful Use of Methylene Blue for Treatment of Vasoplegic Shock in an Immunosuppressed Patient after Liver Transplant”

Priti Dalal, MBBS - “Perioperative Dynamics of Plasma Cyclic Guanosine Monophosphate Distribution During Liver Transplantation” and “Effectiveness of the Jaw Elevation Device in Prevention of Desaturation During Sedation and Monitored Anesthesia Care: A Prospective QA Audit”

**Poster Presentations**
Theodore Cios, MD - “A Potential Challenge in Airway Management - Os Odonoideum”

Megan Freestone-Bernd, MD - “Bowel Resection for Necrotizing Entero colitis in a Child with a Modified Blalock-Taussig Shunt”

John Narron, III, MD - “Effectiveness of the Jaw Elevation Device in Prevention of Desaturation During Sedation and Monitored Anesthesia Care: A Prospective QA Audit”

Alexandria Nickless, MD - “Epidermolysis Bullosa: A Review of an Increasingly Challenging Anesthetic”

Saravanan Ramamoorthy, MD - “Complex Adult Congenital Heart Disease for a Simple Procedure”

Michael Sharghi, MD - “Perioperative Dynamics of Plasma Cyclic Guanosine Monophosphate Distribution During Liver Transplantation”

Matthew Suchy, DO - “Dexmedetomidine-Ketamine Combination Provide Adequate Sedation for Emergency Awake Fibreoptic Intubation in Ludwig’s Angina”

Amy Voet, DO - “Spinal Epidural Abscess: Delayed Diagnosis and Suboptimal Treatment”

Lauren Welsh, MD - “Factor V Deficiency in Pregnancy: Anesthetic Implications”

*Pictured above from left to right: John Narron, Theodore Cios and Michael Sharghi*
Please Welcome our New Fellows for 2012 - 2013

**Pediatric Fellow**

Tiffany Bartsch, MD

**Pain Fellow**

Michal Glinianski, MD

**Pain Fellow**

Prabhakar Gundapu Reddy, MBBS

**Cardiothoracic Fellow**

Saravanan Ramamoorthy, MD

**Pain Fellow**

Edward Shen, MD

Please Welcome our New Residents for 2012 - 2013

**Michael Akerley, DO**

**Brandon Bortz, MD**

**Pinxia Chen, MD**

**Shawn Falitz, MD**

**Kevin Funez, MD**

**Kavita Gadhok, MD**

**Brian Hertzberg, MD**

**Jarrett Leathem, DO**

**Matthew McClain, MD**

**Monique Mostert, MD**

**Tim Ochoa, DO**

**Isoken Osunde, MD, MPH, MS**

**Gaurav Patel, MD**

**Ashlee Pruett, DO**

**Keith Reid, MD**

**Galen Royce-Nagel, MD**

**Manish Shah, MD**

**Jennifer Sogge, MD**

**Matthew Suchy, MD**

**Xi Bei Tian, MD**
Congratulations 2012 Graduates

Pictured from Left to Right: April Bauguess, Michal Glinianski, Edward Shen, Sara Miller, Saravanan Ramamoorthy, Jeremiah Blankenship, Revati Kanekar, Filip Trojanowski, Debra (Seidenberg) Hurwitz, Jill Cheeseman, Paul Menocci, Mitchell Parrish, Michael Deardeuff

April Bauguess, DO
Private Practice
Maryland

Jeremiah Blankenship, MD
Private Practice
Anesthesia Consultants
Denver, CO

Jill Cheeseman, DO
Private Practice
Somerset Hospital
Somerset, PA

Michael Deardeuff, MD
Private Practice
Winchester Anesthesiologists
Winchester, VA

Michal Glinianski, MD
Fellowship, Pain Medicine
Penn State Hershey Medical Center
Hershey, PA

Ashley Greene, DO
Fellowship, Pediatric Anesthesiology
Mayo Clinic/Nemours Children’s Hospital
Jacksonville, FL

Din Kagalwala, DO
Fellowship, Cardiothoracic Anesthesia
Mt. Sinai Hospital
New York, NY

Revati Kanekar, MD
Clinical Instructor, Anesthesia
Penn State Hershey Medical Center
Hershey, PA

Paul Menocci, DO
Clinical Instructor, Anesthesia
Penn State Hershey Medical Center
Hershey, PA

Sara Miller, DO
Private Practice
Southeast Anesthesiology Consultants
Charlotte, NC

Mitchell Parrish, MD
Private Practice
Anesthesia Associates
Great Falls, MT

Saravanan Ramamoorthy, MD
Fellow, Adult Cardiothoracic Anesthesia
Penn State Hershey Medical Center
Hershey, PA

Debra (Seidenberg) Hurwitz, MD
Clinical Instructor, Anesthesia
Penn State Hershey Medical Center
Hershey, PA

Edward Shen, MD
Fellowship, Pain Medicine
Penn State Hershey Medical Center
Hershey, PA

Filip Trojanowski, MD
Private Practice
Portland Anesthesiology Group
Portland, OR

Graduating Fellows:

Shvetank Agarwal, MD
India

Enrique Aradillas-Lopez, MD
Attending, Neurology
Drexel University
Philadelphia, PA

Evan Freedman, DO
Private Practice
Phoenix, AZ

Megan Freestone-Bernd, MD
Assistant Professor, Anesthesia
Penn State Hershey Medical Center
Hershey, PA

John Paul Malayil, MD
Attending, Anesthesiology & Pain Medicine
Summit Health Pain Medicine
Chambersburg, PA
Save the Date!

Saturday, June 8 and Sunday, June 9 - 2013

Course Directors: Sanjib Adhikary, MD and Patrick McQuillan, MD

Class size will be limited to 50
10-15 department of anesthesia residents and fellows - cost each $250
35 - 40 outside participants - cost each $600

Purpose of Workshop: To review the anatomy of the peripheral nerves, ergonomics, and physics with reference to use of ultrasound. To establish a clinical skills and attitude appropriate for basic ultrasound guided peripheral nerve blocks. To acquire a thorough knowledge of the ultrasound imaging and needling techniques for basic nerve blocks. Hands on experience with cadavers/phantoms and volunteers in laboratory settings.

For more details, check our website periodically at www.pennstatehershey.org/anesthesia