Annual Report
2012 - 2013
Division of Neonatology

Department of Pediatrics
William Maniscalco, M.D., Chief

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I. GENERAL DESCRIPTION Mission

The Division of Neonatology of the University of Rochester School of Medicine and Dentistry is dedicated to excellence in patient care, to diligent research and to providing outstanding education and training of physicians and scientists. Our values dictate that all colleagues, trainees, patients, and families are treated with respect. The major clinical site is the Neonatal Intensive Care Unit (NICU) at Golisano Children's Hospital. Our NICU was selected as one of the top NICUs in the country by US News and World Report in 2012. The Special Care Nursery (SCN) at Rochester General Hospital is integral to our patient care mission. Our basic research focuses on the molecular and cellular regulation of lung development and injury; immune development; and erythropoesis. Patient- oriented research spans important neonatal diseases, with a focus on treatment of lung, neurological, and retinal disorders. Our faculty members provide clinical education and training to medical students, residents, postdoctoral fellows, nurse practitioners, and community practitioners. An important part of our mission is training in basic and clinical research at many levels, ranging from undergraduates to doctorates in medicine and the basic sciences.

Primary Faculty (2012-2013)

Sanjiv B. Amin, M.B.B.S., M.D., M.S.
Associate Professor of Pediatrics

Soumyaroop Bhattacharya, M.Ed., M.S.
Senior Associate of Pediatrics

Melissa Carmen, MD
Assistant Professor of Pediatrics
Director of Outreach Education

Patricia R. Chess, M.D.
Associate Professor of Pediatrics and of Biomedical Engineering
Director, Neonatal-Perinatal Medicine Fellowship Program
Chair, Department of Pediatrics, Unity Hospital
Medical Director, ECMO Service, Golisano Children's Hospital
Director, Fellowship Education, Department of Pediatrics

Rita Dadiz, D.O.
Assistant Professor of Pediatrics
Associate Director, Neonatal-Perinatal Medicine Fellowship Program
Director, Simulation-Based Emergency and Safety Training Program, Division of Neonatology

Carl T. D'Angio, M.D.
Professor of Pediatrics and Medical Humanities
Director, Pediatric Clinical Research Office Director, Neonatal Clinical Research Associate Director, SCRC\

David A. Dean, Ph.D.
Professor of Pediatrics and of Biomedical Engineering

Fabeha Fazal, Ph.D.
Assistant Professor of Pediatrics

Jacob N. Finkelstein, Ph.D.
Professor of Pediatrics, of Radiation Oncology, and of Environmental Medicine
Associate Director, Strong Children's Research Center
Director of Research, Division of Neonatology

Ronnie Guillet, M.D., Ph.D.
Professor of Pediatrics
Chief, Department of Pediatrics, Highland Hospital

Sema Hart, M.D.
Associate Professor of Pediatrics

Carl Johnston, Ph.D.
Research Assistant Professor of Pediatrics

Nirupama Laroia, M.D.
Associate Professor of Pediatrics
Medical Director, Special Care Nursery, and Section Chief, Neonatology, Rochester General Hospital

Ruth A. Lawrence, M.D.
Professor of Pediatrics and of Obstetrics and Gynecology
Director, Newborn Nursery, Golisano Children's Hospital
Director, Breastfeeding and Human Lactation Study Center

Alice Lewand-Taylor, M.D.
Senior Instructor of Pediatrics
Medical Director, Special Care Nursery, Highland Hospital

William M. Maniscalco, M.D.
Professor of Pediatrics
Chief, Division of Neonatology

Thomas J. Mariani, Ph.D.
Associate Professor of Pediatrics, Medicine and Environmental Medicine
Director, Pediatric Molecular and Personalized Medicine Program

Jeffrey Meyers, M.D.
Assistant Professor of Pediatrics

Robert H. Notter, M.D., Ph.D.
Professor Emeritus of Pediatrics and of Environmental Medicine

Michael A. O'Reilly, Ph.D.
Professor of Pediatrics and of Environmental Medicine
Associate Director, Neonatology Research
Director, Perinatal and Pediatric Origins of Disease Program

Dale L. Phelps, M.D.
Professor of Pediatrics

Laura Price, M.D.
Senior Instructor of Pediatrics

Gloria S. Pryhuber, M.D.
George Washington Goler Professor of Pediatrics and of Environmental Medicine

Arshad Rahman, Ph.D.
Associate Professor of Pediatrics and of Environmental Medicine

Julie Riccio, M.D.
Senior Instructor of Pediatrics

Kristin Scheible, M.D.
Assistant Professor of Pediatrics

Laurie Steiner, M.D.
Assistant Professor in Pediatrics

Timothy P. Stevens, M.D., M.P.H.
Associate Professor of Pediatrics
Medical Director, Neonatal Intensive Care Unit, Golisano Children's Hospital

Robert J. Swantz, M.D.
Professor of Pediatrics
Director, Pediatric Sub-Internship
Director, Pediatric Clerkship
Associate Medical Director, Neonatal Intensive Care Unit, Golisano Children's Hospital
Medical Director, Neonatal Transport Team, Golisano Children's Hospital

Jennifer L. Young, Ph.D.
Research Assistant Professor of Pediatrics

II. Clinical Activities

Golisano Children's Hospital at Strong

Our clinical goal is to provide outstanding care to all ill newborns in the Finger Lakes Region. The neonatal intensive care unit at Golisano Children's Hospital is a level IV facility that can treat all neonatal medical and surgical illnesses. Our 60-bed NICU has extensive technical capabilities, including ECMO, inhaled nitric oxide, and HFOV. Construction is advancing on a new children's hospital that will have an all new NICU with 64 individual patient rooms. In academic year 2012-2013 our 15 board-certified neonatologists treated 1146 newborns in the NICU; these patients had the full range of medical, surgical, and cardiac disorders. The average daily census in the NICU in 2012-2013 was 53.9 patients, for a total of 20,897 patient days. Of the 2961 patients born at Strong Memorial Hospital, 871 were admitted to the NICU. An additional 275 patients who were born at either community hospitals or at other regional hospitals, were transferred to our NICU for advanced care. Our neonatal transport service transferred patients from 19 referring hospitals. Approximately 1 in 12 newborns in our region was treated in the NICU at Golisano Children's Hospital. In 2012-2013, 84 patients were transferred back to their community hospital for convalescent care and to be closer to their families.

Our very busy NICU is the site for training Pediatric and Internal Medicine-Pediatric house officers, postdoctoral fellows, medical students, neonatal nurse practitioners and physician assistant students. The Neonatology Division also supervises the Normal Newborn Nursery at Strong Memorial Hospital. Two board-certified pediatricians establish policy and procedures and care for normal newborns.

Rochester General Hospital, Unity Hospital, Highland Hospital

At Rochester General Hospital, the Neonatology Division cared for 417 patients in the Level II Special Care Nursery during 2012-2013. The average daily census was 6.6. Rochester General Hospital had 2470 births in 2012-2013. As a community hospital, the Rochester General SCN is an important training site for Pediatric and Family Medicine residents and medical students. Members of the Neonatology Division are medical directors for the nurseries at Rochester General Hospital, Highland Hospital, and Unity Hospital, and are responsible for establishing consistent policy and procedures for local hospitals.

Neonatal Continuing Care Program

To provide outstanding medical care, it is essential that we follow the neurodevelopmental outcome of our NICU "graduates." The Neonatal Continuing Care Program follows all patients who are discharged from the NICU, either in the Infant and Toddler Clinic (part of the Strong Center for Developmental Disabilities) or in the Neonatal Tracking Program. In the Infant and Toddler Clinic, patients are evaluated by a developmental pediatrician, social worker, a nurse practitioner and a neonatology fellow. In 2012-2013, the clinic conducted 363 evaluations. The

Infant and Toddlers Clinic also evaluates patients who were not in the NICU, but referred from the Monroe County Early Intervention Program. The Neonatal Tracking Program follows all NICU graduates to age 10 years through serial questionnaires sent to the patient's family and pediatrician. The NCCC teams review the tracking forms to identify patients who may need formal evaluation and to obtain long-term follow-up data. In 2012-2013, 1410 forms were returned by parents and 2764 forms were returned by pediatricians. To date, over 26,000 patients have been followed by the tracking program.

NICU Quality Improvement Programs / Initiatives (2009-2011)

1. US News and World Report – The Golisano Children's Hospital NICU was selected as one of the top 50 NICUs in the country by US News and World Report (number 27) in 2011 and 2012, the first clinical area within the Dept of Pediatrics to have earned this honor.

2. In 2012- 2013, the NICU initiated several NYS-wide and locally developed Quality Improvement Initiatives:

a. NYS Perinatal Quality Collaborative

The NICU worked with the NYS Perinatal Quality Collaborative to improve growth outcomes of patients < 31 weeks gestation and to reduce the rate of Central Line Associated Bloodstream Infections (CLABSIs).

• Growth – the proportion of infants < 31 wks gestation discharged < 10th percentile has decreased. This has been accomplished through use of trophic feedings; earlier introduction of feedings (median age at first feeding decreased from 4 days in 2011 to 3 days in 2012); earlier advancement of protein and lipid in TPN; and routine nutrition rounds during which growth of current inpatients is reviewed.

• CLABSI – after decreasing for several years, the CLABSI rate plateaued in 2012. To generate improvement going forward, the NICU has:

- Implemented routine use of central catheter insertion and catheter maintenance checklists. Compliance with checklist use will be quantified and reported to NYS.
- Conducted a NICU-wide educational program on care and maintenance of central catheters.

b. NYS Medical Home Grant

As part of a NYS Medical Home Grant awarded to SMH, the NICU has focused on reducing nosocomial infections (NI) caused by either primary blood stream infections (primary BSI, including CLABSIs and BSIs without a source) and secondary BSIs (BSIs attributed to a specific source). Specific efforts have included:

• Alcohol caps on all hep locks. In a preliminary review, use of the caps has reduced the number of coag negative staph infections from 12 during the first 6 months of 2011 to 4 during the comparable period in 2013.

• Proper collection of blood cultures to reduce contamination.

c. Locally Initiated QI Projects

Among locally initiated quality improvement efforts, the NICU has focused on

• Reducing unanticipated extubations – after a period of data collection, an educational program is underway to improve provider skills in evaluation of endotracheal tube (ETT) patency in order to reduce unnecessary ETT changes and to improve pre-extubation evaluation of potential post-extubation stridor.

• Reducing incidence of severe ROP – a re-education effort was initiated to emphasize appropriate oxygen saturation targets.

• Educating parents on safe sleep practices. In 2012-13, the NICU and NBN implemented mandatory education in safe sleep practices for parents of all newborns. This initiative was developed in response to an increase in sudden infant death that was noted by the SMH Pediatric ED staff.

• IVH Reduction Bundle - More judicious use of volume expansion in treating neonatal hypotension – was reinforced as was reducing use of sodium bicarbonate.

• Improving the proportion of infants receiving breast milk days of life 14 and 28 as well as at NICU discharge.

Regional Outreach Activities

The Neonatology Division is the Regional Perinatal Center for the Finger Lakes Region of New York State. Integral to the Division's clinical activities are outreach visits to the 13 referring hospitals in our region. The goals of these visits are to review maternal and neonatal outcomes at the referring hospitals; provide feedback on patients transferred to the NICU at Golisano Children's Hospital; review clinical policies and procedures; and provide outreach education. In addition, the outreach team compares outcome statistics from the referring hospital to region-wide data. Each hospital is visited one to two times a year by a neonatologist, high-risk perinatologist, neonatal nurse practitioner, and obstetrical nurse practitioner. Melissa Carmen, MD, is responsible for the majority of outreach teaching visits

Outreach Hospitals

Arnot Ogden Medical Center, Elmira, NY
Corning Hospital, Corning, NY
F.F. Thompson Health System, Canandaigua, NY
Geneva General Hospital, Geneva, NY
Highland Hospital, Rochester, NY
Jones Memorial Hospital, Wellsville, NY
Memorial Hospital, Dansville, NY
Unity Hospital, Rochester, NY
Olean General Hospital, Olean, NY
Rochester General Hospital, Rochester, NY
St. James Mercy Hospital, Hornell, NY
United Memorial Medical Center, Batavia, NY
Via Health of Wayne, Newark, NY

III. Research and Other Scholarly Activities

Research Projects by Faculty Members

Sanjiv B. Amin, M.B.B.S, M.D., M.S.
Dr. Amin's research interests include studying the effects of jaundice, nutritional, and environmental toxins on developing nervous system in neonates using auditory brainstem responses. He is NIH-funded to study the level of jaundice that is associated with transient or permanent abnormal changes in auditory nervous system in premature and term neonates. He is also studying the effect of lead and other environmental toxins on a developing auditory nervous system; in addition, he is investigating the role of nutritional and hormonal factors on brain development. Dr. Amin's future interests include long-term neurodevelopmental outcome, including language outcome and central auditory processing disorders of premature and late preterm neonates. In addition, he is interested in studying genetic polymorphism to determine why there are ethnic differences in bilirubin production and susceptibility to bilirubin-induced neurotoxicity. He has been involved in exploring a new technique using fluorescent spectrophotometry to measure free bilirubin levels, a more specific marker of bilirubin-induced neurotoxicity. He is also funded to evaluate dental developmental outcome in premature infants. His work is supported by NICHD, CTSI, and NIDCR.

Melissa Carmen, M.D.
Dr. Carmen is involved in various clinical trials through the NICHD Neonatal Research Network. She is involved as Co-PI in the "Transfusion of Prematures" (TOP) study. This study aims to determine if maintenance of higher hemoglobin levels in extremely low birth weight babies leads to improvement in the survival and rates of

neurodevelopmental impairment at 22-26 months. Dr. Carmen is also site Co-PI for the INS-3 trial, a randomized controlled trial to assess the efficacy of inositol supplementation on improving ROP and BPD. In 2012, while still in training at the University of Buffalo, Dr. Carmen was awarded a Young Investigators Award from the Neonatal Resuscitation Program to study the use of pulse oximetry in the assessment of effective chest compressions during neonatal resuscitation. She continues to collaborate with the University of Buffalo to study this area of resuscitation in a newborn piglet model.

Patricia R. Chess, M.D.
Dr. Chess's research is on lung injury and repair in the neonate, focusing on mechanical forces in the lung. Collaborative work on assessing efficacy of a biophysically active phospholipase resistant synthetic surfactant in an LPS-induced injury murine model compliments this work. Clinical areas of investigation include optimal modes of ventilation, use of ECMO in respiratory failure, cardiorespiratory dysfunction in congenital diaphragmatic hernia, omega-3 lipids to treat TPN-induced liver dysfunction, and surfactant replacement therapy. A pulmonary potentially best practices bundle for VLBW infants in the NICU has been developed and implemented, and its effect on acute and chronic lung disease is also being investigated. A respiratory monitor to assess chest movement in babies on high frequency ventilation is being developed in collaboration with Biomedical Engineers at the U of R. Dr Chess is the site PI for the NICHD neonatal network randomized controlled inositol trial to assess efficacy of inositol supplementation on improving ROP and BPD and efficacy of hydrocortisone to facilitate extubation in VLBW infants. Dr. Chess participates in grants from NICHD and NIHLB

Rita Dadiz, D.O.
Dr. Dadiz incorporates simulation-based learning and debriefing methodologies into postgraduate medical and nursing education with the goal of improving interprofessional communication and teamwork during patient care. With validated evaluation tools, she is investigating the impact of simulation-based team training for obstetric and neonatal providers on communication and patient outcomes during high-risk deliveries. Dr. Dadiz is the recipient of an award from the Health Resources and Services Administration to train healthcare providers throughout the Finger Lakes Region of New York State on the use of simulation-based learning and debriefing in quality improvement initiatives. Dr. Dadiz is also the site director for the International Network for Simulation-Based Pediatric Innovation, Research and Education (INSPIRE). The INSPIRE network is currently evaluating competency-based infant lumbar pumcture training on interns' lumbar puncture success rates. Dr. Dadiz is collaborating with Drs. Pasternack and McBeth from the URMC Emergency Department to lead a qualitative study for the INSPIRE network to determine the factors that facilitate and impede successful implementation of the lumbar puncture competency-based assessment program.

Carl T. D'Angio, M.D.
Dr. D'Angio is the principal investigator for the joint University of Rochester – University of Buffalo center of the NICHD Neonatal Research Network (NRN). The NRN performs clinical trials and observational studies on critically ill newborns cared for in a consortium of 18 neonatal centers, and is currently investigating treatments for respiratory diseases, neonatal encephalopathy and necrotizing enterocolitis, among other disorders. Dr. D'Angio is also the site investigator for the University of Rochester site for the Prematurity and Respiratory Outcomes Program (PROP), an NIH-funded longitudinal study of the antecedents of respiratory disease in the first year among premature infants. He is an investigator at the University of Rochester's new NIAID-funded Respiratory Pathogens Research Center, which will be exploring respiratory infections among premature infants.

Dr. D'Angio's research continues to focus on infections, immunology and immunizations in the premature infant. He continues to publish regularly in the area. Dr. D'Angio's other major research focus is on comprehension of research permission among parents of infant research subjects. He has just completed an NICHD-funded randomized controlled trial of a cover sheet to improve understanding of research consent.

David A. Dean, Ph.D.
Dr. Dean's laboratory is focused on the mechanisms of intracellular trafficking of plasmids and DNA-protein complexes as it relates to nonviral gene delivery to the lung. While many aspects of non-viral vector design are being addressed, several critical areas that have not received adequate attention are the cytoplasmic movement and nuclear import of vector DNA. Clearly, without the translocation of plasmid DNA into the nucleus, no gene expression, or "gene therapy" can take place. To this end, the laboratory is studying how plasmids interact with microtubules and microtubule-associated motor proteins to move in a directed fashion through the cytoplasm using a

variety of intracellular imaging techniques, biochemical assays, and mass spectrometry approaches. Studies are also underway to understand how plasmids translocate the nuclear pore complex to gain entry into the nucleus in both general and cell-specific situations. Further, new work is aimed at understanding whether and how plasmids move within the nucleus and how this relates to their ability to be expressed. Taken together, these studies will help design improved vectors for gene therapy as well as provide insight into the basic biology of the cell. The second focus of the laboratory is to develop novel treatments for acute lung injury and asthma using electric fields for gene delivery to the lungs of living animals. Dr. Dean's laboratory has shown that genes can be delivered to the lungs of small and large animals by electroporation and that the genes can have significant therapeutic activity. Using this approach, they have been able to prevent and treat acute lung injury in an endotoxin-induced mouse model of lung injury as airway hyperreactivity in an ovalbumin-sensitization model of asthma. Current studies assess safety and efficacy in a large animal preclinical model in hopes of one day taking this to the clinic. Dr. Dean's research is supported by several NIH RO1 and R21 grants.

Fabeha Fazal, Ph.D.
The research in Dr. Fazal's laboratory investigates the role and regulation of cytoskeletal dynamics in endothelial cell (EC) inflammation, permeability, and apoptosis in the settings of acute and chronic lung diseases. A key event underlying the pathogenesis of acute lung injury involves adhesion molecule-dependent transendothelial migration of polymorphonuclear leukocytes (PMN) into the lungs. Transcription factor NF-kB plays a critical role in the expression of adhesion molecules ICAM-1 and VCAM-1. Activation of NF-kB requires its release from the inhibitory protein IkBa in the cytoplasm and subsequently, its translocation to the nucleus. Whereas the mechanisms of its release have been elucidated, the cytoplasmic events regulating the translocation of NF-kB to the nucleus remain elusive. Dr. Fazal and colleague have uncovered novel and previously unrecognized role of actin cytoskeleton and non-muscle myosin light chain kinase (nmMLCK) in the regulation of cytoplasmic trafficking of NF-kB for its nuclear import to cause EC inflammation associated with intravascular coagulation and sepsis.

More recently, Dr. Fazal's research has focused on identifying the role of endoplasmic reticulum (ER) stress and mitochondrial dysfunction in the regulation of EC inflammation and permeability associated with ALI. Their findings show that ER stress regulator BiP and mitochondrial stress regulator Mortalin are mediators of EC inflammation and they may act in concert to regulate cytosolic and nuclear events to promote NF-kB activity. In addition, Dr. Fazal's laboratory is collaborating with Dr. Rahman's laboratory to understand the role of nmMLCK in the pathogenesis of pulmonary emphysema caused by cigarette smoke (CS). The research in Dr. Fazal's lab uses genetically modified mice, primary cell cultures, and multidisciplinary approaches ranging from biochemical, cellular, and molecular biology to in vivo gene delivery and lung physiology to study how pulmonary endothelium responds during acute and chronic lung inflammation/injury.

Jacob N. Finkelstein, Ph.D.
Dr. Finkelstein's laboratory research emphasizes the role of cell-cell interactions in modulating the pulmonary injury response to physiological and toxicological stimuli. This work includes studies of oxidant-induced signaling in the pulmonary epithelium and macrophages and epithelial and inflammatory cell production of cytokines and chemokines in the regulation of the inflammatory response. Previous research focused on basic cell and molecular biology of the pulmonary alveolar type II cell as the site of pulmonary surfactant system and how oxidant injury can alter key regulatory processes. In addition, the type II cell also plays an important role as the stem cell for renewal of the alveolar epithelium, both in the normal lung development and during epithelial repair and renewal following lung injury. The most recent data suggest that type II cells may also be involved in regulating the inflammatory functions of alveolar macrophages, as well as the actions of interstitial fibroblasts during lung growth or pulmonary fibrosis.

Current research utilizes multiple models of injury with a special emphasis on environmental agents as modulators of cellular function. Studies of inhaled oxidant gases (ozone, hyperoxia), inhaled particulate matter (generated by combustion processes including diesel exhaust) and ionizing radiation (therapeutic as well as accidental release) all provide a platform to study the pulmonary injury response. Another important aspect of recent work is the interaction of engineered nonmaterial's with cellular signaling systems and how these interactions may result in a toxic response.

The overall goal of the current research is to identify the key control mechanisms involved in epithelial cell and fibroblast proliferation, and in related extracellular matrix synthesis, processing, and assembly. Dr. Finkelstein's

work seeks to define such mechanisms not only during normal lung growth and normal development, but also during the repair of epithelial damage, which may have important implications for pediatric and adult lung disease, including bronchopulmonary dysplasia (BPD). This work is funded by grants from the NIEHS, the EPA, NIAID, NSF and the Department of Defense.

Ronnie Guillet, M.D., Ph.D.
Dr. Guillet's primary research focus is in neonatal brain development and injury. The developing brain is at risk from the effects of centrally acting agents, including hypoxia, seizures, and medications; this risk is due in part to the fact that the brain may be more vulnerable during times of rapid maturational change. Dr. Guillet has an active clinical research program, focused on the neonatal brain. As the Rochester co- investigator for the NICHD Neonatal Research Network grant, she assists the PI and, in particular, is responsible for Network studies involving new treatments for neonatal brain injury. Other areas of clinical research interest for Dr. Guillet include the auditory brainstem evoked response—in particular, its use as a tool to evaluate brain maturation and its relationship to maternal iron status prior to delivery. She is also involved in studies of acute kidney injury in premature infants. Her work is supported in part by grants from the NIH, the Gerber Foundation and FDA.

Carl Johnson, Ph.D.
Dr. Johnston's work seeks to understand how the postnatal lung copes with external stress. A critical biological factor playing a role in childhood pulmonary susceptibility is that a significant portion of lung development takes place postnatally. One of the environmental factors relevant to developmental lung disease is the recent increase in complexity and distribution, if not the levels, of airborne pollutants, including allergens and endotoxins, respirable particulate matter, and irritant gases, exposure to which damages various cell types. Among the most important of these are the respiratory epithelium and critical immune effector cell populations. In addition, combined exposures to multiple pollutants may activate several unique signaling pathways that are age dependent and, depending on the sequence of initiation, may result in responses not predicted by evaluating exposures to an individual pollutant. Dr. Johnston's work depends heavily on mRNA analysis, microarray technology, immuno-histochemistry, and in situ hybridization. This work is supported by participation in several NIH grants.

Nirupama Laroia, M.D.
Dr. Laroia's research interests have focused on neonatal seizures, especially those related to stroke and hypoxic ischemic injury in the newborn. Her work has included development of criteria for long-term EEG monitoring in neonates at risk for seizures. Current projects include study of neuroprotective strategies in infants with hypoxic ischemic injury, Hyperbilirubinemia in the term neonate, use of donor milk in preterm infants, and a qualitative study looking at barriers to communication between obstetricians and pediatricians in the delivery room. Her research interests include neonatal global health with implementation of "Helping Babies Breathe" program in India.

Ruth A. Lawrence, M.D.
Dr. Lawrence is a consultant to and an investigator with Dr. Ann Dozier in the Department of Public Health Sciences. Current projects include the impact of epidural anesthesia on breastfeeding; the impact of Depoprovera given to the mother before discharge on breastfeeding.

Dr. Lawrence has also been involved in efforts to provide human milk for prematures. A product has been produced exclusively from human milk to be used to supplement the milk of a mother who is feeding a premature infant. The product was developed in consultation with Dr. Lawrence by Prolacta Bioscience, a human milk bank. Dr. Lawrence has been elected to the board of the newly established Mothers Milk cooperative. Donors are screened by the American Red Cross. The process is approved by the FDA.

Dr. Lawrence is the medical director The Lactation Study Center, a drug information line and the clinical toxicology service.

Dr. Lawrence is is collaborating with Dr. O. J. Sahler on music and breast milk. It has been shown that music therapy may increase breastfeeding rates among mothers of premature infants not only in the first few days but also at 60 days post-delivery, most likely, because of its relaxing effects. When a mother is having difficulty breast feeding, she is usually given instructions about ways to relax, including deep breathing, visualization exercises, or listening to music. A study of mothers listening to music during kangaroo care showed that music not only significantly decreased maternal anxiety, but also increased quiet sleep and reduced crying in the infant. There is a growing body of literature to support the notion that the benefit of live music is superior to recorded music in

inducing relaxation in infants although there are few studies in mothers. This is a particularly important finding given the evidence that maternal anxiety/stress as reflected in increased cortisol levels in breast milk can negatively affect infant temperament.

William M. Maniscalco, M.D.
Dr. Maniscalco's laboratory research is concerned with pulmonary microvascular development in lung injury. Using various animal models, including a non-human primate model of BPD, this work examines the effects of oxygen and ventilation of immature lung on the development of alveolar capillaries. The major goals of the research are to characterize microvascular development in lung injury and investigate angiogenic and angiostatic regulators in normal and injured lung. Recent work has linked expression of inflammatory CXC chemokine mediators, which regulate angiogenesis and are part of the pathophysiology of BPD, to impaired lung microangiogenesis.

Thomas J. Mariani, Ph.D.
The broad objectives of Dr. Mariani's laboratory are to identify the genetic mechanisms of susceptibility to chronic lung diseases, particularly focusing upon their developmental antecedents and the influence of environmental factors. Dr. Mariani's research program focuses upon defining key regulatory networks involved in lung development and maturation, and which may be perturbed in diseased states such as asthma, chronic obstructive pulmonary disease (COPD) and bronchopulmonary dysplasia (BPD). Work focuses predominantly upon defining pathways contributing to regulation of epithelial-mesenchymal interactions and expression of extracellular matrix molecules. His laboratory utilizes genetic modeling in animals, exposure-related models of chronic lung disease and studies of human samples. He is a leader in the application of genome-wide expression array methods to pulmonary biology and lung disease gene/biomarker discovery. This work is currently supported by research grants from the NIH and FAMRI.

Jeffrey Meyers, M.D.
Dr. Meyers' primary research interests are focused on neonatal nutrition. The independent role of early nutrition in influencing long-term health is becoming better appreciated, particularly in preterm infants. In addition, body tissue accrual in preterm infants is altered at term-equivalent age. His previous research has investigated in-hospital nutritional factors that might affect body composition in preterm infants. In particular, he has demonstrated the potential influence of parenteral nutrition on body composition at discharge in preterm infants. Currently, Dr. Meyers serves as a secondary principal investigator for the MILK Trial, an NRN-funded study comparing neurodevelopmental outcomes in preterm infants fed primarily donor breast milk versus formula. Future direction includes investigating other influences, such as levels of pro-inflammatory cytokines, on altered body composition in preterm infants, and possible avenues to optimize tissue accrual in these at-risk infants. Long-term metabolic consequences of altered body composition in preterm infants also warrant further study in the era of the metabolic syndrome.

Robert H. Notter, M.D., Ph.D.
Dr. Notter's research focuses on pulmonary surfactant, a complex mixture of lipids and proteins essential for normal respiration. Lung surfactant deficiency in premature infants leads to the neonatal respiratory distress syndrome (NRDS), and surfactant dysfunction/inactivation in patients of all ages is an important contributor to the pathology of clinical acute lung injury (ALI) and the acute respiratory distress syndrome (ARDS). The severe lung injury syndromes of ALI/ARDS can result from multiple direct pulmonary insults and are major causes of mortality and morbidity in the US and worldwide despite sophisticated medical intensive care. This multi-university collaborative research emphasizes basic science and translational studies to develop and test new highly-active synthetic lipid/peptide exogenous surfactants for treating NRDS and direct pulmonary forms of ALI/ARDS. Current NIH Bioengineering Research Partnership (BRP) studies in our laboratory examine the molecular bioengineering, computer analysis, synthesis, and physical chemistry of novel amphipathic peptides with structural homology to native surfactant proteins (SP), and the surface and pre-clinical pulmonary activity of these peptides combined with novel phospholipase-resistant lipids or synthetic biologic lipids in synthetic lung surfactants. Dr. Notter's research also examines mechanisms of surfactant dysfunction in ALI/ARDS, and considers the use of exogenous surfactants in combination with other pharmaceuticals to concurrently target multiple aspects of lung injury pathology. Prior research in Dr. Notter's laboratory helped to develop clinically-effective first-generation surfactant therapy for premature infants with animal- derived surfactant drugs, and this is now being extended using sophisticated molecular bioengineering to define and develop novel fully-synthetic lipid/peptide lung surfactants for treating NRDS and direct pulmonary ALI/ARDS.

Michael A. O'Reilly, Ph.D.
The O'Reilly lab consists of an interactive group of senior scientists, graduate students, technicians, and summer undergraduate scholars interested in understanding how neonatal oxygen disrupts lung development and the host response to respiratory viral infections. Premature exposure to oxygen is a major risk factor for neonatal lung disease and can cause bronchopulmonary dysplasia (BPD), a chronic form of lung disease frequently seen in preterm infants with very low birth weight. While better clinical care has reduced mortality, children born prematurely are at increased risk for reduced lung function, respiratory viral infections, pulmonary hypertension, and asthma. According to the NHLBI web site (http://www.nhlbi.nih.gov/new/press/06-07-26.htm), the annual costs of treating infants with BPD in 2005 were $26.2 billion dollars. Hence, there is an urgent need to understand how oxygen supplementation permanently disrupts lung development and how these changes enhance susceptibility to respiratory infections. Using the mouse as a model system, our studies are focused on defining how high oxygen at birth alters growth and differentiation of progenitor cells critical for lung development and host defense against infections. We also investigate how oxygen-induced damage activates molecular pathways that control whether cells live or die. We then collaborate with physicians who study health outcomes and treat children born prematurely. By integrating research findings in cells, mice, and humans, we hope to ultimately identify therapeutic opportunities for improving the long-term health of children born prematurely. This work is supported by several NIH grants and a grant from the March of Dimes.

Dale L. Phelps, M.D.
Dr. Phelps' research is focused on retinopathy of prematurity (ROP). Her NIH funded work has completed 2 pilot studies on the pharmacokinetics of inositol and its safety in extremely preterm infants, supplemented from birth to reduce ROP. The main study will begin enrollment of 1760 infants in 2013 through the NICDH National Research Network, funded by both the National Institute of Child Health and Human Development and the National Eye Institute.

Gloria S. Pryhuber, M.D.
As a clinician scientist, Dr. Pryhuber maintains a basic science laboratory, and is communicating Principal Investigator for the University of Rochester / University at Buffalo (URUB) research site for the Prematurity and Respiratory Outcomes Program (PROP, NHLBI U01). This program is composed of 6 Pediatric Pulmonary/Neonatology centers around the country and is focused on identifying biomarkers and mechanisms of chronic lung disease in premature infants. In the development, and now implementation of the PROP, she has worked very closely with the Rochester Human Immunology Center to bring advances in immunologic techniques to the study of premature newborns. As a Neonatologist, and because of the strong infrastructure that we have put in place for the PROP program and the NICHD Neonatal Research Network, including collaborative arrangements with the Maternal Fetal Medicine, Neonatology and Pediatric Pulmonary Divisions, she has excellent access to adequate numbers of premature and full term infant patients to ensure the timely screening, enrollment, and completion of clinical studies/trials with these populations. In addition, her laboratory has notable experience in collecting, storing, processing, and performing quality assessment and analysis of animal and human subject samples. She works with a number of investigators at the UR and external on "Identification and Validation of Molecular Markers for BPD." This project provides support for investigation and validation of altered gene expression in human neonatal lung samples with and without chronic lung disease. She collaborates with the Human Immunology Center, and the Departments of Pediatrics, Divisions of Neonatology, Infectious Disease and Pulmonology. She has collaborated with Drs. Topham, Gill and Caserta, on two NIH proposals to study CD8+ T cells in responses to viruses and vaccines with correlations to gut microbiomics and measures of immune modulators in breast milk. This year, she continues these collaborations for the National Respiratory Pathogens Research Center (RPRC, PIs David Topham and Ann Falsey) and with Dr. Caserta, has initiated the project entitled "Impact of Respiratory Virus Infections and Bacterial Microbiome Shifts on Lymphocyte and Respiratory Function in Infants Born Prematurely or Full Term." Dr Pryhuber is highly enthusiastic to work with this multidisciplinary group of collaborators, as to do so will contribute to patient-specific tailoring of treatment and prophylaxis for respiratory morbidity in infants.

Arshad Rahman, Ph.D.

Dr. Rahman and his research group want to know how pro-inflammatory mediators such as the coagulation protease thrombin and the pro-inflammatory cytokine TNFα, released in high amounts during sepsis and other inflammatory

conditions, mediate neutrophil (PMN) sequestration and emigration in the lung and thus induce lung vascular injury. In particular, they are interested in defining the critical signaling pathways mediating activation of the transcription factor NF-κB, a master regulator of inflammation, in the endothelium, an important cellular target of proinflammatory mediators in perpetuating and amplifying the inflammatory responses. Importantly, NF-κB is now also implicated in the resolution phase of inflammation, tissue repair and homeostasis, and in mitochondrial respiration. These emerging new roles of NF-κB have challenged the view of therapeutic inhibition of NF-κB and have yielded the concept that "dampening" rather than "abolishing" NF-κB activation may be a safe and effective treatment strategy for ALI/ARDS and other inflammation-associated diseases. Guided by this principle, Dr. Rahman and colleague are focused on uncovering the intricate signaling network in control of NF-κB activation with a view to identifying the possible therapeutic targets whose inhibition may allow for selective suppression of detrimental inflammation without compromising the host defense response, tissue repair and homeostasis - a problem associated with current treatment options to control ALI/ARDS and other inflammatory disease states.

More recently, Dr. Rahman and colleague have also been focusing on understanding the regulation and function of endothelial cell (EC) autophagy and its relationship with EC inflammation in the context of ALI. Their novel and exciting findings that autophagy and inflammation are linked in the lung endothelium have prompted them to identify the mechanistic link between these two fundamental processes (autophagy and inflammation), address the relevance of this linkage in the pathogenesis of ALI, and evaluate the therapeutic potential of autophagy inhibition against evolving ALI. The research in Dr. Rahman's lab uses genetically modified mice, primary cell cultures, and multidisciplinary approaches ranging from biochemical, cellular, and molecular biology to in vivo gene delivery and lung physiology to address these questions of fundamental importance.

Kristin Scheible, M.D.
Premature infants are highly susceptible to severe disease from respiratory viral infection, and they suffer from diseases mediated in part by dysregulation of immune cells, including BPD, PVL and NEC. The selective susceptibility to viruses and inflammation-mediated diseases suggests a defect in CD8+ T cell responses compromising their antigen recognition and immune regulation. Little is known about the nature of CD8+ T cell responses in neonates, and less is known about CD8+ T cell behavior and function in premature infants. Her research focuses on the effect of early activation of CD8+ T cells in the context of premature infants with poor thymic recovery. Employing multiplexing technology such as high-parameter cytometry to analyze human umbilical and peripheral cells, she is able to examine T cell phenotype, homeostasis and antigen-specific responses, as well as trace changes that occur over time in postnatal immune development. By combining in vitro data with clinical data, she can understand the role that T cell dysregulation may play in mediating diseases of prematurity. Her work is supported by an NIH K12 award.

Laurie Steiner, MD
Red blood cells comprise one in four cells in the human body. To maintain an appropriate hematocrit, the body must produce approximately 2 million red blood cells per second. The maturation of a committed erythroid progenitor to a functional red blood cell is a complex process that involves significant changes in gene expression during a time of rapid cell division. The goal of Dr. Steiner's research is to understand the molecular mechanisms that drive this process, in both normal and disease states. She is particularly interested in studying how chromatin modifiers regulate erythropoiesis, as they are potential therapeutic targets for the treatment of □-globinopathies, such as sickle cell anemia and □-thalassemia. By combining genomics technologies, such as chromatin immunoprecipitation coupled with high throughput sequencing, with functional assays, such as shRNA knockdown, she is able to study how chromatin modifiers regulate erythroid-specific gene expression and influence erythroid maturation. Complimentary to this project, she is using similar methodologies to study the cis- and trans- acting factors that regulate modifier genes of □- thalassemia, with the hope of identifying new targets for therapeutic intervention. This area of research will enhance our understanding of how ubiquitously expressed chromatin modifiers exert cell-type specific effects, as well as provide novel insights into molecular pathways important in human disease. Her work is supported by a NIH K08 award and the Cooley's Anemia Foundation.

Timothy P. Stevens, M.D., M.P.H.
Dr. Stevens' research interests are in pulmonary outcome of premature infants, with emphasis on the neonatal antecedents that cause preterm infants to require ongoing pulmonary care in childhood. Studies include two prospective clinical research projects investigating the effect of supplemental oxygen exposure on the risk of wheezing in later childhood. As a secondary study to The NICHD SUPPORT Trial, a randomized trial of clinical

treatment of high- vs. low-targeted oxygen saturations in preterm infants < 28 weeks' gestation, Dr. Stevens is investigating the effect of differential oxygen exposure on symptomatic airway dysfunction in preterm infants. In a Rochester-based cohort, the level of early oxygen exposure and consequent oxidant stress is being investigated as predictors of later symptomatic airway dysfunction in premature infants 28-32 weeks' gestation. Dr. Stevens is also interested in the effects of air pollution on preterm birth and pulmonary symptoms in preterm infants.

Robert J. Swantz, M.D.
Dr. Swantz' primary research interest is undergraduate medical education. He directs the 3rd year Clerkship and 4th year Sub-Internship for the Department of Pediatrics, and is actively involved with the Dean's office in the management and evaluation of the medical school curriculum and the admission and advancement of medical students.

Jennifer L. Young, Ph.D.
Dr. Young's research focuses on understanding extracellular matrix (ECM) signaling during lung injury and repair. Specifically, the focus of the laboratory is on understanding the role of the matricellular signaling molecule CCN1/Cyr61 in lung injury. CCN1 is an ECM-associated signaling molecule that functions to promote cell adhesion, migration, survival and differentiation in vascular development. In the context of the lung, they have found that CCN1 together with TNFα causes apoptosis of alveolar epithelial cells and lung fibroblasts. Because CCN1 is induced in the lungs of patients with lung diseases such as chronic obstructive pulmonary disease (COPD) and acute respiratory distress syndrome (ARDS), they hypothesize that CCN1, together with inflammatory mediators such as TNFα causes cell death of primary lung cells in vivo, thus contributing to lung injury. Dr. Young's studies focus on elucidating the molecular mechanism(s) of cell death and survival of primary lung cells in response to CCN1 and TNFα using cultured cells as well as in vivo models of lung injury.

In addition to CCN1's apoptotic function, they have found that CCN1 functional knock-out mice have greatly reduced lung inflammation after LPS treatment. This suggests that CCN1, in addition to playing a role in apoptosis and cell survival, is likely to be involved in the inflammatory response as well. Thus, they are actively investigating the modulation of inflammation by CCN1 in models of acute lung injury and fibrosis in vivo. The ultimate goal of these studies is to gain a better understanding of the complex pathology of lung diseases so that better treatments can be developed. Research funding comes from the American Heart Association.

Scientific Presentations

Abstracts Presented at 2013 Pediatric Academic Societies' Annual Meeting, Washington, DC

Amin, SB, Kumar, S, Wang, H. Uncongugated Hyperbilirubinemia is Associated with Apnea in Premature Infants .

Amin, SB, Orlando M, Wang H. In Utero Iron Status and Auditory Neural Myelination in Healthy Late Preterm and Term Infants.

Dardas M, Gill S, PhD2, Pryhyber G, Gill A, Lee Y-H, Guillet R. The Impact of Postnatal Antibiotics on Diversity of the Preterm Intestinal Microbiome

Dadiz R, Schriefer J, Weinschreider J, Arnold C, Pressman EK, Guillet R. Obstetric and pediatric communication during high-risk deliveries improves with simulation-based training.

Dadiz R, Arnold C, Gellin C, Weinschreider J. Debriefing: learner-centered feedback for education, patient care and quality improvement. Workshop.

Gupta K, Amin S. Intravenous lipid and glucose intake are associated with parenteral associated cholestasis in premature infants.

Halterman J, Wiesenthal E, Fagnano M, Tremblay P, Blaakman S, Stevens TP, Borrelli B. Secondhand Smoke Exposure Reduction after NICU Discharge: Results from a Randomized Trial.

Maduekwe ET, Buczynski BW, Yee M, Lawrence BP, Stevens TP, O'Reilly MA. Modeling Cumulative Neonatal Oxygen Exposure That Alters the Host Response of Adult Mice Infected With Influenza A Virus.

Riccio, J. Bilirubin Displacing Effect of Ibuprofen in Premature Infants with Unconjugated Hyperbilirubinemia.

Stevens TP, NICHD Neonatal Research Network. Respiratory Outcomes of the Early CPAP and Pulse Oximetry Trial.

Abstracts Presented at 2013 American Thoracic Society 109th International Conference, Philadelphia, PA

Attanasio J, Smith B, O'Reilly M, Sime PJ, Mariani TJ, Mitzner, W, Georas SN, and Rangasamy T. p21 promotes dendritic cell and T cell activation and allergic airway inflammation in mice

Attanasio J, Smith B, O'Reilly M.A., Sime, PJ, Staversky R, Mariani TJ, Georas S, Rangasamy T. P21 Cip1 Promotes Dendritic Cell And T Cell Activation And Allergic Airway Inflammation In Mice.

Bansal M, sharp JK, Pryhuber G, Ren C. Relationship between respiratory function and feeding desaturations in preterm infants..

Bhattacharya S, Zhou Z, Yee M, Lopez AM, Lunger VA, Buczynski B, Pryhuber GS, Mariani TJ, and O'Reilly MA. Next generation sequence analysis of the transcriptional response to neonatal hyperoxia.

Bhattacharya S. SerpinE2 Deficiency is Associated with Thrombin-Mediated Activation of NF-Kb and Alterations in Lung Lymphocyte Accumulation".

Bhattacharya S, Zhou Z, Yee M, Lopez AM, Lunger VA, Buczynski BW, Pryhuber GS, Mariani TJ, O'Reilly MA. Next Generation Sequence Analysis of the Transcriptional Response To Neonatal Hyperoxia.

Buczynski BW, Yee M, Lawrence BP, and O'Reilly MA. Neonatal hyperoxia promotes lung fibrosis independent of excessive leukocyte recruitment to the lung following influenza A virus infection.

Gottfried, L, Lin X, Barravecchia, M, Dean, DA. Development of a method for ATI cell targeting for gene therapy.

Johnston CJ, Williams JP, Manning CM, Hernady MS, Reed C, Miller J, Stroyer B, Finkelstein JN. CCSP is useful in predicting the development of late manifestations of pulmonary injury following irradiation.

Lin, S, Barravecchia, M, Dean, DA. Gene transfer of the epithelial socium Channel (ENaC) Alpha 1 Subunit and the NA, K-ATPase Beta 1 subunit using electroporation rescues lippopolysaccaride (LPS)-induced Acute Lung Injury.

Maduwkwe ET, Buczynski BW, Yee M, Stevens TP, Lawrence BP, and O'Reilly MA. Modeling cumulative neonatal oxygen exposure that alters the host response of adult mice infected with influenza A virus.

Singh I, Fazal F, Dionisio-Santos DA, Leonard A, Bijli KM, Barravecchia M, Dean DA, Rahman A. A novel role of autophagy in Endothelial cell inflammation and lung vascular injury.

Solleti SK, Bhattacharya S, Moreno JR, Shimpi S, Bijl KMi, Lunger V, Lopez A, Randall, T. Rangasamy, A. Rahman, T.J. Mariani. SerpinE2 Deficiency Is Associated With Thrombin-Mediated Activation Of NF-Kb And Alterations In Lung Lymphocyte Accumulation.

Srisuma S, Wongkhat L, Mariani TJ. Asporin Expression in Mouse Lung Alveogenesis and After Elastase Treatment.

Yee M, Buczynski BW, and O'Reilly MA. Neonatal hyperoxia stimulates the expansion of alveolar epithelial type II cells that are excessively pruned during recovery in room air.

Abstracts Presented at Other National Research Meetings (2012-2013)

Allen JL, Conrad K, Finkelstein JN, Johnston CJ, Liu S, Oberdorster G, Cory-Slecta DA. Concentrated ambient particulate matter as a risk factor for the Parkinson's disease phenotype. Society of Toxicology, San Francisco CA. | March 2012

Arnold C, Weinschreider J, Dadiz R. Implementation of an In Situ Simulation Curriculum to Assess Cultural and Linguistic Sensitivity. International Meeting on Simulation in Healthcare, San Diego, CA, 2012.

Badding, MA, Dean, DA. Identification of cytoplasmic proteins that comprise the trafficking complex during gene transfer. Toxicol Sci, Mini-B on lipid bilayer order and topography. Canadian Association of Physicists Congress, June 2012. Calgary, Alberta Canada.

Badding, MA, Dean, DA Mass spectrometry identification of proteins that bind to trafficking plasmids during transfection. Mol Ther.

Bhattacharya S. Leukemic cells demonstrate gene expression profiles that may confer syrvival advantage in the post-allogeneic hematopoietic stem cell transplant environment. Proceedings of the 26th Annual Meeting of American Society of Pediatric Hemotology. 2013. Miami.

Buczynski BW, Yee M, Lawrence BP, and O'Reilly MA. Neonatal hyperoxia promotes lung fibrosis independent of excessive inflammation following influenza A virus infection in mice. Society of Toxicologists

Dadiz R, Weinschreider J, Schriefer J, Arnold C, Pressman E, Guillet R. Handoff communication improves with simulation-based interdisciplinary team training. International Meeting on Simulation in Healthcare, San Diego, CA. 2012.

Dadiz R, Schriefer J, Weinschreider J, Arnold C, Pressman EK, Guillet R. Delivery room communication improves after implementing simulation-based team training. SSIH #658. Simul Healthc. Presented at the International Meeting on Simulation in Healthcare, Orlando, FL. 2013.

Dadiz R, Schriefer J, Weinschreider J, Arnold C, Pressman EK, Guillet R. Delivery room communication improves after implementing simulation-based team training. International Meeting on Simulation in Healthcare. Orlando, FL. 2013.

Dardas M, Gill S, PhD2, Pryhuber G, Gill A, Lee Y-H, Guillet R. The Impact of Postnatal Antibiotics on Diversity of the Preterm Intestinal Microbiome. Presented at ESPR. 2013.

Emerich P, Brown K, Dadiz R. Assessment of team ICARE values during simulated and actual deliveries. International Meeting on Simulation in Healthcare. Orlando, FL. 2013

Finkelstin JN, Williams JP, Hernady E, Miller J, Stroyer B, Johnston CJ. ARG-1 is useful in predicting the development of late pulmonary fibrosis following irradiation. Radiation Research, New Orleans, LA. 2013

Finkelstein JN, Williams JP, Reed C, Hernady E, Miller J, Stroyer B, Johnston CJ. ARG-1 is useful in predicting the development of late pulmonary fibrosis following irradiation. Radiation Research, New Orleans, LA. September 2013

Finkelstein JN, Johnston CJ, Manning CM, Hernady E, Williams JP. Early life radiation injury alters clara cells and ccsp in lung following later life viral infection. Radiation Research, San Juan, Puerto Rico. September 2012

Johnston CJ, Williams JP, Reed C, Hernady E, Miller J, Stroyer B, Finkelstein JN. CCSP/SP-D ratios are useful in predicting the development of late manifestations of pulmonary injury following irradiation. Radiation Research, New Orleans, LA. September 2013.

Johnston CJ, Manning CM, Williams JP, Randall TD, Rangel-Moreno J, Hernady E, Finkelstien JN. Neonatal irradiation sensitizes mice to adult pulmonary influenza. Society of Toxicology, San Francisco CA. | March 2012

Johnston CJ, Gelein R, Cory-Slechta D, Finkelstein JN, Oberdoerster G. Early life inhalation of ambient particles and ozone mixtures sensitizes the lung to later life challenges. Society of Toxicology, San Francisco CA. | March 2012

Johnston CJ, Williams JP, Hernady E, Mille J, Stroyer B, Finkelstein J. Lung irradiation increases mortality Aafter influenza A virus challenge occurring late after exposure. CMCR & RITN Workshop. Baltimore, MD, July 2013.

Johnston CJ, Manning CM, Williams JP, Randall TD, Rangel-Moreno J, Hernady E, Finkelstein JN. Neonatal irradiation sensitizes mice to adult pulmonary influenza. Society of Toxicology, San Francisco, CA. March 2012.

Johnston CJ, Gelein R, Cory-Slechta D, Finkelstein JN, Oberdoerster G. Early life inhalation of ambient particles and ozone mixtures sensitizes the lung to later life challenges. Society of Toxicology, San Francisco, CA. March 2012.

Leonard A, Rahman A, Fazal F. ER Chaperone BiP (GRP78) and Mitochondrial chaperone Mortalin (mthsp75) Differentially Regulate RelA/p65f Activation and Endothelial Cell Inflammation. Experimental Biology, Boston, April 2013

Manning CM, Johnston CJ, Lawrence B, Williams JP, Finkelstein JN. Radiation exposure exacerbates lethality and lung pathology following a subsequent influenza A virus infection. Society of Toxicolory, San Francisco, CA. March 2012.

Manning CM, Johnston CJ, Hernady E, Miller J, Stroyer B, Lawrence BP, Williams JP, Finkelstein JN. The role of clara cells and ccsp in lung radiation injury and epithelial repair following infection in the irradiated lung. Radiation Research, San Juan, Puerto Rico. September 2012.

Manning CM, Johnston CJ, Lawrence B, Williams JP, Finkelstein JN. Radiation exposure exacerbates lethality and lung pathologhy following a subsequent influenza A virus infection. Society of Toxicology, San Francisco CA. | March 2012

Ringo K, Norman R, Young JL. Extracellular matrix-associated protein CCN1 regulates shedding of endothelial ICAM-1. Experimental Biology annual Meeting. Boston. 2013

Steiner LA, Schulz V, Maksimova Y, Seidel NE, Bodine D, and Gallagher PG. NIDDK Heme-Net Meeting. Washington, DC. Feburary 23, 2012 Invited Poster.

Scheible K. Accelerated maturation of umbilical cord CD8+ T cells from infants born prior to 35 weeks gestation. Cold Spring Harbor 78th Symposium: Immunity and Tolerance. 2013.

Scheible K. Accelerated T cell maturation in premature infants. NICHD Annual Meeting for K12 Scholars, Santa Monica, CA 2012

Recent Study Sections and Advisory Committee Memberships

Sanjiv B. Amin, M.B.B.S, M.D., M.S.
Reviewer for NIH NIDCD P50 Proposal, 2010, 2011
Reviewer for NIH Developmental Brain Disorder Study Section, 2011
Reviewer for NIH Loan Repayment Proposals, 2011, 2012
CTSI/GCRC Advisory Committee member, University of Rochester

Patricia R. Chess, M.D.
Pediatric Planning Committee, American Thoracic Society; 2001 – present
Research Grant Review Committee, American Lung Association, 2001 – present
Chair, Research Grant Review Committee, American Lung Association, 2013
American Lung Association Scientific Advisory Subcommittee: Awards and Grants Program, 2013
Austrian Science Fund ad hoc reviewer, 2002-2009

Wellcome Foundation UK, 2009
Pediatric Research Society Grant reviewer 2009-present
UR Medical School MD with Distinction in Research Committee 2011- present
UR George Eastman Circle Advisory Committee 2011-present

Carl T. D'Angio, M.D.
Grant Review Committee, New York State Empire Clinical Research Investigator Program, 2005-2011
Member, NIAID Ancillary Studies in Immunomodulation Clinical Trials Special Emphasis Panel, 2009
Member, NIAID Clinical Trial Special Emphasis Panel, 2011
Member, US Food and Drug Administration Pediatric Advisory Committee, 2008-2011
Member, NIAID Clinical Trial Special Emphasis Panel, 2012
Member, NIAID special Emphasis Panel, Medical Countermeasures for Biodefense and emerging Infectious Diseases, 2013

David A. Dean, Ph.D.
Member, Nanotechnology Study Section, NIH, 2011-2015
Member, Gene and Drug Delivery Study section, NIH, 2007-2010
External advisory committee, program project grant on "Pathophysiology of alveolar epithelial lung Injury," Northwestern University, 2007-present
Cardiovascular Gene Therapy Committee member, American Society for Gene Therapy, 2007-2010
Respiratory Tract Gene Therapy Committee member, American Society for Gene Therapy, 2010-2013
Member, NIH NIBIB P41 Center Grant Site Visit Study Section, 2009
Member, American Lung Association Grant Review Committee 2008-2011
Chair, NIH NHLBI Novel Approaches for Gene Therapy (R21/R33) Study Section, 2009
Member, College of CSR Reviewers, NIH 2010-2012

Fabeha Fazal, Ph.D.
Ad Hoc Reviewer NIH/Respiratory Integrative Biology and Translational (RIBT) Scientific Review Group. 2012

Jacob N. Finkelstein, Ph.D.
Ad hoc Reviewer:

National Cancer Institute (NCI),
National Heart, Lung, and Blood Institute (NHLBI)
National Institute of Environmental Health Science (NIEHS) ONES Review Panel
National Institute of Allergy and Immunologic Diseases,
James and Esther King Biomedical Research Program (State of Florida Biomedical Research Program) Tobacco Related Diseases Research Program (California)
Member F10A Study Section

California National Primate Center Davis California Advisory Committee San Juaquin Valley Particluate Matter research Center Davis California NIEHS Board of Scientific Councillors

Advisory Board Member UMDNJ/Rutgers Counter Act Center

Ronnie Guillet, M.D., Ph.D.
Member (ad hoc), NIH Study Section, 2009, 2010
Steering Committee member, "Efficacy of Intravenous Levetiracetam in Neonatal Seizures", funded by FDA
DSMC member, "Preterm Epo Neuroprotection (PENUT) Trial", funded by NINDS

Ruth A. Lawrence, M.D.
Advisory Committee to promote breastfeeding among clients at Early Head Start, Washington, D.C.; Pediatric Advisory Committee, FDA
New York State Coalition for Breastfeeding, Board of Directors
Baby Friendly National Program, Expert Panel
Mother's Milk Cooperative, elected to Board of Directors, 2013.

Breastfeeding Medicine, Editor in Chief
ABM Annual Summit, Chair, 2009-present

William Maniscalco, MD
Pediatric Academic Society Abstract Reviewer
Grant Reviewer, Strong Children's Research Center

Thomas J. Mariani, Ph.D.
Permanent Member, NIH/Lung Injury Repair and Remodeling Scientific Review Group, 2012-2018
Participant, NHLBI Workshop on "Molecular Determinants of Lung Development", 2011
Ad Hoc Reviewer
NIH/Lung Injury Repair and Remodeling Scientific Review Group, 2012
NIH/Lung Injury Repair and Remodeling Scientific Review Group, 2011
NIH/NHLBI RFA(ZHL1) Scientific Review Group, 2011
External Grant Reviewer, Harvard-NIEHS Center Pilot Projects, 2010
Internal Grant Reviewer, Strong Children's Research Center Pilot Projects, 2012
Internal Grant Reviewer, Environmental Health Sciences Center Pilot Projects, 2012
Internal Grant Reviewer, CMRC Pilot Projects, 2012
Faculty Oversight Committee, URMC eRecord-Research, 2012
Faculty Oversight Committee, URMC Functional Genomics Center, 2011-2012

Robert H. Notter, M.D., Ph.D.
Standing National Grant Review Committee, Ikaria/INO/Forest Advancing Newborn Medicine Fellowship Grant Program, 2001- 2011
Solicited Ad Hoc Grant Reviewer for NIH and foundations

Michael A. O'Reilly, Ph.D.
NIH, ad hoc reviewer, LIRR

Gloria S. Pryhuber, M.D.
Grant Reviewer, NIH SEP/SRG KO1, KO8, R25, RO1 Reviews (2 – 3 Study Sections per year) 2010 – present
URMC Committee Member: Clinical Research Review Process Improvement Team (CRRPIT) 2013

Arshad Rahman, Ph.D.
Member, NIH Center for Scientific Review special Emphasis Panel, Review Group: 2009/05 ZRG1 CVS-F (03) M, Vascular Pathophysiology, 2009
Member, NIH Center for Scientific review Special Emphasis Panel for Challenge (RC1) grant application, Review Group:ZRG1 VH-D (58) R, 2009
Member, NIH Cener for Scientific Review special Emphasis Panel, Review Group: 2009/10 ZRG1 CRV G (02) M, 2009
Co-chair, NIH Center for Scientific Review special Emphasis Panel, Review Group: 2010/05 ZRG1 CVRS-G (02) M
Co-chair, NIH Center for Scientific review special Emphasis Panel, review Group: 2010/10 ZRG1 CRV-G (02)
Member, American Heart Association Molecular Signaling 4, Review Group: 2011

Timothy P. Stevens, M.D., M.P.H.
New York State Obstetric and Neonatal Collaborative (NYSONQC) Steering Committee Member and Data Panel Chair 2008-present

IV. Teaching Activities

Pediatric Residents
Faculty of the Division of Neonatology teach Pediatrics and Medicine-Pediatrics residents in the Neonatal Intensive Care Unit at Golisano Children's Hospital at Strong and Pediatrics and Family Practice residents at the Special Care

Nursery at Rochester General Hospital. The Neonatology Division teaches approximately 70-75 residents during their rotations in the NICU and SCN. Clinical teaching activities include Attending Rounds (5 days/week), Work Rounds (7days/week), Health Team Rounds (1day/week), High-Risk Perinatology Rounds (1day/week), NICU Pathology Rounds (1 day/4 weeks), and Ethics Rounds (1day/4 weeks). Division faculty were also active in teaching on the Pediatric Wards and in the Neonatal Resuscitation course for residents in Pediatrics, Medicine-Pediatrics, Emergency Medicine, and Obstetrics and Gynecology.

Neonatal-Perinatal Medicine Fellowship Program

The three-year, ACGME accredited, Neonatology Fellowship fully meets the requirements of the Neonatal-Perinatal Medicine subspecialty board of the American Board of Pediatrics, and is certified for 8 fellows. The program provides intensive training in clinical care of high-risk newborns in a 60 bed Level IV NICU (including ECMO, HFOV, and inhaled nitric oxide), a 12 bed Level II Special Care nursery, and an 8-bed Level I nursery, within a 13-county referral region. Fellows acquire active clinical and/or laboratory-based research experience, including study design, institutional review, study performance, analysis, presentation, and publication. Several alternative career development tracks are available, including the traditional Basic Science/Clinical Science Concentration, a Clinical Evaluation Sciences Concentration, including courses within the Master of Public Health Program: two Combined Programs, a Master of Public Health-Clinical Investigation track, and a Master of Science in Business Administration-Medical Management (MSBA-MM) track, a Master of Science in Clinical investigation, a Master of Science in Clinical and Translational Research, and a Master of Science in Health Professions Education.

Neonatal-Perinatal Medicine Fellows (2012-2013)

Susana Arriagada, M.C. (Third year)
Medical School: University of Chile
Residency Program: University of Chile, Santiago/University of Rochester Medical Center

Echezona Maduekwe, MD (Third Year) Medical School: University of Nigeria, Nigeria
Residency Program: Bronx-Lebanon Hospital Center, Bronx, NY

Majd Dardas, MD (Third Year)
Medical School: American University of Beirut
Residency Program: SUNY Health Science Center at Syracuse, Syracuse, NY

Ahmad El Samra, MD (Second Year)
Medical School: American University of Beirut, Lebanon
Residency Program: SUNY Health Science Center at Syracuse, Syracuse, NY

Kunal Gupta, MBBS (Second Year)
Medical School: Government Medical College and Hospital, Chandigarh, India
Residency Program: Institute of Medical Education and Research, Chandigarh, India

Syed Shah, MBBS (Second Year)
Medical School: Punjab Medical College, Pakistan
Residency Program: Bronx Lebanon Hospital, Bronx, NY

Pratik Parikh, MBBS (First Year)
Medical School: Pramukswami Medical Center, India
Residency Program: St. Peter University Hospital, New Brunswick, NJ

Srujana Rallabandi, MBBS, MPH (First Year)
Medical School: Osmania Medical College, India
Residency Program: East Carolina University/Pitt County Memorial Hospital, Greenville, NC

Basic Science Teaching in Graduate/Undergraduate Courses

In addition to the clinical-related teaching activities, several faculty in the Division of Neonatology have secondary appointments in other departments of the University of Rochester, and participate in teaching in graduate and undergraduate courses. These faculty members include Drs. Chess, Dean, Finkelstein, Mariani, O'Reilly, Pryhuber, and Rahman, who lecture in and/or direct graduate or undergraduate courses in the Toxicology Program and in the Departments of Environmental Medicine, Biomedical Engineering, and Chemical Engineering. Division faculty also participate in lecturing to medical students during courses in the Double Helix Curriculum.

Education and Training of Basic Science Undergraduate and Graduate Students

Division of Neonatology faculty perform teaching activities relating to the training of non-medical graduate students and postdoctoral fellows, in addition to medical residents and clinical fellows. Graduate students and basic science postdoctoral fellows currently in the Division or completing their studies in the past year are:

Current Graduate Students and Mentors in Laboratories

Melissa Badding
Program: Toxicology
Thesis Advisor: David Dean

Bradley Buczynski
Program: Toxicology, Ph.D.
Mentor: Michael O'Reilly, Thesis Advisor

Benjamin Danziger
Program: Biomedical Engineering
Thesis Advisor: David Dean

Christiaan King
Program: Toxicology
Thesis Advisor: David Dean

Haiqing Bai
Program: Pathology
Thesis Advisor: David Dean

Marta Ekstrom
Program: Toxicology
Thesis Advisor: David Dean

Mootaz Eldib
Program: Biomedical Engineering (received MS July 2010) Thesis Advisor: David Dean

Megan Gable
Fellow in Gastroenterology (2010 – present) Mentor: Gloria Pryhuber

Diana Go
Fellow in Pulmonology (2011 – 2013) Mentor: Gloria Pryhuber

Lidza Kalifa
Program:
Mentor: Michael O'Reilly

Khatera Rahmani
Program: Toxicology
Thesis Advisor: David Dean

Katherine Ringo
Program: Toxicology, PhD
Mentor: Jennifer Young; David Dean

Sean Gehen
Program: Toxicology, Ph.D.
Mentor(s): Michael O'Reilly, Thesis Advisor

Jennifer Gewandter
Program: Biochemistry and Biophysics, Ph.D. Mentor(s): Michael O'Reilly, Thesis Advisor

Matthew Giannandrea, Ph.D. Program:
Mentor: Michael O'Reilly

Casey Manning
Program Toxicology
Mentor: Jacob Finkelstein, Thesis Advisor

Jennifer Murzycki, M.D., Ph.D.
Pediatric Residency research track
Mentor: Patricia Chess,

Emily Resseguie
Program: Toxicology, Ph.d.
Mentor: Michael O'Reilly, Thesis Advisor

Erik Rushton
Program: Toxicology, Ph.D.
Mentor(s): Jacob Finkelstein, Thesis Advisor

Sayed Shah
Program: Neonatology Fellow
Mentor: Gloria Pryhuber, MD

Shanley Sifain
Program: Resident in Pediatrics
Mentor: Gloria Pryhuber, MD

Chia (Ta) Thach
Program: Toxicology
Mentor: Jacob Finkelstein

YuChieh (Melissa) Wu
Program: Biomedical Genetics, Ph.D.
Mentor: Michael O'Reilly, Thesis Advisor

Lan Zhao, Ph.D.
Postdoctoral Fellow
Mentor: Michael O'Reilly

Faculty on Graduate Student Thesis Committees

David Dean
Melissa Badding, Ph.D. 2012 – Graduated in Toxicology, UR
Marta Ekstrom, Ph.D. 2012 - Graduated in Toxicology, UR
Tha Thatch, Ph.D. 2008 – present student in Toxicology, UR
Khatera Rhamani, Ph.D – present student in Toxicology, UR
Benjamin Danziger, MS, 2012 – Graduated in Biomedical Engineering, UR
Mootaz, Eldib, MS, 2010 – Graduated in Biomedical Engineering, UR

Jacob Finkelstein

Nelissa Perez Nazario student in Immunology
Brittany Serke Ph.D. student in Toxicology
Katherine Ringo PhD. student in Toxicology Scott Peslak PhD.
Brad Buczynski PhD student in Toxicology
Khatera Rahmani PhD student in Toxicology

Michael O'Reilly
Andrew Campbell, Ph.D. student in biomedical genetics, 2010 – present
Daniel Dever, Ph.D. student in Toxicology, 2010 – present
Amali Epa, Ph.D. student in Pathology, 2012 – present

Gloria Pryhuber
Final Exam Committee Chair
Yilin Qi, 2012 Thesis Advisor: Tim Mosmann
Perez-Nazario, Nelissa, 2013 Thesis Advisor: Terry Wright

Arshad Rahman
Jennifer Head, Ph.D. student in Environmental Medicine, 2008-present
Punsiri Mahendra Colonne, Ph.D. student in Pathology, 2009- present

Jennifer Young
Katherine Ringo, PhD, student in Toxicology, 2009-present

Teaching Honors and Awards (2010-2013)

Rita Dadiz, D.O.
George W. Merck Dean's Teaching Fellow, University of Rochester School of Medicine and Dentistry, 2008-2010

David A. Dean, Ph.D.
Ruth A. Lawrence Academic Faculty Service Award in Research, 2011

Ronnie Guillet, M.D., Ph.D.
URMC Mentoring Award – mentoring of junior faculty, 2010

Carl Johnston, Ph.D.
2012 SOT Meeting, Outstanding Presentation – Mixtures Specialty Section

Ruth A. Lawrence, M.D.
Distinguished Alumni Award, University of Rochester School of Medicine, 2010
Recipient, Anthony L. Jordan Recognition Award, Anthony L. Jordan Health Center, 2010

Dale L. Phelps, M.D.
Recipient of the American Academy of Pediatrics Section on Perinatal Pediatrics Landmark Award for 2010. In Recognition of significant contributions in a special Landmark area of Neonatology. San Francisco, California.

Gloria Pryhuber, M.D.
George Washington Goler Professor of Pediatrics, University of Rochester, 2011

Timothy P. Stevens, M.D., M.P.H.
Health Care Achievement Award for Management, Rochester Business Journal, 2010
Ruth A. Lawrence Academic Faculty Service Award for Clinical Services, 2012

Major Educational Presentations and Programs (2011-2013)

Sanjiv B. Amin, M.B.B.S., M.D., M.S.
Invited Speaker 2011 PAS National Meetings – Bilirubin Neurotoxicity – Brainstem Processing Disorders.
Presentation at the Bilirubin Club Meeting, Pediatric Academic Society Meetings, May 2011
Neonatal Clinical Research Seminar Series – Bilirubin-induced neurotoxicity, April 2011
Invited Speaker 2011 National Neonatal Conference Meeting (Neocon) in India – Auditory Neuropathy Spectrum Disorder
Invited Speaker 2012 National Neonatal Conference Meeting (NEOCON) in Delhi, India – Bottle or Breast: Weight Gain.
Invited Speaker 2012 New York State Early Hearing Detection and Intervention Conference, Syracuse, NY
Neonatal Medical Knowledge Seminar Series 2012 – Auditory Evaluation of Neonates
Invited Speaker, Grand Rounds, 2012 – Michigan State University, Bilirubin induced neurotoxicity
Invited Speaker 2011, National Neonatal Conference Meeting (Neocon) in India – Chennai, India – Auditory Neuropathy Spectrum Disorder
Informal Communication Assessment: Critical Information that can help in late-identified hearing loss, 2012
Invited Speaker 2013 EHDI Conference in Glendale, AZ, AAP and NYEHDI Collaboration to Create a Physician Residency Training Curriculum.
Neonatal Medical Knowledge Fellow Seminar Series 2013. Bilirubin Metabolism
Neonatal Medical Knowledge Fellow Seminar Series 2013. Bilirubin Pathophysiology

Melissa Carman, M.D.
The Use of Pulse Oximetry in Newborn Screen for Congenital Heart Disease. Pediatric Grand Rounds. Rochester General Hospital. October 2012
Apnea and Control of Breathing. NMKB. URMC. Nov. 2012
Screeniing for Congenital Heart Disease. Perinatal Outreach Visit. FF Thompson Hospital, Canandaigua, NY Sept. 2012; Geneva General Hospital, Geneva, NY. Nov. 2012.
Neonatal Abstinence Syndrome. Perinatal Outreach Visit. Arnot Ogden Hospital, Corning, NY Feb. 2013.
Neonatal Hypoglycemia. Perinatal Outreach Visit. Corning Hospital, Corning, NY. Feb. 2013.
Multiiple NRP courses at both RGH and URMC, teaching both community and resident physician providers. 2012-2013

Patricia R. Chess, M.D.
Genes to Generations 3rd year medical student course. Pulmonary Development lecturer U of R School of Medicine and Dentistry, 2001-presentNursing Care of the High risk neonate course 436 U of R School of Nursing
Follow-up of the NICU graduate. ROP 2007-present
Pediatric Fellows' Core Curriculum, Ten minute Presentations. 2006 – present
Feedback and Evaluation. Pediatric and Medicine-Pediatrics Residency Competency Core, University of Rochester, 2007-present
Use of iNO/ ECMO/ High frequency NMKB UofR 2007-present
Effect of Timing of Elective Deliveries and admission to the Neonatal Intensive Care Unit, Cayuga Medical Center, Ithaca NY, 2011
CDH: New approaches to an old problem: U of R 12/28/12
Cyanotic Congenital Heart Disease Unity Grand Rounds 2/8/12

Symposium Director: High Frequency Oscillatory Ventilation Symposium: Hands on Interactive Workshop. Northeastern US regional symposium for Neonatologists, Respiratory therapists, and Neonatal nurse practitioners, U of R 5/31/12
Moderator American Academy of Pediatrics Perinatal section Mid-Atlantic Conference, Hershey, PA 2012
Congenital Diaphragmatic Hernia: New approaches to an old problem, Harriet Davis Teaching Day, UofR. 2012
Parenteral Nutrition-Induced Cholestatic Jaundice: The role of restricted IV Lipid and Omega-3 Fat Emulsion: 6 years experience at UR, NYS Thruway Conference, UR. 2012
Persistent Pulmonary Hypertension and ECMO: The Times They are a Changin', Contemporary Management of Neonatal Pulmonary Disorders, Tempe, Arizona. 2012
Congenital Diaphragmatic Hernia: New approaches to an old problem: Contemporary Management of Neonatal Pulmonary Disorders, Tempe, Arizona 2012
Neonatal Patient-Oriented Research Platform Session Moderator, Pediatric Academic Society Meeting, Washington, DC, 2013.

Rita Dadiz, DO
Obstetric and neonatal multidisciplinary simulation-based team training. URMC, 2007-present.
Delivery room and newborn nursery simulations. URMC, 2008-present. In-situ NICU mock codes. URMC, 2009-present.
Training for the unexpected. Simulation course facilitator, Center for Obstetrics and Gynecology Simulation, URMC, 2009-present.
Team building. Chief resident training workshop, URMC, 2010.
Parental adjustment and advocacy for NICU Babies. Pediatric Noon Conference, URMC, 2011.
Pulmonary Physiology. Fellow Neonatal Medical Knowledge Base Curriculum, URMC, 2011-2012.
Neonatal Resuscitation. Fellow Neonatal Medical Knowledge Base Curriculum, URMC, 2011-2012.
Pediatric Residents' Skills Block. Giving Bad News, 2011-2012.
Pediatric Residents' Skills Block. Neonatal Simulations, 2012.
Debriefing: More Than Just Tallk. Health Professions' Faculty Development Colloquium, URSMD, 2011
Simulation Program Development. Finger Lakes Regional Perinatal Forum, 2011.
Disclosing Adverse Events. Medical Student Workshop, URSMD, 2012
Simulation-Based Learning: Assessing Your Learners and Program. Dean's Teaching Fellowship Program, URSMD, 2012.
Debriefing: Learner-Centered Feedback for Education, Patient Care and Quality Improvement. Workshop Pediatric Academic Societies, 2012, 2013
Shoulder dystocia: a safer way forward (webinar). NY State Perinatal Quality Collaborative of the NY state Department of Health and NY State Partnership for Patients of the US department of Health and Human Services, 2013.
Coming to the table: debriefing for patient safety (webinar). NY State Perinatal Quality Collaborative of the NY State Department of Health. 2013.

Carl T. D'Angio, M.D.
"Ethics and Professional Integrity in Research (IND 501/506), Course Director, URMC, 2013-present
Thruway Neonatology Conference, Upstate Medical Center, Sytacuse, NY, 2011. "The NICHD Neonatal Research Network: A Western New York Connection.
Thruway Neonatology Conference. University of Rochester Medical Center, 2012. ""NICHD Neonatal Research Network Update: Past Experience, Future Opportunities."
Contemporary Management of Neonatal Pulmonary Disorders. "Respiratory Viral I llness in the Premature Infant: Risks and Prevention." Phoenix, AZ. November 4-5, 2010.
Contemporary Management of Neonatal Pulmonary Disorders. "The Ethics of Resuscitation in the "Gray Zone" of Neonatal Viability." Phoenix, AZ. November 4-5, 2010.
"Genes to Generations" medical student course, Pulmonary Biology lecturer, URMC Research Ethics/Integrity (IND 503), Session facilitator, URMC 2005 – 2012
Statistics lecturer, Pediatric fellows core lecture series, University of Rochester School of Medicine and Dentistry, 2005 – present
Pediatric Academic Societies. Moderator, Platform Session 2165, Original abstracts. May 1, 2011. Pediatric Academic Societies. Moderator, Topic Symposium 4105: "Is Prematurity Forever? Late Results of an Early Start?" May 3, 2011.

Pediatric Academic Societies. Moderator, Topic Symposium 4105: Beyond Bronchopulmonary Dysplasia: Measuring Long-term Respiratory Outcomes in Former Premature Infants." May 3, 2011.
PAS Update. "Beyond Bronchopulmonary Dysplasia: Measuring Long-term Respiratory Outcomes in Former Premature Infants." Shanghai, Beijing and Guongzhou, China. September 17-20, 2011.

David A. Dean, Ph.D.
"Use of electroporation for efficacious gene delivery to the lungs" Symposium presentation, Electrochemical Society Annual Meeting, Montreal, 2011.
"The importance of plasmid nuclear localization", American Society for Gene Therapy annual Meeting, Seattle. 2011
"The cell biology of gene delivery: what happens to DNA after electroporation", Old Dominion University, Norfolk, VA. 2011
"Development of cell-specific targeting approaches for pulmonary gene therapy", Mary Babb Randolph Cancer Center, West Virginia University, Morgantown, WV. 2012
"Intracellular trafficking of DNA and its impact on gene therapy", Department of Pharmaceutical and Biomedical Sciences, University of Georgia, Athens, GA, 2012
"Cell-specific targeting strategies for electroporation-mediated gene delivery in the lung", International Scientific Workshop and Postgraduate Course on electroporation based Technologies and Treatments, Ljublijana, Slovenia. 2012.
"Electroporation-mediated gene delivery to cells and animals" Gene Transfer Technologies into Multicellular Eukaryotes, Vienna, Austria, 2013
"Molecular considerations for effective gene therapy:, Student Research Day Keynote Speaker, SUNY Upstate Medical University, Syracuse, NY 2013

Fabeha Fazal, Ph.D.
Dual Regulation of Cofilin-1 Activity by LIM Kinase and Slingshot-1L Phosphatase Mediates Thrombin-Induced Actin dynamics and ICAM-1 Expression in endothelial Cells. Lung research and Trainee Day, University of Rochester, October 2010
NF-kappaB Trafficking on Endothelial cell Highways: Role in Lung Inflammation, Neonatology Research Seminar Series, Department of Pediatrics, University of Rochester Medical Center. 2011.
NF-kappaB Trafficing on Endothelial Cell Highways: Role in Lung Inflammation, The Center for Developmental Lung Biology, Department of Pediatrics, Emory University School of Medicine, Atlanta. 2011.
Actin in Action: Role in Lung Vascular Inflammation, Lung Biiology Research Seminar Series, Lung Biology and Disease Program, Department of Pediatrics, University of Rochester Medical Center. 2012.

Jacob N. Finkelstein, Ph.D.
Co-director, Advanced Pulmonary Toxicology (TOX 564)
Lecture, core Toxicology (TOX) 521)
Course Director Tox 522 Spring 2011
Participant path 509 Environmental Pathology

Ronnie Guillet, M.D., Ph.D.
Neonatal Seizures: What are we doing…and does it make sense? The 5th International Conference on Brain Monitoring and Neuroprotection. Clearwater Beach, FL 2010
PROPHENO – Update, NESTT meeting, San Francisco, CA 2010, 2011,2012
CoolCap Follow-up Study: Outcome at 7-8 years; Hypoxic-Ischemic Encephalopathy Workshop, Bethesda, MD, 2010.
PB or not PB: A question of equipoise; University of Michigan, Ann Arbor, MI; Nationwide Children's Hospita, Columbus, OH; Wayne State University, Detroi, MI; University of Iowa, Iowa City, Iowa; University of Arkansas, Little Rock, AK; University of California, San Francisco, CA. 2011.
"Neonatal Seizures: What's Old, What's New" 15th Annual "A Day with the Newborn", St. Christopher's Hospital for Children, Philadelphia, PA. 2012.
"From Fetus to Newborn" McGill University Teleconference. 2012
Visiting Professor, University of Mississippi, January 2013
"Neonatal Seizures: University of Mississippi, Neonatology Research Conference
"Perinatal Regionalization" University of Mississippi, Perinatal Collaborative Care Conference

"Breaking Bad News" University of Mississippi, Pediatric Grand Rounds
Therapeutic Hypothermia; Toxicology 560, 2012
The Transition From Fetus to Newborn; McGill University 2012, Cornell University, 2012
Process of Discovery, 4th year medical student small group facilitator, 2012, 2013
"Therapeutic Hypothermia" Arnot Ogden Medical Center teleconference, 2013
Junior Faculty Academic Curriculum, Director 2012 – present

Carl Johnston, Ph.D.
Lectured on pulmonary inflammation in the toxicology core class – 2011
Tox 521 Core Course (1 lecture) 2010-present

Nirupama Laroia, M.D.
Optimizing weaning and extubation. Invited speaker, Neocon 2011 Annual Conference National Neonatology Forum, India. 2011
Current Guidelines in Management of Neonates with MSAF. Invited speaker, Obstetric and Gynecology Perinatal Committee Meeting. 2011
Fellows Curriculum:
Hypoxia-Ischemia in the Newborn, 2 lectures. 2010, 2011
Intraventricular Hemorrhage and Post Hemorrhagic Hydrocephalus. 2009, 2010
Neonatal Thermoregulation. 2009, 2010
Glucose metabolism in the fetus and newborn. 2010
Calcium, Magnesium, and phosphorus metabolism in the neonate. 2010
To suction or not to suction? Invited speaker, Obstetrics and Gynecology Business meeting, 2011
Post Discharge Nutrition for the Premature Infant, Update on Vitamin D and Iron. Pediatric Grand Rounds, Rochester General Hospital. 2010
Fetal Alcohol Syndrome and long term developmental effects. Invited Talk. Finger Lakes Regional Perinatal Forum. Canandaigua, NY, 2010
Smoking, Alcohol, drugs and pregnancy. Fetal Health lectures. Two lectures. Boys and girls class, Wilson Magnet School. Rochester, NY, 2010
NRP for Anesthesiologists. Grand Rounds. Dept of Anesthesia. Rochester General Hospital. 2010
Physician Assistant, Rochester Institute of Technology, Rochester, NY. Normal and Sick Newborn. 2000 - Present
Neonatal Nurse Practitioner Course, Course work in Neonatal Neurology, University of Rochester, Rochester, NY. 1999 – Present

Ruth A. Lawrence, M.D.
The Key to Life & Work Balance: Time Management, Pathfinder Protégé Gathering, University of Rochester, July 2011.
Vaccine to Protect Children from Anthrax, National Biodefense Science Board, Washington, DC, July 2011.
3rd Annual Summit on Breastfeeding, Washington, D. C., Chair of event, Sponsored by Kellogg Foundation, June 2011
Breastfeeding Training Days, WIC, Caldwell County Health Department, Lenoir, NC, April, 2011.
22nd Annual Conference on Breastfeeding, Emory University School of Medicine, Atlanta, GA, March 2011.
Time Management, Faculty Colloquium, University of Rochester, June 2, 2010.
Conference Children's Environmental Health, Environmental Toxins and Breastfeeding, Syracuse, NY, June 2, 2010.
2nd Annual Summit on breastfeeding, Washington, D.C., Chair of event, Sponsored by Kellogg Foundation, June 2010.
Time Management, Faculty Seminars, January 19, 2010.
School of Public Health Albany National Broadcast for World Breastfeeding week, Albany, NY, Thursday, August 5, 2008, August 6, 2009, August 7, 2010, August 4, 2011.
Lactation and Breastfeeding, Reproductive Diseases, Disease Processes and Therapeutics, University of Rochester, January 7, 2009, January 6, 2010, March 7, 2011.

NYS Annual Breastfeeding National Broadcast, World Breastfeeding Week – School of Public Health, August 2012.
International Society Research in Human Milk and Lactation, Trieste, Italy, Session Moderator, September 2012.
Academy of Breastfeeding Medicine, Founders Meeting, September 2012.
Kellogg Foundation Board Conference, September 2012.
STEPPS Program for Malpractice Relief, URMC requirement, November 2012.
3rd Wednesday CME Speaker, "The Revolution in Infant Feeding", November 2012
Lecture for graduate students in Epidemiology in Community Medicine, "Epidemiology of Breastfeeding," 2-13/
Grand Rounds: "The Revolution in Infant Feeding," January 2013.
Second Year Medical Students/Women's Health/Breastfeeding, February 2013.
Brooklyn Hospital, all day seminar on newest information on Breastfeeding, 2013.
Breastfeeding Today, all day seminar, Cobb & Douglas Public Health, Atlanta, Georgia, May 2013.
5th Annual Summit/Breastfeeding. Organizer/Chair/Moderator (sponsored by Kellogg Foundation grant to *Breastfeeding Medicine* journal Breastfeeding Special Interest Conference (BFESIG), National Association of Pediatric Nurse Practitioners
(NAPNAP), Baltimore, MD, March 2011.

William M. Maniscalco, M.D.
Mechanisms of vascular disruption in BPD 19th Annual Neonatology Conference, Nemacolin, PA. February 20, 2010.
Screening for congenital cardiac disease, Corning Hospital, 2011
Care of newborns <28 weeks, USAID Conference, Moscow, Russia, May, 2012

Thomas J. Mariani, Ph.D.
Invited Speaker, "Genomics of Lung Development and Disease", Pediatric Academic Societies Annual Meeting, Washington, DC 2013.
Invited Speaker, "Genomics of Bronchopulmonary Dysplasia" ATS International Conference, Philadelphia, 2013.
Invited Speaker, Brasel Basic Science Lecture, "Genomics of Lung Development and Bronchopulmonary Dysplasia" Harbor-UCLA Medical Center, 2013.
Invited Speaker, Comoputational Biology Seminar at IBM Research, "Integrating Systems-Level Analysis to Define the Molecular Bases of Respiratory Disease" Yorktown Heights, NY. 2013.
Co-Director and Lecturer, Bioinformatics Workshop, Queen's University, Kingston, ON, 2012
Faculty, "*Life and Breath*", URMC Dept of Pediatrics Mini-Medical School, 2012
Session Chair, "Neonatal Origins of Adult Pulmonary Disease", American Thoracic Society International Conference, American Thoracic society International Conference, 2012
Session Chair, "Lung Development: Bench to Bedside", American Thoracic Society International Conference, American Thoracic society International Conference, 2012
Invited Speaker, "Genomics of BPD", Department of Pediatrics, University of Alabama, Birmingham, 2012
Invited Speaker, "Mechanistic insights into a COPD candidate gene", Department of Medicine, University of Alabama, Birmingham, 2012
Invited Session Chair, "Elastin in Lung Development and Disease", Gordon Research Conference on Elastin and Elastic Fibers, 2011
Invited Session Chair, "Lung Repair Pathways", Inaugural Gordon Research Conference on Lung Development, Injury and Repair, 2011
Meet the Professor (Invited Speaker), A Primer on Systems Biology Research, American Thoracic Society International Conference, American Thoracic society International Conference, 2011
Co-Chair, EMERGING OXIDATIVE STRESS-RELATED MECHANISMS IN INJURY AND REPAIR, American Thoracic Society International Conference, 2011
Invited Speaker, LET'S START AT THE VERY BEGINNING: EARLY LUNG CARCINOGENESIS, American Thoracic Society International Conference, 2011
Invited Speaker, SMOKE SIGNALS: ILLUMINATING NOVEL TARGETS FOR COPD AND EMPHYSEMA INTERVENTION, American Thoracic Society International Conference, 2011
Invited Speaker, Meet the Professor session, Functional Genomics: Uncovering Disease Biomarkers And Mechanisms, American Thoracic society International conference, New Orleans, LA, 2010
Session Organizer and Chair, Scientific Symposium, Scientific Breakthroughs of the Year: Stem Cells And Regenerative Medicine. American thoracic Society International conference, New Orleans, LA,

2010
Speaker on Career Development (Non-Clinician Track), Center for Fellows and Junior Professionals, American Thoracic Society International Conference, 2011 Invited Speaker, "Systems Biology of Lung Development and Disease", Department of Biochemistry and Center of Excellence in Genomics, University at Buffalo, 2010
Invited Speaker, "Systems Biology of Lung Development and Disease", Department of Pediatrics, Neonatal-Perinatal Fellowship Program, Children's Hospital of Pennsylvania at the University of Pennsylvania, 2010
Director and Lecturer, Transcriptomics and Integrative Genomics Interest Group, University of Rochester, 2010 - 2011
Invited Speaker and Session Chair, Scientific symposium, Translational Systems Biology as Applied To Diseases of Pulmonary Inflammation. American Thoracic Society International Conference, New Orleans, LA, 2010
Session Chair, Scientific symposium, PPAR Gamma: A Novel Target in Lung Cell Biology and Disease. American Thoracic Society International Conference, New Orleans, LA, 2010
Group Organizer, Transcriptomics and Integrative Genomics (TIGER) Working Group, URMC, *2010*
Instructor (2 lectures), TOX521, toxicology Graduate Program, 2009-2010
Lecturer, Clinical and Translational Research Center, University of Rochester, 2010

Jeffrey Meyers, M.D.
Ca/Phos/Mg Metabolism. Fellow Neonatal Medical Knowledge Base Curriculum, URMC 2012.
Host Defense of the Neonate. Fellow Neonatal Medical Knowledge Base Curriculum, URMC 2012.
Pulmonary Development – 3rd year medical student course. URMC 2012.

Michael A. O'Reilly, Ph.D.
TOX 594 – Gene Environment Interactions Course Co-Director overseeing (13 lectures) TOX 521 – Tox Core Course - Course Co-Director and gave (4 lectures)
PM425 – Health promotion and preventive medicine (1 lecture)
Deleted older events

Dale L. Phelps, M.D.
Down and Upsides of Oxygen Saturation (and ROP) Pediatric Grand Rounds and visiting professor. New York Presbyterian Hospital, New York, NY., February 15, 2011.
Retinopathy of Prematurity: Mechanism and Prevention: Web Symposium: Retinopathy of Prematurity. Sponsored by the American Association of Pediatric Ophthalmology and Strabismus. December 2012.
Retinopathy of Prematurity, an Update. NEO the Conference for Neonatology, Orlando, FL. Sponsored by NEDNAX Center for Research, Education and Quality. February 2013.

Gloria S. Pryhuber, M.D.
Fellows' Seminars
Pediatric Fellows' Academic Core Curriculum, 2011, 2013
"Poster Design: Presenting Your Hard Work"
Pediatric Fellows' Academic Core Curriculum, May 2006-2011 "Career Development: Employment After Fellowship"
Pediatric Fellows' Academic Core Curriculum, May 2009-2011 "Career Development: Funding Strategies"
Neonatal Medicine Knowledge Base – Neonatal-Perinatal Medicine Fellow's Core Curriculum Pulmonary Congenital Anomalies" "Lung Development" and "Surfactant Biology" April, November and December (3 sessions) 2010 (Due again Fall 2012)"
Skeletal Dysplasias, NPM Fellow Neonatal Knowledge Base Curriculum, URMC, 2010
Toxicology 522 Organ Systems Toxicology : Section on Pulmonary Toxicology, October, 2001-present
Each year, teach 2-3 of the following:
"Lung Anatomy, Physiology and Experimental Models" "Acute Lung Inflammation, Epithelial Injury and Repair" "Cellular Mechanisms of Lung Injury and Repair"
URMC Pulmonary Biology Seminar – January 18, 2011

"New Approaches To Chronic Lung Disease Of Prematurity: Neonatal Human Lung BioRepository Biomarker Discovery"
URMC Pediatric Biomedical and Translational Research Seminar - December 5, 2011
"Prematurity and Adaptive Immune Development"
The Prematurity and Respiratory Outcomes Program (PROP): Objectives, Design, and Implementation. URMC Pediatric Grand Rounds. 2012.

Arshad Rahman, M.D.

Blocking NF-κB: An Inflammatory Issue, Medical Knowledge Curriculum Meeting, Department of Pediatrics (Neonatology), University of Rochester Medical Center, 2011
Blocking NF-κB: An Inflammatory Issue, 2011 Transatlantic Airway Conference entitled "Pulmonary circulation in health and disease, 19-21 January 2011, Lucerne, Switzerland
Session Chair, Scientific symposium, Novel Airway Epithelial Barrier and Immune Responses. American Thoracic Society International Conference, San Francisco. 2012.
Blocking NF-κB: An Inflammatory Issue, cell biology, Neurobiology and Anatomy Graduate Program, Loyola University Medical Center, Maywood, Illinois, 2012.
A Novel role of Autophagy in Endothelial cell Inflammation and Lung Vascular Injury, American Thoracic Society International Conference, Philadelphia, 2013.

Kristin Scheible, M.D.

Neonatal Immunity. Fellow Neonatal Medical Knowledge Base Curriculum, Department of Pediatrics (Neonatology) University of Rochester Medical Center, 2012
PDA Ligation and Pain Control in the NICU. New Fellow's Orientation, Depatment of Pediatrics (Neonatology), University of Rochester Medical Center, 2012
Time Management in Neonatology Fellowship. New Fellow's Orientation. Department of Pediatrics (Neonatology), University of Rochester Medical Center. 2012.

Laurie Steiner, M.D.

Unbiased Identification of Functional Barrier Insulators in Primary Human Erythroid Cells. Experimental Hematology Seminar. University of Rochester Medical Center. February 2012
Unbiased Identification of Functional Barrier Insulators in Primary Human Erythroid Cells. Neonatology Research Seminar. University of Rochester Medical Center. October 2012
CTCF, Cohesin, and Erythoid Development. Forbes Visiting Scholar Program. University of Rochester Medical Center. 2012.
Neonatal Hematology. Fellow Neonatal Medical Knowledge Base Curriculum, Department of Pediatrics (Neonatology). University of Rochester Medical Center. 2011.

Timothy P. Stevens, M.D., M.P.H.

Neonatal Intensive Care Unit, Neonatology Web site, a resource for resident, fellow and nursing education and clinical care. The site is updated comprehensively once each year and frequently throughout the academic year. It includes a medication reference, resident guide to common neonatal care, and on-call issues, as well as PowerPoint presentations on common neonatal diseases and links to extramural pediatric and neonatal resources, 2004 - present

Perinatal Outreach Program. Twice yearly CME talks, FF Thompson Hospital, Canandaigua, New York, 2001 - present

American Thoracic Society – Annual Meeting
"Risk Factors For Respiratory Disease After Discharge From the NICU" New Orleans, LA, May 16th, 2010.

Invited Speaker, Preventing NICU Central Line-Associated Bloodstream Infection (CLABSI): Current Knowledge, Strategies to Promote Improvement . Evidence-based Neonatology, "Preventing NICU Central Line-Associated Bloodstream Infection (CLABSI): Current Knowledge,"Strategies to Promote Improvement. Stockholm, Sweden, June, 2011.

Invited Speaker, Risk Factors For Respiratory Disease After Discharge From the NICU. Pediatric Academic Society Annual Meeting Topic Symposium: "Beyond Bronchopulmonary Dysplasia: Measuring Long-term respiratory Outcomes in Former Premature Infants." Denver, CO, May 3rd,

2011.

Invited Speaker, Surfactant Administration and It's Timing. Pediatric Academic Society Annual Meeting Topic symposium "The first Golden Minutes of Life of the Preterm Intants", Denver, CO, May 3rd, 2011.

NYS Dept. of Health's Obstetric and Neonatal Quality Collaborative, Albany, NY Feb. 7th 2011.

Invited Speaker, The Limits of Viability. 24th Annual Rochester Conference in Perinatal Medicine, University of Rochester Medical Center, Rochester, NY, May 26, 2011.

"Growth Outcomes for 2009", New York State Perinatal Quality Collaborative. Albany February 7, 2011.

"Results of the NYS RPC Enteral Nutrition Practice Survey", New York State Perinatal Quality Collaborative, Albany. February 7, 2011.

"Data Update: Relationships between Survey Results and SPDS-NICU Module Data", New York State Perinatal Quality Collaborative, Albany. October 26, 2012.

Invited Speaker, Comparative Growth Outcomes Among NYS Regional Perinatal Centers – 2010. NYS Dept of Health's Obstetric and Neonatal Quality Collaborative, Albany, NY, June 8th 2011.

32nd Annual Townsend Teaching Day. "Screening for Congenital Heart Disease in Asymptomatic Patients: Building a Program," Rochester General Hospital, May 2012.

Invited Speaker, "Impediments and Solutions to Feeding Our Tiny Babies" Garden City, NY. March 14, 2013

Robert J. Swantz, M.D.

Teaching in a Busy Inpatient Setting; Faculty Development Workshop, University of Rochester, School of Medicine and Dentistry, March 2, 2010

Perinatal Outreach Program, yearly CME talks, Newark-Wayne Community Hospital, Newark, NY, 1995 – present

Perinatal Outreach Program, yearly CME talks, Nicholas Noyes Memorial Hospital, Dansville, NY, 2000 – present

Course Director PED300 – Pediatric Clerkship, University of Rochester School of Medicine and Dentistry, 2000 – Present

Course Director PEDEXT – Pediatric Sub-Internship, University of Rochester School of Medicine and Dentistry, 2000 – Present

Genes to Generations – lecturer on health care costs, University of Rochester School of Medicine and Dentistry, 2000 - Present

Effective Teaching in the Clinical Setting, lecturer in Pediatric Academic Core Curriculum (hospital-wide fellows), University of Rochester School of Medicine and Dentistry, 2005 - present

"Effective Teaching," annual workshop for second year pediatrics residents, University of Rochester School of Medicine and Dentistry, 1996 – Present

Neonatal Fellow Medical Knowledge Base Curriculum, Group B Strep and Neonatal Dermatological Disorder lecturer, University of Rochester School of Medicine and Dentistry, 2010

Fifth Annual Teaching Day for Neonatal Transport Team, Strong Memorial Hospital, Neonatal Transport Team, June 2010

Jennifer L. Young, Ph.D.

The ECM molecule CCN1 Regulates Inflammation and Lung Injury, 2nd Annual Lung Research Day, University of Rochester, Rochester, NY 2010.

Extracellular Matrix Protein CCN1 (Cyr61) Promotes Neutrophil Recruitment to the Lung. Toxicology Research Day, University of Rochester, Rochester, NY 2010.

Matricellular Protein CCN1 Regulates Neutrophil Recruitment in Acute Lung Injury via Amplification of Neutrophil Chemotaxis. Toxicology Research Day, URMC. 2010.

Extracellular Matrix Protein CCN1 Promotes Neutrophil Recruitment to the Lung. 22nd Annual Genetics Day Poster Symposium, URMC. 2011.

Matricellular Protein CCN1 Regulates Shedding of Endothelial 1CAM1 Toxicology Research Day, URMC. 2012

V. Faculty Data

Memberships and Leadership Roles in Scholarly Societies

Sanjiv B. Amin, M.B.B.S.,M.D., M.S.
American Academy of Pediatrics, 1993 - present
Early Hearing Detection and Intervention, 2003 - present
New York Chapter, 2006 - present
AAP, Perinatal section, 1999 - present
Society for Pediatric Research, 2003 - present

Melissa Carmen, M.D.
American Academy of Pediatrics, 2006-present

Patricia R. Chess, M.D.
American Academy of Pediatrics, 1990 - present
American Thoracic Society, 1994 - present Perinatal
Research Society, 2005 - present Society for
Pediatric Research, 2000 - present

Rita Dadiz, D.O.
American Academy of Pediatrics, 2001-present
American Osteopathic Association, 2002-2013
American Medical Association, 2002-present Society for
Simulation in Healthcare, 2008-present

Carl T. D'Angio, M.D.
American Academy of Pediatrics, 1991 - present
Perinatal Research Society, 2006 - present
Society for Pediatric Research, 1999 - present

David A. Dean, Ph.D.
American Thoracic Society
American Society of Cell Biology
American Society for Gene Therapy
Respiratory Gene Therapy Committee
Physical Methods of Gene Delivery Committee
Society for Experimental Biology
Co-chair 2012 (Chair 2014) Gordon Conference on Bioelectrochemistry

Fabeha Fazal, Ph.D.
American Thoracic Society American
Physiological Society

Jacob N. Finkelstein, Ph.D.
American Association for the Advancement of Science
American Society for Biochemistry and Molecular Biology
American Society for Cell Biology
American Thoracic Society Radiation
Research Society
Society for Leukocyte Biology
Society for Pediatric Research
Society of Toxicology (Inhalation Section)
ASTRO

Ronnie Guillet, M.D., Ph.D.
American Academy of Pediatrics
Society for Pediatric Research
American Pediatric Society

Sema Hart, M.D.
American Academy of Pediatrics, 1991 - present

Carl Johnston, Ph.D. American
Thoracic Society Radiation
Research Society Society of
Toxicology

Nirupama Laroia, M.D.
American Academy of Pediatrics
Breast Feeding Medicine
International Child Health; committee chair, India Giani Scholarship Fund
Neonatal Perinatal Medicine Eastern
Society for Pediatric Research Indian
Academy of Pediatrics
National Neonatology Forum (India)

Ruth A. Lawrence, M.D.
Professional
Academic Affairs Committee, St. Bernard's School of Theology and Ministries, 1991 - present
Academy of Breastfeeding Medicine—Founder, Advisory Board member and former president, 1996 - present
American Academy of Pediatrics, 1960 - present
Chair and member, Section on Breastfeeding, 2002 – present, Chair 2004-2010
American Association of Poison Control Centers, 1962 - present
American Institute of Nutrition, a constituent society of the Federation of American Societies for Experimental Biology, 1996 - present
American Pediatric Society, 1986 - present
Birth Journal, Editorial Board
Breastfeeding Medicine, Editor in Chief
3rd Wednesday CME Program, Director
United States Breastfeeding Committee—vice president and member of Executive Committee, 2002 – 2007, member 1995 - present
Community
Girl Scouts of Genesee Valley, honorary Board member, 2003 – 2010
March of Dimes, Upstate N.Y. Chapter—member, Board of Directors, 2005 – 2009
Our Lady of Mercy High School, Rochester, New York—member, Board of Directors, 2004 – 2010
Anthony Jordan Health Center Foundation, Board member, 2013
Janice Lynn Cohen Symposium, Director, Medicine: Ethics: Religion
Mother's Milk Cooperative, founding Board of Directors, 2013
Medical Nutrition Council of the American Society for Nutrition, 2006 - present
Sigma Delta Epsilon, Graduate Women in Science, honorary member, 1999 - present

William M. Maniscalco, M.D.
American Pediatric Society
American Thoracic Society
Perinatal Research Society
Society for Pediatric Research

Thomas J. Mariani, Ph.D.
Member of Finance Committee, American Thoracic Society, 2013 – present
Member of Planning and Evaluation committee, American Thoracic Society, 2013 - present
Chair-Elect, Gordon Research Conference on Lung Development, Injury and Repair, 2015
Vice-Chair, Gordon Research Conference on Lung Development, Injury and Repair, 2013
American Association for the Advancement of Science, 1991 - Present

American Thoracic Society, 1996 - Present
Group Leader and Reviewer, RCMB Program Committee, 2004-200, 2010-2011

Chair, ATS RCMB Assembly Program Committee, 2009-2010
Co-Chair, ATS RCMB Educational Session Planning Working Group, 2010-2011
Member, ATS RCMB Executive Committee, 2010-2011
Member, Nominating Committee, 2012
American Society for Cell Biology, 1997 - Present
American Physiological Society, 2005 – Present

Jeffrey Meyers, M.D.
American Academy of Pediatrics, 2012 - Present

Robert Notter, M.D., Ph.D.
Sigma Xi
Society for Pediatric Research
Tau Beta Pi
Who's Who in Science and Engineering
Who's Who in the World
Who's Who in America
Who's Who in Medicine and Healthcare

Michael A. O'Reilly, Ph.D.
American Physiological Society
American Thoracic Society Sigma
Beta

Dale L. Phelps, M.D.
American Academy of Pediatrics
American Association for Pediatric Ophthalmology and Strabismus—honorary member, 2006 - present
American Pediatric Society, 1987 - present
Association for Research in Vision and Ophthalmology (ARVO), 1988 - present
Perinatal Research Society, 1986 - present—council member 1986, 1987, 1991; president 1993
Society for Pediatric Research, 1979 – present (emeritus)

Gloria S. Pryhuber, M.D. American
Academy of Pediatrics American
Physiological Society
International Cytokine Society
Perinatal Research Society
American Thoracic Society Society for Pediatric Research
Alpha Omega Alpha Medical Honor Society
American Pediatric Society

Arshad Rahman, Ph.D.
ATS RCMB Assembly Program Committee, 2010- present
American Heart Association
American Physiological Society
American Society for Biochemistry and Molecular Biology
American Thoracic Society
Shock Society

Kristin Scheible, M.D.
American Academy of Pediatrics, 2004 - present

Timothy P. Stevens, M.D., M.P.H.

American Academy of Pediatrics, 1998 - present; fellow, 1990 - present
American Thoracic Society, 2006 - present
Society for Pediatric Research, 2006 - present

Robert J. Swantz, M.D.
American Academy of Pediatrics
Fellow, 1993 - present
Fellow, Perinatal Section, 1997 - present
Council on Medical Student Education in Pediatrics, 1994 - present
Faculty Development Task Force, co-chair, -2008 - 2011

Jennifer L. Young, Ph.D. American
Society for Cell Biology American
Thoracic Society

Service Activities

Sanjiv B. Amin, M.B.B.S., M.D., M.S.
New York Chapter Champion, Newborn Hearing Committee, American Academy of Pediatrics, 2005 – present
GCRC (CTSI) Advisory Committee Member, Rochester, NY, 2007 – present
Perinatal Outreach Program, Park Ridge Hospital, twice yearly CME talks, 2009 – present
New Born Hearing Committee, University of Rochester, NY, 2006 - present
ROP Oversight Committee Member, University of Rochester, NY, 2007 - present
Medical Knowledge Core Curriculum for Neonatology Fellows, Committee Member, University of Reviewer, 2007 – present
Reviewer for Society of Pediatric Research Meeting Workshop Proposals, 2010
Grant application (Mentor for Kunal Gupta) T-32 Dean – Parenteral nutrition associated cholestasis 2012
Manuscript reviewer – 8 to 10 manuscripts for peer-review journals/year 2005-present

Melissa Carmen, M.D.
Regional Perinatal Outreach Coordinator
Finger Lakes Regional Perinatal Resuscitation Program, URMC, 2013-present
Assistant Coordinator, Neonatal Resuscitation Program, URMC, 2013-present
Prenatal Diagnosis Committee, 2012-present

Patricia R. Chess, M.D.
Fellowship Director, Neonatal-Perinatal Medicine Fellowship Program 2010-present
Associate Fellowship Director, Neonatal-Perinatal Medicine Fellowship Program 2009-2010
Chair of Pediatrics, Unity (formerly Parkridge) Hospital, 2006 – present
Pediatric Academic Society, 2004 – present
Medical director, ECMO Program, oversee provision of care to ECMO patients, ELSO Registry,1998 - present
Abstract Reviewer
American Thoracic Society, 2004 - present
APS/SPR Student Research Program Steering Committee 2010-present
Palliative Care Team member, 2005 - present
Pediatric Planning Committee, American Thoracic Society, 2005 - 2010
Neonatal specialist, Preferred Care Health Insurance Children's Health Care Team, 1999 – 2011
Graduate Medical Education Committee, member 2009-present
University of Rochester MD with Research Distinction Advisory Council 2010-present
University of Rochester Advisory Parent Council 2008-present

Outreach coordinator, United Memorial Hospital, Batavia, New York, 2000- present
University of Rochester George Eastman Circle Advisory Council 2011-present Moderator
AAP Perinatal Section Mid-Atlantic Conf. 2010, 2012
Mentor Residency Research Tract: Danielle Renodin-Mead; Justin Goldstein

Rita Dadiz, D.O.
Medical Advisor, Neonatal Resuscitation Program, URMC, 2008-present
Outreach Coordinator, Highland Hospital, 2012.
Program Faculty, International Meeting on Simulation in Healthcare, 2012
Abstract Reviewer, Pediatric Academic Societies, 2011
Activity Director, Planning Committee for Neonatology Fellows' Conference, 2010-present
Board Member, Clinical Education Advisory Board, Center for Experiential Learning, URSMD, 2012-present
Program Faculty, International Meeting on Simulation in Healthcare, 2012
Member:
Pediatric Simulation Workgroup, URMC, 2007-present
Obstetrics Simulation Steering Committee, URMC, 2008-present
Faculty Mentoring Working Group, URMC, 2009-2011
Pediatric Education Committee, URMC, 2010-present
Pediatric Resuscitation Committee, URMC, 2010-present
Clinical Education Advisory Board, Center for Experiential Learning, URSMD, 2012-present
Neonatal-Perinatal Medicine Fellowship Core Faculty, URMC, 2012 – present
Pediatric Grand Rounds Committee, URMC, 2013

Carl T. D'Angio, M.D.
Associate Chair, Board 5, Research Subjects Review Board, University of Rochester, 2004 - present
Editorial Board, *Pediatric Health*
Faculty Senate Research Policy Committee, University of Rochester, 2006 - present
Data Safety and Monitoring Boards
Effects of Massage on Immune System of Preterm Infants. NIH/NCCAM R21 AT001872, 2005 – present
Chair, Data Safety and Monitoring Board, "Intravenous Omega-3 Fatty Acid Emulsion (Omegaven) in Total-Parenteral-Nutrition-Related Cholestasis - A Compassionate Use Protocol, 2008- present,"
University of Rochester Clinical Research Review Process Improvement Team, 2009-present
Safety Monitoring Committee, "Executive Function in Children with Hypertension," NIH/NHLBI 1R01HL098332-01A1, 2011 – present.
Society for Pediatric Research Fellows Research Awards Selection Committee (Clinical Team), 2011-2014

David A. Dean, Ph.D.
Abstract Reviewer: American Society for Gene Therapy, 2004 – present
Editorial Board Member
American Journal of Physiology: Lung Cellular and Molecular Physiology, 2006 - present
Experimental Biology and Medicine, 2006 – present

Fabeha Fazal, Ph.D.
Reviewer
American Journal of Physiology: Heart and Circulatory Physiology
Journal of Biochemistry and Molecular Biology
Frontiers in Bioscience: Molecular Biology in Clinical Practice
Chemical Research in Toxicology
Respiratory Research
International Journal of Biochemistry and Cell Biology
Experimental Cell Research

Jacob N. Finkelstein, Ph.D.

Director of Faculty Development Program, Environmental Health Sciences Center, 2012-present
Policy Committee, Environomental Health Sciences Center
Steering Committee, Pulmonary Training Grant
Steering Committee, Toxicology Training Program

Ronnie Guillet, M.D., Ph.D.
Committees
URMC
Strong Hospital
Town-Gown Committee, Department of Pediatrics, member
Neonatology Morbidity and Mortality Committee, member
Perinatal Morbidity and Mortality Committee, member Prenatal
Diagnosis Committee, member
CTIS Education Directorate, member
OB-GYN Chair Search Committee, member
URMC Mentorship Award Committee, member

Highland Hospital
Medical Executive Committee
Perinatal Morbidity and Mortality Committee, Co-Chair
Perinatal Practice Committee
Pediatric Quality Committee
PAS ad hoc abstract reviews - 2012

Sema Hart, M.D.
Regional Instructor, Neonatal Resuscitation Program (605-6309), 2004 - present

Nirupama Laroia, M.D.
Member, Perinatal Data Systems (PDS) advisory group
Abstract Reviewer. 2012 PAS
Pittsford Career Internship Program. Student mentor. 2009, 2010, 2012
Pediatrics Intern Selection Committee. 2009, 2010, 2011
Committee Chair, India Giani Fund, under the International Health Section of the AAP. 2007 - 2012

Ruth A. Lawrence, M.D.
Consultant, Food and Drug Administration Advisory Council, 2007 - present
Lactation/Drug Center: Back-up consultation;

William M. Maniscalco, M.D.
Member, Pediatric Tenure and Promotion Committee
Outreach Coordinator, Arnot-Ogden Hospital and Corning Hospital
Abstract Reviewer, Pediatric Academic Societies, 2008-2012
Invited session chair, Pediatric Academic Society Annual Meeting, 2010

Thomas J. Mariani, Ph.D.
Member, Pediatrics Website Committee, 2012 - present
Member, ATS RCMB Nominating Committee, 2012 - present
Director and Lecturer, Transcriptomics and Integrative Genomics Interest Group, University of Rochester, 2010 - 2011
Editorial Board, American Journal of Respiratory Cell and Molecular Biology | *2003* - Present Editorial Board, American Journal of Physiology, Lung Cell and Molecular Biology, 2012 – Present Ad Hoc Faculty Promotion Review Committee, 2011-2012
Member, Faculty Search Committees (Microbiology and Immunology, Biostatistics and Computational Biology) 2012 – present
Member, ATS RCMB Executive Committee, 2009-Present
Member, URMC Functional Genomics Oversight Committee, 2011- 2012

Reviewer: *PLoS Computational Biology; Journal of Pediatrics; Pediatric Allergy, Immunology and Pulmonology; PPAR Research; Journal of Molecular Medicine; European Respiratory Journal; Developmental Biology; Bioinformatics; International Journal of COPD; Nucleic Acids Research; Journal of Clinical Investigation; Pediatrics Research; Respiratory Research; American Journal of Pathology; BMC Bioinformatics; BMC Genomics; Physiological Genomics; Cancer Research*; *Clinical Chemistry; Journal of Cellular Physiology; American Journal of Respiratory and Critical Care Medicine; Developmental Dynamics; American Journal of Physiology; American Journal of Respiratory Cell and Molecular Biology;*

Jeffrey Meyers, M.D.
OB service Team, Committee Member, URMC
Perinatal Mortality Conference, Committee Member, URMC

Michael A. O'Reilly, Ph.D.
Editorial Board
American Journal of Physiology: Lung Cellular and Molecular Physiology, 2003 - present
American Journal of Respiratory Cell and Molecular Biology, 2007 – present
Board of Directors
March of Dimes Finger Lakes Chapter, 2012-present

Dale L. Phelps, M.D.
Member
AAO/AAP/AAPOS Joint Statement on ROP Screening, 1997 - present
DSMB for the Division of Lung Diseases Clinically Oriented Research. NIH-NHLBI, 2007 - present
DSMC for the Maternal Fetal Medicine Network. NIH-NICHD, 2006 - present
DSMC for the NIH-NEI PEDIG Group Trials: Multiple Trials Group in Pediatric Ophthalmology, 1997 - present

Gloria S. Pryhuber, M.D.
Member
Dean's Research Advisory Committee, 2000 – 2010
Department of Pediatrics Technology Committee, 2000 – 2010
Graduate Medical Education Committee, 2000 – 2010
Intramural
Director, Histology Services, Depts of Pediatrics and Environmental Services
Extramural
Pediatric Academic Society Annual Meeting, Abstract Referee, 2012, 2013
Pediatric Academic Society Annual Meeting, Session Moderator, 2012
Eastern Society for Pediatric Research Annual Meeting, Session Moderator, 2013

Arshad Rahman, Ph.D.
Institutional Biosafety Committee, University of Rochester, 2009-present
Editorial Board
American Journal of Physiology: Lung Cellular and Molecular Physiology
Science of Advanced Materials
World Journal of Biological Chemistry
BioMed Research International
Recent Patent Reviews on Anti-Infective Drug Discovery

Timothy P. Stevens, M.D., M.P.H.
New York State Regional Perinatal Center Steering Committee, 2005 – present
Medical Director, NICU, University of Rochester Medical Center, 2006-present

Robert J. Swantz, M.D.
Pediatric Education Committee, 1995 - present

Curriculum Steering Committee, University of Rochester School of Medicine and Dentistry, 2006 – 2008
Admissions Committee, University of Rochester School of Medicine and Dentistry, 2007 – 2011
Third and Fourth Year Instruction Committee: vice-chair, 2006-2007; Chair, 2007– 2008
Medical Student Promotion and Review board, University of Rochester School of Medicine and Dentistry, 2008 - present

Jennifer L. Young, PhD
Abstract/Poster Reviewer, Toxicology Research Day, University of Rochester, 2010

VI. Three-Year Bibliography (2010-2013)

Allen, JA Conrad K, Oberdorster G, Johnston CJ, Sleezer B, Cory-Slecta DA. "Developmental exposure to concentrated ambient particles and preference for immediate reward in mice" *Env Health Perspect.* 2013. 121(1):32-38.

Amin SB**.** Effect of Free Fatty Acids on Bilirubin-Albumin Binding Affinity and Unbound Bilirubin in Premature Infants. *JPEN* 2010 34 (4):414-420

Amin SB, Scholer L, Srivastava M. Pre-discharge iron status and its determinants in premature infants. *J Matern Fetal Neonatal Med* 2012. June 29 [Epub ahead of print]

Amin SB, Orlando M. Optimum Click Rate for Neurodevelopmental Evaluation Using Auditory Brainstem Response in Premature Infants. *Am J Perinatol* 2012 May 25 [Epub ahead of print] Amin SB, *Advances in Pediatrics*- book chapter – 2012 - Neonatal Jaundice

Amin SB, Myes G, Wang H, Association between neonatal iron overload and early human brain development in premature infants. J. Autism Dev. Discord 2011, Nov, 1455-63

Amin SB, Myers G, Wang H. Association between neonatal iron overload and early human brain development in premature infants. *Early Human Development.* 2012 88(8)583-7.

Amin SB, Smith T, Wang H, Is Neonatal Jauntice associated with Autism Spectrum Disorders: a systematic review. J Austin Dev Disorder, 2011 November 1455-63

Amin SB, Lamola AA, Newborn jaundice technologies, unbound billirubin and billirubin binding capacity in neonates. J Austin Dev Disorder. 2011. 41(11):1455-63.

Amin SB, Karp J, Benzley LP. Unconjugaed Hyperbilirubinemia and Early Childhood Caries in a Diverse Group of Neonates. American J of Perinatology 2010; 27(5):393-7.

Amin SB, Scholer L, Srivastava M. Pre-discharge iron status and its determinants in premature infants. J Maternal Fetal Neonatal Med. 20122012. 25(11)2265-9.

Amin SB, Burnell E. Monitoring Apnea of Prematurity: Validity of Nursing Documentation and Bedside Cardiorespiratory Monitor. Am J. Perinatol. 2012.

Amin SB, Miravalle N. Effect of ibuprofen on bilirubin-albumin binding affinity in premature infants. Journal of Perinatal Medicine 2011 Jan;39(1):55-8.

Amin SB, Orlando M, Eddins A, et al. In-utero Iron Status and Auditory Neural Maturation in Premature Infants as Evaluated by Auditory Brainstem Response. J Pediatrics 2010; 156(3):377-81.

Amin SB, Wang H. Histologic chorioamnionitis and acute neurological impairment in premature infants. J*ournal of Maternal Fetal Neonatal Medicine* 2010 October; 23(10):1165-1171.

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Badding, MA, Dean, DA. Highly acetylated tubulin permits enhanced interactions with a trafficking of plasmids along microtubules. *Gene Ther.* In press.

Badding, MA, Dean, DA. Identification of proteins that compose the plasmid trafficking complex and play a role in cytoplasmic transport during gene transfer. *Mol Ther*, 21:775-785.

Ben Saad T, Chess P. Pegoli W, Katzman W. Evaluation and treatment of emphysema in a preterm infant.

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Bhattacharya S, Tyagi S, Srisuma S, DeMeo DL, Shapiro SD, bueno R, Silverman EK, Reilly JJ, Mariani TJ. Peripheral blood gene expression profiles in COPD subjects. *J Clin Bioinformatics 2011; 1(12).*
Bhattacharya S, Go D, Krenitsky D, Huyck H, Solleti S, Lunger V, Metlay L, Srisuma S, Wert S, Mariani T, Pryhuber G. Genome-Wide Transcriptional Profiling Reveals Connective Tissue Mast Cell Accumulation in Bronchopulmonary Dysplasia. Am J Respir Crit Care Med. 2012 June 21 [Epub ahead of print]
Bhattacharya S, Mariani TJ. "Systems biology approaches to identify developmental bases for lung disease." *Pediatric Research.* 73(4 Pt 2): 514-22. 2013.
Bijli KM, Fazal F, Rahman A. Regulation of RelA/65 and endothelial cell inflammation by prolinerich tyrosine kinase 2. *Am J Respir Cell Mol Biol* 47:660-668. 2012.
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Buczynski BW, Yee M, Lawrence BP, O'Reilly MA. Lung development and the host response to influenza A virus are altered by different doses of neonatal oxygen in mice. Am J Physiol Lung Cell Mol Physiol. 302: L1078-87, 2012.
Buczynski BW, Madwueke E, and O'Reilly MA. The role of hyperoxia in the pathogenesis of experimental BPD. *Semin. Perinatol.* 37:69-78. 2013.
Butler-O'Hara M; D'Angio CT, Hoey H, Stevens TP "An evidence-based catheter bundle alters central venous catheter strategy in newborn infants." J Pediatr. 2012; 160(6):972-7.e2.
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Brownell EA, Howard CR, Lawrence RA, Dozier AM. Delayed onset lactogenesis II predicts the cessation of any or exclusive breastfeeding. *Journal of Pediatrics.* 2012. Volume 7.
Brownell EA, Howard CR, Lawrence RA, Dozier AM. The effects of immediate postpartum depot medroxyprogesterone on early breastfeeding cessation. *Contraception.* 2012. 87(6): 836-43.
Brownell EA, Howard CR, Lawrence RA, Dozier AR. Does delayed onset lactogenesis II predict the cessation of any or exclusive breastfeeding?. *Journal of Pediatrics.* 2012. 161(4)608-43.
Bozyk PD, Bentley JK, Popova AP, Anyanwu AC, Pryhuber GS. *PloS One.*Neonatal periostin knockout mice are protected from hyperoxia-induced alveolar simplication. 2012;7(2):e331336. [epub 2012 Feb17]

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Carroll KN, Griffin MR, Edwards KM, Ali A, Zhu Y, Iwane M, Szilagyi P, Staat M, Stevens T, Hall C, Williams J, Hartert T. "Adherence to guidelines for respiratory suncytial virus immunoprophylaxis among infants with prematurity or chronic lung disease in three United States counties" The Pediatric Infectious Disease Journal. 2012 Epub 2012 Jul 3.
Caserta M, Scheible K, Pryhuber G. Pediatric viral respiratory pathogen susceptibility and sequelae related to perinatal immune-development (in revision)
Chess PR, Benson RP, Maniscalco WM, Wright TW, O'Relly MA, Johnston CJ, Murine mechanical ventilation stimulates alveolar epithelial cell proliferation. Exp Lung Research, 2010; 36(6)331-341
Chess PR, Malhotra Y, Laroia N. Neonatal Care and Transport. *Nancy Caroline's Emergency Care in the Streets,* Seventh edition. Guerrero C Ed.and Jones and Bartlett publishers, 2012 874-921.
Chess PR, Malhotra Y, Laroia N. Neonatal Emergencies In: *Critical Care Trans*port, Emerton C ed. Jones and Bartlett publishers. 874-921 (2012).
Chess PR, Nayrouz M. Prenatal Glucocorticoid treatment and effect on lung development. Strong Perifax 978: 1-6. 2012
Chess PR, Benson R, Maniscalco W, Wright T, O'Reilly M, Johnston C. Murine Mechanical Ventilation Stimulates Alveolar Epithelial Cell Proliferation. *Exp Lung Res* 36(6)331-41. 2010.

Choo-Wing R; Syed M, Harijith A, Bowen B, Pryhuber G, et al. "Hyperoxia and Interferon-g Induced Injury in Developing Lungs Occur via Cox2 and the ER Stress Dependent Pathway.: *Am J Resp Cell and Mol Viol.*48(6): 749-57. 2013.

Christiansen SP, Dobson V, Quinn GE, Good WV, Tung B, Hardy RJ, Baker JD, Hoffman RO, Reynolds JD, Rychwalski PJ, Shapiro MJ, Early Treatment for Retinopathy of Prematurity Cooperative Group. Progression of type 2 to type 1 retinopathy of prematurity in the Early Treatment for Retinopathy of Prematurity Study. [Phelps DL as PI of the Rochester participating center and member of Permanent Executive Committee]. *Arch Ophthalmol* 2010; 128(4):461-465.

D'Angio CT, Heyne RJ, O'Shea TM, Schelonka RL, Shankaran S, Duara S, Goldberg RN, Stoll BJ, Van Meurs KP, Vohr BR, Das A, Li L, Burton RL, Hastings B, Phelps DL, Sanchez PJ, Carlo WA, Stevenson DK, Higgins RD. Heptavalent pneumococcal conjugate vaccine immunogenicity in very- low-birth-weight, premature infants. NICHD Neonatal Research Network. *Pediatr Infect Dis J* 2010
Jul; 29(7):600-6. PMID: 20234331. [PubMed – indexed for MEDLINE.]

D'Angio CT, Heyne RJ, Duara S, Holmes LC, O'Shea TM, Wang H, Wang D, Sanchez PJ, Welliver RC, Ryan RM, Schnabel KC, Hall CB; for the Premature Infant Vaccine Collaborative. Immunogenicity of trivalent influenza vaccine in extremely-low-birth-weight, premature versus term infants. *Pediatr Infect Dis J* 2011; 30(7):570-574.

Dadiz R, Guillet R. Interdisciplinary education: Improving communication and teamwork amongst pediatric and obstetric providers. *NeoReviews* 2011; 12(2):e63-8.

Dadiz R, Weinschreider J, Guillet R, et al. Interdisciplinary simulation-based training to improve delivery room communication. *Simul Healthc.* 2013. In press.

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Dean, DA, Barravecchia, B, Danziger, Lin, X. Use of Electroporation for efficacious gene delivery to the lungs. *ECS Trans* 35:167-177. 2011

Dean, DA. Cell-specific targeting strategies for electroporation-mediated gene delivery in cells and animals. *J Membrane Biol.* In press.

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Edirisinghe I, Arunachalam G, Wong C, Yao H, Rahman A, Phipps RP, Jin ZG, Rahman I. Cigarette smoke-induced oxidative/nitrosative stress impairs VEGF- and fluid shear stress-mediated signaling in endothelial cells. Antioxid Redox Signal 2010; 22:2297-2310.

Eldib M, Dean DA. Cyclic Stretch of Alveolar Epithelial Cells alters Cytoskelethal Micromechanics. *Biotechnology and Bioengineering 2010; 108:446-53.*

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