Pediatric Heart Disease Research Fortified By NHLBI SCCOR Grant

A major federal grant award boosts cardiac research at The Children's Hospital of Philadelphia by supporting a coordinated research program into the causes and treatments of heart disease in children. The award is part of a federal initiative to foster “bench to bedside” studies. Children's Hospital is one of only four centers nationwide designated by the National Heart, Lung and Blood Institute as a Specialized Center of Clinically Oriented Research (SCCOR) in Pediatric Heart Development and Disease. The Hospital’s SCCOR program is a new initiative designed to speed the process by which advances in basic scientific knowledge are translated into innovative treatments for patients.

Robert Levy, M.D., Division of Cardiology, who is appointed to the William J. Rashkind Endowed Chair in Pediatric Cardiology, serves as the principal investigator of the five-year, $19.9 million award. The award will allow Dr. Levy and his colleagues to transform their research on the congenital heart abnormalities into practical treatments. The program draws on the talents of multidisciplinary teams, including cardiologists, cardiac surgeons, geneticists and biostatisticians. Together, these teams will work to develop new tools such as gene-based diagnoses and gene therapy approaches to congenital heart disease and improved biologically-based materials for heart surgery, such as heart valves.

The Hospital’s SCCOR program will support five research projects, all seeking research directions that can lead to clinical benefits for patients and families. The first project, led by Dr. Levy, will study cellular and molecular mechanisms influencing the use of replacement heart valves for children with heart disease. In Project 2, Deborah Driscoll, M.D., Division of Human Genetics and Molecular Biology, will analyze the role of certain genes involved in early cardiac development in children with defects of the outflow tract.

Elizabeth Goldmuntz, M.D., Division of Cardiology, will lead Project 3, which will focus on the how genetic alterations affect heart anatomy and clinical outcomes in children with complex congenital heart disease. The focus of Project 4, headed by Ian Krantz, M.D., Division of Human Genetics and Molecular Biology, is on the associations between heart defects and gene rearrangements in and near telomeres, regions of chromosomes that have been seldom studied until recently.

Beverly Emanuel, Ph.D., chief, Division of Human Genetics and Molecular Biology, and co-director of the SCCOR program, will lead the fifth project. This initiative will draw on the Human Genome Project to identify genes critical to early heart development, specifically those associated with chromosomal breakpoints, vulnerable regions at which chromosomes may break apart and rearrange themselves. The SCCOR’s projects will be supported by several cores, including a clinical core led by Dr. Goldmuntz; a cell culture and DNA analysis core directed by Dr. Emanuel; a cardiac morphology, gene expression and histology core directed by Kenneth Ryan, Ph.D.; and a bioinformatics and data analysis core headed by Peter White, Ph.D., director of the Hospital’s Bioinformatics Core.

Science and Technology Symposium Set for April 29

The second annual Science and Technology Review Symposium is slated for Thursday, April 29 in the Leonard and Madlyn Abramson Pediatric Research Center. The Technology Transfer Department will host the symposium, which aims to emphasize the breadth of the research programs at the Joseph Stokes Jr. Research Institute to industry and the venture capital community, and to highlight Hospital technologies that are available for licensing and commercialization.

Short scientific presentations by selected Stokes Institute investigators and an inventors’ poster session will be featured during the day-long event. The symposium was established to provide a forum for interaction between the Stokes Institute and industry; heighten corporate awareness of the research conducted at Children’s Hospital, and convene a set of companies to have a first look at technologies developed at the Stokes Institute.
Children’s Hospital has long supported and valued the training of young pediatric scientists—the next generation of investigators whose research may advance the healthcare of children. Clinical, translational and basic fellows showcased their research at the 14th annual Children’s Hospital/Stokes Institute Fellow’s Research Poster Day on Feb. 12.

Nearly 125 abstracts were presented for presentation during the poster day, a voluntary event organized by William Fox, M.D., Division of Neonatology, Helen Korchak, Ph.D., Division of Allergy and Immunology and Roger Wood, director of Research Operations. Approximately 20 percent of the abstracts featured at the poster day have been presented at professional meetings outside of Children’s Hospital.

This year, generous support for the event was provided by Mrs. Mary Hummeler, wife of the late Dr. Klaus Hummeler, the first director of Stokes. With Mrs. Hummeler’s support, a proceedings book was produced and prizes were awarded for outstanding presentations in clinical, translational and basic research presented by clinical and postdoctoral fellows and pre-doctoral candidates.

Ilia Fishbein, M.D., Division of Cardiology, received the innovation award for his poster entitled, “Gene stents: adenovirus delivery using metallo-bisphosphonate coordination chemistry.”

Awards were made to 19 other fellows. The awardees and their poster topics were:

**New Research Employees (February 2004)**

We wish to welcome the following new research employees:

**Clinical Trials Team Leader**
Jeffrey Dragone

**Bioinformatics Specialist**
Ge Zhang

**Database Analyst**
Julie DiStefano-Pappas

**Research Associates**
Paul Hallberg
Guang Yang

**Research Coordinator**
Stacy Gleason

**Research Education and Training Specialist**
Jodi-Ann Leckrone

**Research Technicians**
Roksolana Hnatyuk
Julian Ostrovsky
Allis Ottey
Kathleen Taylor
Yuan Wang

**Research Coordinator**
Stacy Gleason

**Research Education and Training Specialist**
Jodi-Ann Leckrone

**Research Technicians**
Roksolana Hnatyuk
Julian Ostrovsky
Allis Ottey
Kathleen Taylor
Yuan Wang

**Fellow’s Research Poster Day**

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**Osheiza Abdulmalik, Ph.D., Division of Hematology.** “Complete correction of sickle cell disease pathophysiology in high-level allogeneic chimeras created by a strategy of in utero hematopoietic cell transplantation with postnatal enhancement of chimerism.”

**Monita Airen, M.D., Division of Pulmonary Medicine.** “Cough peak flow measurements in normal school-age children.”

**Sai Buddai, Ph.D., Division of Hematology.** “A specific RNA aptamer probe for the interaction between Factors Xa and Va within human prothrombinase.”

**Lucrezia Colonna, Division of Rheumatology.** “Dendritic cells characterization in a murine model of lupus.”

**Daniel Delaney, Division of Urology.** “Cryptorchid histology in patients with non-fusion of testis and epididymis.”

**Eric Frehm, M.D., Division of Neonatology.** “Control of nitric oxide-heme reactivity by the proximal histidine.”

**Joshua Friedman, M.D., Ph.D., Division of Gastroenterology and Nutrition.** “FOXA1 and FOXA2 are required for the specification of the liver.”

**Nina Ham, M.D., Division of Endocrinology.** “Growth hormone testing in young adults treated in children with cranio-sacral radiation therapy.”

**Amy Hirshfeld, M.D., Division of Cardiology.** “Parent-reported health status following pediatric thoracic organ transplant.”

**Grace Hyun, M.D., Division of Urology.** “Coordinated expression of proteins regulating calcium sensitization and desensitization pathways in the detrusor from obstructed bladders and in cultured bladder myocytes.”

**David Munson, M.D., Division of Neonatology.** “Evaluation of pulmonary and systemic nitric oxide metabolites in a baboon model of neonatal chronic lung disease.”

**Rachit Ohri, Ph.D., Division of Cardiology.** “Harnessing osteopontin and other natural inhibitors to mitigate ectopic calcification of bioprosthetic heart valve material.”

**Elena Perez, M.D., Ph.D., Division of Allergy and Immunology.** “HIV resistance in primary CD4 T cells engineered to express a gp41-derived peptide entry inhibitor.”

**Marnie Robinson, M.D., Department of Anesthesiology and Critical Care Medicine.** “Incidence of neurological complications following placement of epidural and caudal catheters for post-operative pain control in children under general anesthesia.”

**Emily Rowell, Department of Pathology.** “The cyclin-dependent kinase inhibitor p18ink4c inhibits T cell apoptosis and opposes transplantation tolerance induced by costimulatory blockade.”

**Samir Shah, M.D., Division of Infectious Diseases.** “Clinical and laboratory features allowing early differentiation of lyme and entroviral meningitis.”
Academic Associates Aid Clinical Research in ED

Academic Associates have helped enroll more than 5,000 subjects in clinical studies ranging from trials to prevent home injuries to identifying children with asthma in need of additional services and teaching, which are provided by a collaborative program funded by the Robert Wood Johnson Foundation. The associates also assist in carrying out studies sponsored by the nationwide Pediatric Emergency Care Applied Research Network (PECARN), of which Children's Hospital is a member.

In addition, Academic Associates participate in various service projects, such as providing helmets to children injured in bike accidents as part of a program funded by the Injury Free Coalition.

“The unique experience for the students to spend time in our ED as part of our research team in a very structured role,” says Joseph Zorc, M.D., director of the Hospital's Academic Associate Program. “The program not only serves as a unique opportunity for students to work with physicians and nurses in a clinical setting, but it allows us to gather valuable pieces of information needed for successfully conducting clinical studies in the ED.”

Research at The Children's Hospital of Philadelphia

Faculty Honors/Awards

Terri Finkel, M.D. Ph.D., chief, Division of Rheumatology, was recently awarded the Bender Foundation 2003 award for HIV research. The foundation has made numerous donations toward the purchase of research equipment and made the award to Dr. Finkel for her research on the complex interactions between HIV and the immune system.

Randy Cron, M.D., Division of Rheumatology, received the Kahn Foundation 2003 award for lupus research. The foundation supports research into systemic lupus erythematosus. In addition, Dr. Cron, along with Mary Leonard, M.D., Division of Nephrology, received the Nickolett Family 2003 Award for research on juvenile rheumatoid arthritis.

Phyllis Dennerly, M.D., chief, Division of Neonatology, and Gerd Blobel, M.D., Division of Hematology, were recently elected to the American Society for Clinical Investigation, an honor society of physician-scientists who work to translate laboratory findings into clinical practice.

Steven Douglas, M.D., Division of Allergy and Immunology, was elected to the American Pediatric Society.

Gerd Blobel, M.D.

Mary Leonard, M.D.

Catherine Manno, M.D.

Faculty Honors/Awards

RESEARCH at The Children's Hospital of Philadelphia

Internal Award Program

The Mental Retardation and Developmental Disabilities Research Center (MRDDRC) at Children's Hospital is accepting applications for an internal award program.

The Alavi-Dabiri Postdoctoral Fellowship Award provides $6,500 of supplemental support of postdoctoral fellows pursuing careers in fields related to mental retardation and developmental disabilities. This new award is funded by an endowment to the MRDDRC by Drs. Abass and Jane Alavi. Dr. Abass Alavi is chief of Nuclear Medicine at the Hospital of the University of Pennsylvania (HUP) and a professor of radiology; Dr. Jane Alavi is an associate professor of hematology-oncology at HUP. To apply, postdoctoral fellows should submit a preliminary one-page application by April 9, 2004. Detailed information on the requirements for the preliminary proposal, as well as the full proposal, is available at stokes.chop.edu/mrddrc/mrddrc.html.
Interim Research IT Director Appointed

Evan Crawford, director of Emerging Technologies in Information Systems for the Hospital, is leading the initial implementation of the Research/IT Strategic Plan by serving as the interim director of the department. He will serve in this role on a half-time basis until a permanent director is hired.

The Research/IT Strategic Plan provides a roadmap for Information Systems to more effectively meet the special needs of researchers. A key component of the plan is to provide dedicated technical support for researchers. Under Evan’s direction, a team of two Macintosh-friendly field technicians will be established to provide service to researchers in the Abramson Research Center and 3535 Market Street.

In addition, Evan is working on other IS issues affecting the research community, including e-mail attachment size and secure ftp services. He will also pilot a secure data storage and automatic back-up with clinical researchers at 3535 Market St.

Evan can be reached through the Hospital’s e-mail system at crawford@email.chop.edu.

FYI

NIH Salary Cap Increase: On March 3, a retroactive pay increase was implemented for federal employees, including those receiving executive level salaries. As a result, the Executive Level I salary level increased, from $174,500 to $175,700. If grant awards (competing or non-competing) have already been issued in fiscal year 2004, no adjustments will be made. However, rebudgeting is allowed. Additional details on the salary limitation can be found on the NIH’s Web site under “Salary Limitation on Grants, Cooperative Agreements, and Contracts.”

New Indirect Rate Correction: The February 2004 issue of Bench to Bedside reported that the new indirect cost rates dropped to 66 percent for fiscal years 2004 and 2005. The actual rate for FY04 is 67 percent; the 66 percent rate is applicable to fiscal years 2005 and 2006.

Communications with Members: The Stokes Institute has established a weekly announcement e-mail message to improve communications while reducing e-mail traffic. The messages, distributed each Thursday, will contain short descriptions of announcements compiled (and presented on the Stokes Web site) throughout the week. A short description and a link to access further information will be provided for each item in the message. Contact Roger Wood (wood@email.chop.edu) with questions or comments.

Recent Grant Awards

The following is a list of recent (March 2004) new and competing continuation awards, as well as grant transfers to Hospital investigators. The list includes awards from public and not-for-profit agencies; however, due to confidentiality issues, information on corporate-sponsored research agreements is not listed.

Jeffrey Bergelson, M.D., Naturalization-Resistant Adenovirus Vaccine Vector, $332,333, 2 years (NIH)
Wenzhe Ho, M.D., Drug Abuse, Substance P and HIV, $1,560,035, 5 years (NIH)
Itzhak Nissim, Ph.D., Regulation of 15N Urea Isotopomers Production, $1,878,750, 5 years (NIH)
Stanton Segal, M.D., Galactosemia: Identification by Metabolic Liver Biopsy, $332,500, 2 Years (NIH)

HAVE NEWS?  Contact Jennifer Long at ext. 4-2105 or via e-mail at longj@email.chop.edu.  Read this and previous versions of Bench to Bedside online at http://stokes.chop.edu/intranet/pubs/