



Children's Memorial
Research Center™

Fall 2009
Volume 6: Issue 3

A Member of the
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of Northwestern University
Chicago, Illinois

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InTouch

WITH RESEARCH

at Children's Memorial Research Center

Biomedical Research Symposium



Photo: Children's Memorial Audio-Visual Department

Biomedical Research Symposium 2009 poster award winners

On September 18, the first annual Biomedical Research Symposium was held at Children's Memorial Research Center. The event — organized by the center's Pre- and Postdoctoral Training Program's graduate students, postdoctoral fellows and clinical fellows — showcased research work of the trainees and featured the inaugural Dr. Bernard L. Mirkin, PhD, MD Honorary Lecture.

During the morning session, trainees and several faculty members presented talks to incoming students from three of Northwestern University's biomedical science graduate programs. The talks served as a recruiting tool, introducing the students to research opportunities available at the research center.

Following the morning session, the honorary lecture, in tribute to the founding director of the research center, was presented. D. Woodrow Benson MD, PhD, Director of Cardiovascular Genetics at the University of Cincinnati's College of Medicine, spoke to a capacity audience that included a diverse mix of students, trainees, faculty and clinicians from Chicago's biomedical research community.

[continued]



Director's Message:

A Milestone Year



Mary J.C. Hendrix, PhD,
Medical Research Institute
Council Professor, President
& Scientific Director,
Children's Memorial
Research Center

Over the course of the past year, we have experienced the shifting winds of the economy, which have impacted research funding considerably. Despite the turbulence, our research investigators have worked tirelessly to secure \$34.8 million in extramural funding, which represents a 9.7 percent increase compared with last year's portfolio. This noteworthy accomplishment underscores the novel and competitive nature of our researchers' work as well as a robust supportive infrastructure.

The research center's six major programs remain strong with over 200 faculty members in: Cancer Biology and Epigenomics, led by Dr. Bento Soares; Clinical and Translational Research, led by Dr. Ram Yogev; Developmental Biology, led by Dr. Philip Iannaccone; Human Molecular Genetics, led by Dr. Ann Harris; Neurobiology, led by Dr. Martha

Bohn; and Smith Child Health Research, led by Dr. Xiaobin Wang. The Pre- and Postdoctoral Training Program, led by Dr. Hans-Georg Simon, has grown to 16 graduate students, 24 postdoctoral fellows, and 10 clinical fellows. Our programs are part of a Collaborative Opportunities Initiative with our colleagues at Northwestern University's Feinberg School of Medicine. Through this initiative, we are fostering an exchange of scientific ideas in thematic areas of common interest that will lead to better health-care for all children.

As always, I would like to thank the Medical Research Institute Council (MRIC) for the longstanding partnership it maintains with the research center. We are gratefully indebted to all our generous donors who support our research in so many ways.

InTouch
WITH RESEARCH
at Children's Memorial Research Center

Published by Children's
Memorial Research Center

Fall 2009
Volume 6: Issue 3

www.childrensmrc.org

Children's Memorial Research Center is the research arm of Children's Memorial Hospital, and a virtual center for pediatric research at Northwestern University's Feinberg School of Medicine. Founded in 1989, the research enterprise has grown to include more than 200 investigators and more than \$34 million in external funding for research, two-thirds from the NIH and other federal agencies.

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Biomedical Research Symposium (continued from cover)

Hans-Georg Simon, PhD, director of the Training Program, had invited as a special guest the late Dr. Mirkin's wife, Sarah. Mrs. Mirkin was deeply moved by the passion and professionalism of the trainees, noting: "The students have carried Bernard's spirit on in a way he would have been very proud of."

The afternoon featured a poster session highlighting the research accomplishments of the trainees. The day concluded with a wine and cheese reception featuring prizes for best posters. The winners were: senior graduate students (Chris Ott, [Harris lab](#) and Kate Meyer, [Morris lab](#)), junior graduate students (Catherine Willis, [Kluppel lab](#) and Rocco Gogliotti, [DiDonato lab](#)), postdoctoral fellows (Katharine Hardy, PhD, [Hendrix lab](#) and Jerry Rhee, PhD, [Iannaccone lab](#)), and staff (Fabricio Costa, PhD, [Soares lab](#) and Mike Mutolo, MS, [Harris lab](#)).

by Austin Gillen



D. Woodrow Benson, MD, PhD, with Sarah Mirkin

The iPS and Human Stem Cell Core

Photo: Children's Memorial Audio-Visual Department



Vasil Galat, PhD

Vasil Galat, PhD, director of the iPS and Human Stem Cell Core facility at the research center, explains what the facility does.

What goes on in the stem cell core?

Currently we have several human embryonic stem cell lines (hESCs) that we established from frozen fresh embryos donated for research, in accordance with all ethical standards. We have Institutional Review Board approval and receive

Northwestern University Committee on Human Stem Cell Research oversight.

Is it difficult to establish a cell line from these donated embryos?

Yes — it's not straightforward. It depends on the quality of the embryo and experience of the person working with it. The cell mass represents 64 cells, and potentially these can develop into stem cells. The tricky part is to get the colonies to proliferate and keep them from differentiating. When you have just a few cells, it's especially difficult and requires special attention to get those cells off the ground.

What is ultimately done with those stem cell lines?

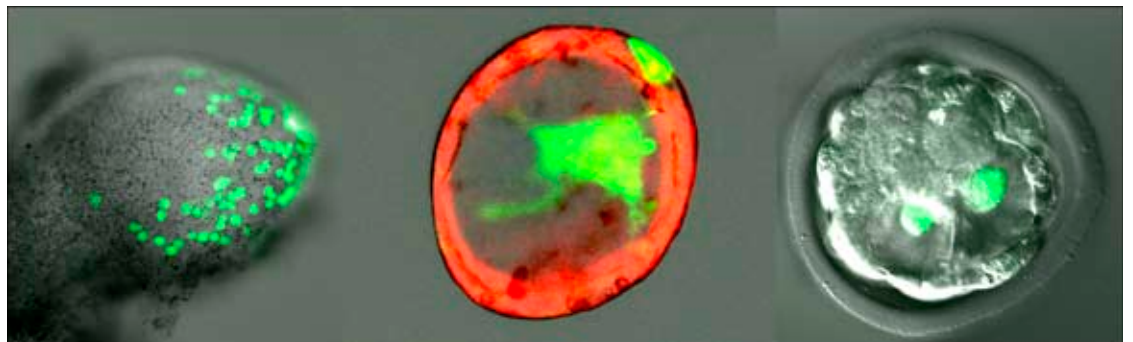
We develop them to understand what pluripotency is, and what steps make cells differentiate in different directions.

What kinds of experiments do you perform to test pluripotency?

There are some established markers that characterize cells as pluripotent, but the criteria are still developing. Recently we discovered a novel marker involved in cell communication, and we are working on its characterization. Also, embryonic stem cells (ESCs) behave in a certain way. For instance, they are capable of generating embryonic bodies that resemble embryonic development and produce teratomas. The main feature of ESCs is that they produce different types of tissue initially composed of embryonic germ layers: mesodermal, endodermal, ectodermal and germ line. For example, the ectodermal layer gives rise to skin, hair and neural progenitors.

With whom are you working? Do you have your own research, and also generate lines for other groups?

We have a research program, and we also establish collaborative projects. The stem cell core is not a service for fee type facility; instead, we provide services by collaboration. Since the technology is not straightforward, some types of research can be done but some cannot. We discuss and collaborate — and see if the projects can be established. Our most extensive collaboration is with the Soares laboratory, especially with Sergey Malchenko. The Hendrix lab, Laura Herzing, Debra Weese-Mayer, and some investigators from Northwestern University and Rush Medical Center are also working with us. Hopefully we will get more funding and be able to extend our collaborations even further.



Establishment of a novel embryonic stem cell that populates the yolk sac (Vasil Galat, PhD)

Student News:

Grantsmanship Workshop Enters its Second Year



Photo: Andrew Campbell

Gina Kirsammer

Gina Kirsammer, PhD has joined the laboratory of [Mary J.C. Hendrix, PhD](#) as a postdoctoral fellow. She received her undergraduate and doctoral degrees from the University of Chicago. Kirsammer will be studying Nodal signaling in breast cancer in the Hendrix laboratory.

by Tyler Schwend

A two-day workshop entitled “Grantsmanship for the Research Professional” was held during

August at the research center, the second year for this popular course. Three graduate students, six postdoctoral fellows, and four clinical fellows from eleven different Children’s Memorial laboratories participated. Intended to enhance trainees’ skill levels in writing winning grant proposals, the course was organized by the Training Program and taught by Holly Falk-Krzesinski, PhD, Director of the [Office of Research Development](#) at Northwestern University. Falk-Krzesinski has unique experience in science and managing science that makes her particularly suited to teach these skills.

The workshop familiarized trainees with:

- Using electronic search tools to effectively identify appropriate funding opportunities;
- Mastering fundamental principles of grant proposal writing;
- Developing proposals that meet an agency’s mission;
- Developing the hypothesis and specific aims sections of proposals;

- Incorporating review criteria into proposal writing;
- Mastering electronic proposal submission;
- Increasing the opportunity of getting a proposal funded.

Silvana Bonilla, MD (clinical fellow, Whittington laboratory), Rosa Carrasco, MD (clinical fellow, De Plaen laboratory) and Susan Park, PhD (postdoctoral fellow, Simon laboratory) had the following to say about the workshop:

“This is really a paradigm shift from presenting data in a publication to writing a grant. You need to frame your research before you’ve started doing it, so your thinking has to be different.”

“Before this seminar, I was intimidated by the process, but now I am feeling motivated and inspired.”

“I will use the knowledge I’ve gained to consider how I will approach my fellowship project. It’s good to know what is required to receive a grant before starting the project so that I can get started on the right foot.”

The iPS and Human Stem Cell Core (continued from previous page)

Can you tell me a little about your collaborative work with Bento Soares and Sergey Malchenko?

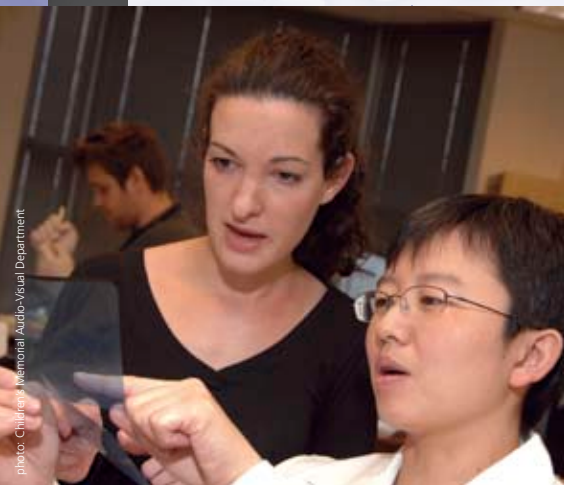
The main focus is to establish the molecular signature of pluripotency. We did profiling of ESCs and also neural stem cells, and are comparing those signatures. Additionally, we collected cells at initial stages of differentiation and established molecular signatures. There are lots of interesting outcomes from this work. We already defined the pathways involved, and established that each stem cell line tends to differentiate in a unique way. But all of them have those first steps. Ultimately, we want to be able to establish neural stem cells by direct reprogramming of adult cells to stem cells.

This is an exciting technology because it provides the potential to generate embryonic stem-like cells from a particular person, whose cells would be immunotolerant. One could take, for example, skin cells and convert them into embryonic-like cells, which would differentiate into cells that can be used for replacement therapy. Elio Vanin in the Soares lab has designed a number of vectors to transform to pluripotent types of cells. At present, this technology has not achieved a safety level sufficient for patient treatment. But there is great hope that it will be a reality in the not-too-distant future.

For more information on the iPS and Human Stem Cell Core facility, visit www.childrensmrc.org/stemcellcore/

Profile:

Christina Khodr



Christina Khodr, PhD (left)
with postdoctoral fellow
Ye Han, PhD

Christina Khodr, PhD, postdoctoral fellow in the laboratory of Martha C. Bohn, PhD, has been chosen for a slot on the **General Motor Control Mechanisms and Disease Training Grant** awarded by the **National Institute of Neurological Disorders and Stroke (NINDS)**. D. James Surmeier, PhD of Northwestern University is the Principal Investigator and Training Program Director. The program is administered through the **Northwestern University Interdepartmental Neuroscience Program (NUIN)**.

Christina's research involves Parkinson's disease (PD), a progressive disorder of the nervous system. The disorder affects several regions of the brain, including an area called the substantia nigra that is involved in the control of movement. In PD, clinical symptoms occur when approximately 50 percent of dopamine neurons in the substantia nigra are lost. PD occurs in approximately 13 per 100,000 people, and about 50,000 new cases are identified each year in the United States¹. One gene implicated in PD codes for alpha synuclein, a protein that accumulates in structures called Lewy Bodies in the brains of people who have PD². Christina and her colleagues seek to develop a gene silencing approach to protect dopamine neurons in the substantia nigra. If they are successful in silencing alpha synuclein and showing protection against deficiencies in a rat model of PD, this approach might also ameliorate PD in humans.

Using a process that involves injecting a crippled, non-pathogenic virus into the brain, the group has shown that by silencing alpha-synuclein, forelimb use in a rat model of PD is improved. The virus does not cause disease and is only used to deliver an alpha-synuclein-specific short hairpin (sh) RNA molecule that interferes with expression of alpha-synuclein in dopamine neurons. This gene silencing process is called RNA interference. In the experimental model, high levels of human alpha-synuclein expression in rat dopamine neurons

cause loss of these neurons and deficits in forelimb use. To assess the gene silencing therapy, a virus containing the RNA interference targeting alpha-synuclein was injected on one side of the rat brain near the dopamine neurons together with a virus conferring human alpha-synuclein expression. After 8 weeks, the number of times the rats used their left or right forelimb was counted in order to assess forelimb use. Expression of human alpha-synuclein caused a deficit in forelimb use that was improved in rats that received the RNA interference virus. However, negative effects were also observed. The group is currently testing a less toxic gene silencing approach. If this safer silencing virus shows the same improvements in movement without the adverse effects, it could be developed for clinical application. Since the silencing mechanisms are evolutionarily conserved, they are seen in many species. Thus, it is assumed that if it works in rats, it will work in humans. However, before moving on to clinical studies, extensive testing will need to be done in a non-human primate model of PD.

Christina presented her studies at the Society for Neuroscience (SfN) annual meeting in Chicago this October, in a session that focused on the role of alpha-synuclein in PD. She discussed the behavioral protection with shRNA and effects on dopamine axonal projections to forebrain. Christina's abstract was selected for media materials for the meeting; lay summaries of selected research were provided to the news media. She is also a co-author with Ye Han, PhD of a poster presentation on a related topic.

Others in the Bohn laboratory who contributed to the project include: Ye Han, PhD, a postdoctoral fellow who is testing and comparing toxicity of different designs of silencing vectors; Mohan Sapru, PhD, a former research assistant professor who designed the original silencing vector and performed initial studies; Jyothi Pedapati, a former research associate; Jianping Xie, a research associate; and Xue Song Wang, a research associate who made the viruses.

1 from Genetics Home Reference, <http://ghr.nlm.nih.gov/condition=parkinsonsdisease>, accessed 9-28-09.

2 from the National Human Genome Research Institute, <http://www.genome.gov/page.cfm?pageID=10001217>, accessed 9-28-09.

NIH Challenge Grants Awarded to Research Center Investigators



John Crispino, PhD



Peter F. Whittington, MD

Photo: Children's Memorial Audio-Visual Department

Peter F. Whittington, MD and John Crispino, PhD have been awarded National Institutes of Health (NIH) Challenge Grants in Health and Science Research. "Challenge Areas, defined by the NIH, focus on specific knowledge gaps, scientific opportunities, new technologies, data generation, or research methods that would benefit from an influx of funds to quickly advance the area in significant ways. The research in these areas should have a high impact in biomedical or behavioral science and/or public health." (from http://grants.nih.gov/grants/funding/challenge_award/)

Crispino's award is entitled: "Identification of altered molecular signatures of Down syndrome iPSCs" and is in the amount of \$1,000,000 over two years. Crispino is Associate professor of [Medicine–Hematology/Oncology](#) at Northwestern University's Feinberg School of Medicine and a member of the [Cancer Biology and Epigenomics Program](#) of the research center. His co-investigators are [Marcelo Bento Soares, PhD](#), Professor of [Pediatrics](#) at the Feinberg School; Rachele and Mark Gordon Endowed Professor and director of the [Cancer Biology and Epigenomics Program](#) of the research center; and [Vasil Galat, PhD](#), Research assistant professor and director of the [iPS and Human Stem Cell Core facility](#). Crispino and Soares are members of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University. In order to understand how trisomy 21 (Down syndrome) affects blood cell development, the scientists will analyze gene expression and methylation profiles of induced pluripotent stem cells (iPSCs) generated from individuals with and without DS.

In addition, they will compare the hematopoietic differentiation potential of these two groups of iPSCs as a way to study the effect of trisomy 21 on blood cell development and disease. iPSCs provide a powerful new tool for performing research on this complex genetic disorder. The project's long-term goal is to determine which of the microRNAs, mRNAs or methylation differences that are

detected in trisomy 21 cells contribute to aberrant hematopoiesis and the predisposition to leukemia in infants and children with DS.

Whittington's challenge grant is entitled "Serologic test for neonatal hemochromatosis in infants with acute liver failure" and is in the amount of \$561,739 over two years. This project seeks to develop an approach that will improve the diagnosis of acute liver failure in infants, resulting in significantly improved outcome with medical therapy, and reduced utilization of liver transplantation in pediatric patients. Neonatal hemochromatosis (NH) is the leading diagnosed cause of liver failure in neonates in most series. However, no diagnosis for acute liver failure can be established in up to 40 percent of infants. The overall objective of this project is to determine the true prevalence of NH as a cause of acute liver failure in infants who are younger than 90 days of age. The critical gap in scientific knowledge to be overcome is the lack of a sensitive and specific diagnostic biomarker for NH. The biomarker to be studied in this project is the presence of "anti-fetal hepatocyte IgG antibody" in mothers' or infants' serum. The expected results will show that NH constitutes fully 50 percent of all causes of acute liver failure in young infants. This finding will have a positive impact because NH is responsive to specific medical therapy, which improves outcome over current treatment including liver transplantation. Furthermore, should the test used in this analysis prove to be sensitive and specific for the diagnosis, it could replace current diagnostic approaches and prospectively improve diagnostic accuracy in this setting. Whittington is the director of the [Siragusa Transplantation Center](#); Sally Burnett Searle Professor of Pediatrics and Transplantation; Professor of [Pediatrics](#) and [Medicine](#) at the Feinberg School; and a researcher in the [Clinical and Translational Research Program](#) of the research center.

Awards and Honors



Photo: Children's Memorial Audio-Visual Department

Kathryn N. Farrow, MD, PhD

Kathryn N. Farrow, MD, PhD will receive a Young Investigator Award for her abstract presentation of "Catalase blocks hyperoxia-induced mitochondrial oxidative stress and decreases Phosphodiesterase 5 (PDE5) activity in ovine fetal pulmonary artery smooth muscle cells (FPASMC)" during the 7th annual American Heart Association Resuscitation Science Symposium in November. The awards recognize the top scoring abstracts submitted by early career investigators in cardiac and trauma resuscitation science. Farrow is Assistant professor of [Pediatrics](#) at the Feinberg School, a [neonatologist](#) at Children's Memorial and a member of the [Clinical and Translational Research Program](#) of the research center.

[John Crispino, PhD](#) has been awarded a three year grant from the [Leukemia and Lymphoma Society](#) entitled "Differentiation therapy for AMKL". The

goal of the grant is to develop novel treatments for megakaryocytic leukemia in children and adults. The award is in the amount of \$180,000 for each of three years. Crispino was recently named Associate director of Education and Training for the [Robert H. Lurie Comprehensive Cancer Center](#) of Northwestern University.

[Sunjay Kaushal, MD, PhD](#) has been awarded a [National Heart, Lung, and Blood Institute K08](#) grant and a [Thoracic Surgery Foundation for Research and Education](#) award. His research efforts focus on cardiac stem cells and how they change over time. Kaushal is an Assistant professor of [Surgery](#) at the Feinberg School; attending physician in the [Division of Cardiovascular-Thoracic Surgery](#) at Children's Memorial; and a member of the [Developmental Biology Program](#) of the research center.

Appointments



Mary J.C. Hendrix, PhD

Hendrix Reappointed to the National Cancer Institute Board of Scientific Advisors
Mary J.C. Hendrix, PhD has been appointed to serve on the National Cancer Institute (NCI) Board of Scientific Advisors for a second term beginning in July 2009. Hendrix was first appointed to the board in December 2004. The Board of Scientific Advisors was established in 1996 to assist and advise the director of the NCI on all aspects of the extramural program, and it is charged with oversight of the full portfolio of extramural programs of the NCI; advising Extramural Division directors on scientific policies, both present and future; and concept review of research and resource activities supported by the Extramural Divisions.



Ram Yogev, MD

Northwestern University Leadership Appointment

Ram Yogev, MD has been appointed to the Northwestern University Clinical and Translational Sciences Institute (NUCATS) Leadership Committee as liaison representing the needs of the clinical and translational research community at Children's Memorial Research Center. The committee will consider important structural issues and functions, and work with the research center to synchronize priorities and strategies. Yogev is Deputy Director for Research — Clinical Sciences and director of the [Clinical and Translational Research Program](#) of the research center. He is Professor of [Pediatrics](#) at the Feinberg School, the medical director of Section of [Pediatric, Adolescent and Maternal HIV Infection](#) at Children's Memorial, and the Susan B. DePree Founders' Board Professor of [Pediatric, Adolescent and Maternal HIV Infection](#).

Ann & Robert H. Lurie Children's Hospital of Chicago Ambassadors



Photo: Children's Memorial Audio-Visual Department

What could be the best possible mechanism for over 4000 employees of the Children's

Memorial Medical Center to communicate with leadership about Ann & Robert H. Lurie Children's Hospital of Chicago? The senior leadership team of Children's Memorial Hospital addressed this question by forming the New Hospital Ambassadors Program. Per Mary Kate Daly, director of New Hospital Communications, "the New Hospital Ambassadors, representing departments across the medical center, are vital in sharing the latest developments in the transition from Lincoln Park to Streeterville with their colleagues."

Each ambassador has a four-fold role to help ensure that every employee receives up-to-date information on the construction progress of the new hospital. Ambassadors are asked to:

- Participate in quarterly meetings with key leaders — listening, learning, sharing perspectives and offering insights.
- Provide input on employee communication and act as a sounding board for the New Hospital leadership team.

- Collaborate with departmental leadership on the strategy and delivery of information.
- Answer questions from fellow employees, share key messages and information, dispel rumors and listen to staff concerns.

Children's Memorial Hospital employees can keep informed between meetings via the monthly e-newsletter of Ann & Robert H. Lurie Children's Hospital of Chicago, global e-mails, and the [New Hospital SharePoint site](#).

The current New Hospital Ambassadors will serve for a period of one year, and at the conclusion of the term will team with their successors to remain involved. The Children's Memorial Research Center Ambassadors for 2009-2010 are Peg Rainey and Francine Blazowski. Peg and Francine are honored to represent the research center, and can be reached at prainey@childrensmemorial.org, 773.755.6310; and fblazo@childrensmemorial.org, 773.755.6528. They also invite employees to view real-time construction updates of the new hospital at the [SharePoint site](#).

by Francine Blazowski, MSW and Peg Rainey

Publications



Photo: Andrew Campbell

In a paper published in the October 2009 issue of the *Journal of Urology*, Arun K. Sharma, PhD

and colleagues sought to evaluate the potential uses of autologous sources of bone marrow mesenchymal stem cells and endothelial progenitor cells as alternatives to cells currently used for bladder tissue regeneration. To evaluate the potential uses of these cells, the team determined whether mesenchymal stem cells have contractile protein profiles and physiological functions similar to those of normal bladder smooth muscle cells, and determined the angiogenic potential of endothelial progenitor cells. Preliminary data suggest that bone marrow mesenchymal stem cells provide a robust source of cells that may be substituted for the smooth muscle cell component in the bladder, based on in vitro functional testing. Also, as proof of concept, endothelial

progenitor cells showed the potential to provide vascularization for developing tissue. Further examination of bone marrow stem and progenitor cells may provide evidence about the usefulness of these cells for bladder regeneration. Says Sharma: "Selecting appropriate cell types for bladder tissue regeneration is imperative for overall graft growth and development." Sharma is Research assistant professor of [Urology](#) and a member of the [Institute for Bionanotechnology](#) at the Feinberg School; and a member of the [Developmental Biology Program](#) of the research center.

[View a list of all research center publications from September 2009 to the present.](#)

Daniel A. Harrington, PhD,
Arun K. Sharma, PhD, and
Earl Y. Cheng, MD

September 1, 2009 —
Chicago Sun-Times



photo: Children's Memorial Audio-Visual Department

Cynthia LaBella, MD

Girls who play sports in Chicago's public schools are getting an assist from Children's Memorial Hospital. For the fifth year, the hospital is offering free training to city schools coaches on preventing knee injuries in female athletes by teaching them warm-up exercises that improve muscle control and

coordination. Girl athletes — especially those who play basketball and soccer — are as much as six times more likely than boys to injure the anterior cruciate ligament, or ACL, which helps control rotation of the knee. That's because girls "don't seem to use their muscles as well as boys do to control their knees during sports activities," says [Dr. Cynthia LaBella](#), medical director of Children's Memorial's [Institute for Sports Medicine](#), which is providing the training. [The Knee Injury Prevention Program](#) — called KIPP — teaches coaches and athletes a 15-minute warm-up drill that emphasizes proper alignment of the toes, knees and hips when jumping, changing directions and performing other movements on the field or on the court. The program is geared toward middle school and high school-age girls. The initial research on girls who have taken part in the program has been promising.

by Monifa Thomas, Health Reporter

October 6, 2009 —
adapted from Northwestern News



photo: Children's Memorial Audio-Visual Department

Seth Corey, MD, MPH

Think of a protective fence that blocks the neighbor's dog from charging into your backyard. The body, too, has fences — physical and biochemical barriers that keep cells in their place. When breast cancer spreads or metastasizes, it crashes through the body's

protective fences. The disease becomes fatal when it travels outside the mammary ducts, enters the bloodstream and spreads to the bones, liver or brain. Until now, drugs that try to stem the uncontrolled division of cancer cells within the ducts existed, but no drugs specifically targeted the invasion and spread of breast cancer to the organs. [Seth Corey, MD, MPH](#) has found a way to strengthen the breast's "fence" to prevent cancer from metastasizing. He has discovered that when the leukemia drug dasatinib is combined with the breast cancer drug doxorubicin, the potent mix inhibits cell invasion by half in breast cancer cells. "This is an entirely new way of targeting a cancer cell," said Corey. [The study was recently reported in the British Journal of Cancer](#). Dasatinib targets an enzyme called Src kinase, which is believed to play a key role in breast cancer invasion and metastases. "Perhaps this drug could be given to prevent invasion from happening in the first place," said Corey. "This might keep the disease in check and prevent it from progressing." Corey is director of oncology research at Children's Memorial, co-director of the [Pediatric Hematology/Oncology Fellowship Program](#) at Children's Memorial and the Feinberg School, and a member of the [Cancer Biology and Epigenomics Program](#) of the research center. He is the Sharon B. Murphy, MD and Steven T. Rosen, MD Research Professor of Cancer Biology and Chemotherapy and a member of the Lurie Cancer Center of Northwestern University.

Fundraising: MRIC Matters

The Medical Research Institute Council (MRIC) was established in 1951 as a private, independent initiative to raise funds for innovative biomedical research. In 1991, the MRIC began its affiliation with Children's Memorial Hospital. Since that time, the MRIC has raised \$45 million, including support of Children's Memorial Research Center construction and expansion. MRIC funding has led to advanced investigation in cancer, heart disease, genetics, microbiology and neonatology.

MRIC Reaches Out to Corporate Community

In these challenging economic times, the MRIC, like many other charitable organizations, is seeing a decline in donations. Not content to sit back and watch its fundraising dollars shrink, the MRIC is taking a proactive approach and reaching out to new prospects including corporate donors. MRIC Corporate Co-chairs Mimi Sherman and Gail Gassner are actively targeting Chicago's business community with the MRIC's message of the critical need for private funding for pediatric medical research. Sherman began the MRIC's corporate giving program in 2006 because she felt that the MRIC was missing an important fundraising opportunity.

The corporate giving program has seen steady growth over the past three years. In 2006, the MRIC raised \$180,000 from corporate gifts and so far this year, that number has reached \$280,000. Sherman and Gassner attribute their success to four key reasons:

- The Children's Ball, the MRIC's signature fundraising event held each December, is a unique asset
- The MRIC is reaching out to companies as philanthropic partners and offering them something they can't buy. For example, Harris Private Bank generously donated \$75,000 to the MRIC this year and served as the presenting sponsor of the MRIC's kick off party this past spring, which took place in the bank's lobby downtown. The MRIC is exploring other naming opportunities for corporate partners.
- Engaging the entire MRIC board in corporate donor outreach is another critical reason for the success of the corporate giving program. Board members have successfully reached out to their employers and their spouses' employers as well as other contacts in the business community.
- The MRIC realizes that it must adapt to meet the needs of companies coping with a challenging

[continued]

photo: Carbo Productions



MRIC Corporate Co-chairs Mimi Sherman and Gail Gassner



Zach Lazar, President-Midwest of Harris Private Bank, and Pat Magoon, President and CEO of Children's Memorial Hospital

Fundraising: MRIC Matters (continued)

economic climate. Some smaller companies may not be able to afford a \$10,000 donation this year, which is why the MRIC has created giving packages at various levels of support.

The MRIC is grateful to its many corporate partners who have stepped up this year to lend their support to the group's mission of supporting pediatric medical research. One of those donors is Harris Private Bank, the MRIC's largest corporate donor. "The Harris Private Bank is honored to support the MRIC and Children's Memorial's research efforts on behalf of children and the illnesses that affect them," says Zach Lazar, President-Midwest of Harris Private Bank. "It is our hope that if our contributions to the MRIC can

in some small way inspire others to step forward and donate as well, then the talented Children's Memorial researchers will have the resources available to them to make some childhood diseases a distant memory."

Sherman and Gassner are excited about the success that they have had this year and they look forward to continued growth of the program.

To get the latest information on MRIC events and fundraising campaigns, including the upcoming Children's Ball on Saturday, December 12, please visit www.mricchildrens.org.

by Arla Silverstein

A Vision for the Next Generation of Scientists



Children's Memorial Research Center has been the privileged recipient of visionary gifts designed to support, encourage and nurture the next generation of scientists. We are very grateful for these heartfelt, thoughtful and generous contributions, and in this issue would like to recognize JoAnn and Marshall Eisenberg.

Eisenberg Scholars

For nearly two decades JoAnn and Marshall Eisenberg made gifts to Children's Memorial Hospital in addition to supporting professional and graduate studies at their family alma maters. But in 1998, when JoAnn became deeply involved with the Medical Research Institute Council (MRIC), the couple began to learn the important and far-reach-

ing effects of pediatric medical research. Through their understanding of the difficulties young researchers face in securing seed-grant funding for new research projects, the Eisenbergs recognized a unique need at Children's Memorial Research Center and established the Eisenberg Scholars Program. Funds from this program provide post-doctoral scientists with opportunities to develop their innovative ideas that can lead to full funding by government agencies, or by private organizations dedicated to medical research. To date, the seven Eisenberg Scholars are: Zoe Demou, PhD; Zhila Ellis, PhD; Vasil Galat, PhD; Dawn Kirschmann, PhD; Luigi Strizzi, PhD; Tamas Virag, PhD; and Joon Won Yoon, PhD.

by Francine Blazowski, MSW

JoAnn and Marshall Eisenberg

ARRA Funding

On February 17, 2009, in an effort to create and save jobs, spur economic activity, invest in long-term growth, and foster unprecedented levels of accountability and transparency in government spending, President Obama signed the [American Recovery and Reinvestment Act \(ARRA\)](#) of 2009 into law. Of the \$787 billion in ARRA funding, \$8.2 billion was given to the NIH to disperse to scientific researchers for two-year award periods. This opportunity led to a dramatic influx of proposals to the Office of Sponsored Programs in April and May of this year. OSP received a total of 75 ARRA proposals requesting in excess of \$37 million dollars. Of those, 13 awards have been received to date with cumulative funding of \$4,191,256. One is a Research Challenge Grant (RC1), the most competitive of the ARRA grants, awarded to Peter F. Whittington. Additionally, Children's has received two Research Challenge Sub awards, one R01 Research Grant, four R01 supplements, one R56 bridge grant, one K22 Supplement, three student/visiting scholar supplements and two NIH subcontracts with additional awards anticipated in the near future. In addition to the awards to



Whittington and John Crispino, Marcelo Bento Soares and Vasil Galat (see page 6, "NIH Challenge Grants Awarded to Research Center Investigators"), the table below shows Children's Memorial Research Center proposals that have been funded.

For a list of all Children's Memorial ARRA awards, including subcontracts visit www.childrensmrc.org/ARRA_Proposals_Main/

by Greg Wendling

Children's Memorial Research Center proposals that have been funded

Christine DiDonato, PhD	Human Molecular Genetics Program	Spinal Muscular Atrophy: Inducing SMN Expression
Mary J.C. Hendrix, PhD	Cancer Biology and Epigenomics Program	Epigenetic Effect of the Microenvironment on Stem Cell Plasticity and Function (two awards)
Mary J.C. Hendrix, PhD	Cancer Biology and Epigenomics Program	Biological Function(s) of Maspin
Jhumku Kohtz, PhD	Developmental Biology Program	The Mechanism and Significance of EVF ncRNA Regulation of the DIX Genes
Marilyn L.G. Lamm, PhD	Developmental Biology Program	SHH Signaling: Role in Prostate Cancer Bone Metastasis
Honglin Li, PhD	Neurobiology Program	Functional Study of C53 Protein as a Novel Regulator of Checkpoint Kinases
Hans-Georg Simon, PhD	Developmental Biology Program	The Role of LMP4 in the Regulation of the Cardiac Transcription Factor TBX5
Jacek Topczewski, PhD	Developmental Biology Program	WNT Signaling in Craniofacial Cartilage Morphogenesis
Xiaobin Wang, MD, MPH, ScD	Mary Ann & J. Milburn Smith Child Health Research Program	Genome-Wide Association Study of Food Allergy