

Environmental Polymorphisms Registry gets new leader

Since its opening in 2009, the National Institute of Environmental Health Sciences (NIEHS) Clinical Research Unit (CRU) in Research Triangle Park, N.C., has steadily expanded the number of research projects and numbers of staff who help facilitate the work. In early October 2012, the CRU welcomed its newest member, Shepherd H. Schurman, M.D., to the fold. Schurman comes to NIEHS from the National Institute on Aging (NIA) and now serves as the CRU's staff clinician and head of the Environmental Polymorphisms Registry (EPR) (<http://dnaregistry.niehs.nih.gov/>).

From the time he was 4 years old, Schurman said he knew he wanted to become a physician-scientist. Both of his parents were fascinated with science and had relatives who were physicians, so they fostered his



Schurman is a native of Chicago and takes over the position of EPR director from Patricia Chulada, Ph.D. (Photo courtesy of Steve McCaw)

interest in medicine and genetics. After completing medical school and a residency in internal medicine, he joined the National Human Genome Research Institute (NHGRI) as a research fellow, studying gene therapy and immune deficiency disorders. After moving to NIA, he started working with DNA repair and polymorphisms, or gene differences, associated with age-related diseases. "When the position of staff clinician came open here, I thought it was a great opportunity," Schurman said. "I believed it would be a pretty good fit, given my background in genetics, clinical trials, and polymorphisms research." Darryl Zeldin, M.D., NIEHS scientific director, hired Schurman for the job. He said, "I am confident that Dr. Schurman will exceed our already high expectations in leading the next phase of the EPR."

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COMING SOON: Go Green and Update Your Contact Information by Email



EPR participants will soon have the option of updating their contact and demographic information electronically. Many participants have requested that we use email to update contact information, and we are pleased to report that we will begin using email for annual updates, starting in early 2013. Using email will help save us money spent on costs associated with snail mail and phone calls, and is a way we can be greener. If you have provided us with a valid email address, we will send your annual contact letters and information update cards to that address. You will receive an email from the EPR that contains a secure link that will

allow you to update your contact information. When you click on the link contained within the body of the email, you will be channeled through to a secure website and asked to verify your date of birth. If this date matches the date of birth we have in our database, you will be given instructions on how to use it for updating your information. Look for this email in 2013, and help support our efforts to go green! *If you would like to add an email address or update your email address for the EPR, please contact us toll free at 1-866-809-1261, or email us at EPR@sra.com.*

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Heading the EPR

The CRU is a 14,000 square foot facility on the NIEHS campus that conducts studies to determine how environmental exposures influence disease. The EPR, which is one of several ongoing studies at the CRU, provides access to DNA from more than 18,000 individuals from the North Carolina Triangle region. Participants with polymorphisms of interest may be invited to join follow-up studies that allow researchers to perform basic laboratory experiments, such as cell phenotyping from donated blood, or be asked to participate in more comprehensive clinical-based research. With the addition of the EPR's Health and Exposure Questionnaire, an individual's susceptibility to common conditions, such as asthma, diabetes, cardiovascular disease, cancer, and other illnesses can be associated with investigated polymorphisms. According to Schurman, the EPR fits nicely within the framework of the new NIEHS strategic plan, because of its focus on translational research. As examples, he mentioned EPR's adherence to goal 1, which seeks to identify mechanisms behind complex disease, and goal 2, which aims to understand individual susceptibility to disease resulting from environmental factors. He also pointed out that the third theme in the strategic plan, translational science, describes perfectly just what the EPR is doing. "The key passage from that section is

"Environmental health translational research can introduce, into medical decision-making, a new level of information about gene-environment interaction affecting drugs, biologics, infections, and other environmental factors in health and disease," he said. "The EPR can be a valuable resource to both intramural and extramural researchers."

As medical director of the CRU, Stavros Garantziotis, M.D., knows that the only way for the EPR to maximize its potential is to get many more researchers to initiate studies using its DNA. Recruiting scientists to mine the EPR's genetic information will be a challenge Garantziotis feels Schurman is ready to meet. "Dr. Schurman is very well qualified for this role, having worked for many years at the NIA with the Baltimore Longitudinal Study of Aging, as well as having collaborated in the earliest gene treatment trials at the NHGRI," Garantziotis said. "He thus brings a great amalgam of skills and experiences that will enable him to lead the EPR to a new phase, and help us gain new insights into the interaction of genes and the environment in the development of disease."

This article was written by NIEHS Science Editor, Robin Arnette, Ph.D., and published in the January 2013 issue of the NIEHS newsletter, the Environmental Factor. ■


EPR – Did You Know?

What Happens to Your Blood (DNA) Sample, and Why You Are Still Being Contacted?

After you enroll in the EPR and your blood samples are collected, DNA is extracted from the samples, and the samples are stored at NIEHS. These DNA samples are available to scientists to study variations in genes, known as polymorphisms, that might be linked to common diseases such as diabetes, heart disease, cancer, asthma, and others. While many types of genes are studied as part of the EPR, the focus is on environmental response genes. These are genes that may increase or decrease the risk of human disease when combined with environmental exposures. These DNA samples are stored separately from information about your identity and contact information.

Everyone in the EPR is asked to confirm or update their contact information once a year, because we will need to contact you if you are selected to participate in a voluntary follow-up study. The success of the EPR and follow-up studies depends on our being able to contact you, which is why we go to such great lengths to reach you each year. With over 18,000 people enrolled in the EPR, keeping contact information current is an ongoing process. We thank you for your continued participation in this important research.





New EPR Follow-up Study: The Role of COX-2 Polymorphisms in Lymphocyte Differentiation

The latest follow-up study associated with the EPR is the COX-2 Polymorphisms in Lymphocyte Differentiation Study (COX-2 Study) examining how differences in a gene called COX-2 affect cells in the immune system. Some cells in the immune system fight off infections, while others respond to allergens. With the right balance of different types of cells, the body fights infections effectively. An imbalance of cells may lead to health problems, like asthma and allergy. Researchers hope to learn more about how differences in the COX-2 gene impact the balance of immune cells. This study is being carried out by Darryl Zeldin, M.D., and a team of researchers at NIEHS.

If you are eligible for the COX-2 Study, you will be contacted by email or phone and invited to take part in the study. If you agree to enroll, you will be asked to attend one study visit at the NIEHS Clinical Research Unit (CRU) in Research Triangle Park, N.C. During the visit, you will receive a physical exam and will be asked to provide a blood and urine sample. If health problems are identified by researchers, they will be shared with you, and instructions for further health care will be provided. Participants may receive up to \$75.00 for their time and effort, and reimbursement for travel expenses. ■



It's Not Too Late to Return Your EPR Health and Exposure Questionnaire

If you received a copy of the EPR Health and Exposure Questionnaire by mail, it's not too late to complete and return it. If you have any questions, please contact **1-855-447-8374** toll-free.

Updating Your Contact Information

The success of the EPR depends on us being able to contact you for future studies. Therefore, it is very important that we have your current address, telephone numbers, and email. This is why we send you letters and information update cards each year, asking you to confirm or correct what we have in our database. When you receive your information update card, please follow the instructions and return it to us by mail using the prepaid, pre-addressed envelope provided. Please return the card, even if your contact information has not changed. If you prefer, you may update your information by phone (1-866-809-1261) or email (EPR@sra.com).

Have Questions?

If you have questions about the EPR, or would like to contact us for any reason, we would love to hear from you.

Study Contacts:

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**Environmental
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