

PXE international

MICRO membergram

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PXE Research Races Ahead, Be a Part of It!

PXE research makes exciting strides every year: gaining new insights into the cause, development, and progression of this disease. These exciting studies cannot progress without the help of PXEers, whose valuable contributions have driven scientific progress so far and continue to enable many groundbreaking studies.

We are about to undertake several exciting projects that will require the help of the PXE community. First, we ask PXEers to send us MRIs of the brain to help us understand the nature of PXE and its effect on the brain. We are also asking PXEers to once again fill out our clinical questionnaire, which is an essential tool to understand the progression of PXE. How PXE affects you and your family is incredibly valuable information that will not only allow us to understand the current and past experiences of patients, but also inform every other type of research into this disease with useful demographic and clinical data.

As a result of recent studies, we now know that the liver may contribute to the *ABCC6* gene expression and regulation of protein levels. The liver may also play a role in the mineralization of tissue, suggested by studies of the mutations of *ABCC6* to determine the distribution of mutations.

The pursuit of an effective treatment for PXE remains the primary focus of our researchers. Research studies have taken place to understand the efficacy of vitamin K, potassium, magnesium and phosphate in preventing mineralization in mouse models. Studies are also ongoing for PXE in young adults and children, which will help provide physicians with better diagnostic tools for early detection of PXE.

The singular unifying thread through all of these projects is you, the PXEer. Without your constant support, both through monetary donations as well as providing your information in our clinical questionnaire, PXE International would not be as far along this path of research. Although it is arduous and time consuming, we are making great progress and, with your unwavering assistance, we are set to take bold strides forward in the coming years.

For more information or to find out how you can help, please visit our website at

www.pxe.org/research!



Follow us on Twitter for
more research updates!
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How can you help? Donate your clinical data
with our online questionnaire.

www.pxe.org/research

Interview with András Váradi, Hungarian PXE Researcher

By Kelly Harris

András Váradi, PhD is one of PXE International's great supporters and a leading researcher in this field. He has attended PXE International Research Meetings as well as Patient Meetings. We recently awarded his team a \$50,000 grant so that they can continue their important research into this disease. To learn more about Váradi and his work, visit: www.pxe.org/andras-varadi.



Kelly Harris: *What excites you about PXE research, and what has kept you committed to it despite its challenges?*

András Váradi: I felt that working on PXE and ABCC6 is a great combination of the two exciting areas I have been active in. I have been engaged with ABC-transporter research since the early nineties. When the ABCC6 gene was cloned in 2000, we were especially interested in the structure/function and catalytic/transport mechanism of the ABCC6. My other area of activity has been related to genetic disease: we developed DNA-diagnostic methods for clinical use in Hungary, doing pioneering work on this subject. In addition to this, I teach human molecular genetics at the Semmelweis Medical University of Budapest.

KH: *What has been the biggest challenge to your research?*

AV: In general the biggest challenge is to form good hypotheses and to develop the best experimental strategies to check them. At the moment one of my biggest challenges is to find the metabolite transported by ABCC6 from the liver. Such a discovery would open new research to understand the (patho)physiology of the disease and maybe some details of soft tissue or arterial calcification in general.

KH: *What has been your biggest triumph?*

AV: Our two most recent triumphs:

1. We have made great progress in revealing the signal transduction pathway that regulates ABCC6 expression in the liver, and could identify a few protein factors involved in the regulation;
2. We made use of hydrodynamic tail vein injections to study normal and mutant forms of the human ABCC6 protein in the fully differentiated liver of a living mouse. This entirely novel approach allowed us to investigate the consequences of several PXE-causing mutations in an efficient and biologically accurate model.

Both achievements provide a basis for future clinical research towards therapies targeted to specific mutations either on the transcription level or on protein maturation.

KH: *Looking into the future, what are you hoping to pursue with PXE?*

AV: We strongly hope:

1. To identify the metabolite transported by ABCC6;
2. To understand the impact of many missense mutations on the protein function, stability or processing;
3. To develop novel animal models for testing potential ideas for therapeutical intervention;
4. To understand the observed sex difference in PXE, and the possible hormonal influence of ABCC6 transcription.

KH: *When the next PXE research meeting convenes in five years, what are you hoping will have been accomplished?*

AV: We will know the metabolite(s) and the pathways ABCC6 mutations affects in PXE.

We will have ideas involving therapeutical intervention.

We will understand the connection between ABCC6 and soft tissue calcification.

KH: *Thank you so much for your time.*

PXE and ART Spotlight: Kerri Wilson

By Kelly Harris

When Kerri Wilson was diagnosed with PXE in 1996, she didn't have any informational sources to turn to. "The only thing out there was a really old book, about 100 years old, that said Pseudoxanthoma Elasticum was genetic, hereditary and terminal," said Kerri. After the founding of PXE International, her exposure to the wider community grew. "I discovered PXE International about 12 years ago, maybe 10-12 years ago, and it's been a wonderful experience. It was very refreshing to talk to these people at PXE International and to know that I wasn't alone, and it really helped a lot for me coming to terms with the disorder."

In 1997, Kerri lost her vision after a retinal bleed. She turned to art therapy as a way to work out her frustration and anger, and ended up finding a lifelong passion. "For the first six weeks of working with the clay, I really just beat it up. Really took all of my aggression and anger out on it," she explained. As she continued working with the clay, she found it also helped lower her blood pressure. She cultivated a sustained passion for pottery, and loves having something that makes her get up in the morning. "I like to do very whimsical pieces, that are very brightly colored, and they tend to make people smile and laugh and bring joy to their day, and that really is gratifying to me."

Where Kerri lives in North Carolina, resources for the visually impaired are scarce. Recent budget cuts have eliminated the social worker for the hard of hearing and the blind. Kerri belongs to a support group that meets every week, and together they are trying to raise money for the visually and hearing impaired. She sells pottery at a group member's bookstore and hopes that every time someone looks at one of her pieces they think of the lives they are helping. Ultimately, when it comes to resources, Kerri notes, "There are resources out there, you just have to look for them. Use your imagination, be inventive."

As she has dealt with the struggles of living with a disability, Kerri has found many ways to cope and thrive despite difficulty. Her advice to PXEers is to "talk to other people who have the disorder. Listen to them, form a support group, anything that you can do to help."

To see Kerri's wonderful pottery or to learn more about her passion, please visit www.pxe.org/art!



We are a very creative community! One of the many wonderful things about being at PXE International conferences is the opportunity to share our art.



We are launching 'PXE and ART' on our website!

**This is an opportunity to show this community pieces of your creativity!
It can be writing, painting, drawing, pottery, quilting, knitting, and any other type of creative endeavor.**

Please email Elizabeth Terry, eterry@pxe.org, with questions or submissions.

Regional Meetings are a Wonderful Opportunity!



Living with a rare disease can be an isolating experience. Often no one, not even your doctor, knows much about our condition, and explanations are frequently required. Many PXEers may never have encountered anyone else with their disease. For these people, their loved ones, and other members of the community, PXE regional meetings are incredible opportunities to connect with affected individuals in their area and get answers.

PXE International has an exciting agenda of regional meetings planned for 2011. The first meeting of the year took place in Irvine, California on February 23, and was a great success. Sharon Terry, twelve individuals and one tiny baby, met and discussed PXE. "I am always really moved by the eagerness of our members to hear the latest news on PXE," said Sharon, "I present a 90 minute overview of PXE, and the participants ask such good questions. These wonderful people are clearly very interested and knowledgeable about their condition." She stressed how moving it was to see some of the individuals meet other people with PXE for the first time.

The second meeting of 2011 occurred in Vancouver, Canada. The small but enthusiastic group included one person who drove six hours to attend. The group decided they wanted to have another meeting soon, and have scheduled it for June 8th, 2011. Their commitment to strengthening the PXE community is inspiring.

In 2011, regional meetings will be held all over the world. We will be gathering in Perth, Australia; Syria; and Montreal, Canada. Due to the recent tragedies, we will not be able to hold our planned Tokyo meeting (please consider donating to the American Red Cross.) To find out more information, register to attend, or if you are interested in planning a regional meeting in your area, please visit www.pxe.org/regional-meetings.

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