SPR Research and Education Foundation

Foundational Insights Newsletter: Distributed Up to Four Times a Year

Philanthropic Vehicles: A Refresher

As you plan out the remainder of 2024 and look ahead to 2025, consider the **SPR Research and Education Foundation** in your charitable giving. Below are a few philanthropic vehicles that were explained in previous issues of the newsletter.

- **Donor Advised Fund (DAF):** A donor advised fund (DAF) is like a charitable savings account set up for the sole purpose of supporting charitable organizations that you care about.
- **Donating Through Your Will:** This option can be considered early or late in your career. All you need is a philanthropic spirit.
- **Individual Retirement Account (IRA)**: A vehicle to be considered at various stages in philanthropic planning.

The Impact of Funding SPR REF Grants is Far-Reaching!

"The funding of these grants truly can have much greater impact than the initial funding. It provides a springboard to dive into the research world, and develop preliminary data, which has allowed me to think about NIH funding."

Dr. Aashim Bhatia, 2022 SPR REF Pilot Award Recipient

Dr. Aashim Bhatia is a junior faculty member at Children's Hospital of Philadelphia and an Assistant Professor at the Perlman School of Medicine at the University of Pennsylvania. He is one of the recipients of the SPR Research and Education Foundation's grants, and he gave a dynamic presentation at the recent 2024 SPR Annual Meeting Research and Education Symposium in Miami, Florida. We asked Dr. Bhatia to answer a few questions about how the award of this grant impacted his career. Read on to hear from this young academic leader in our Society!

Project Title: Quantitative Direct Sodium Magnetic Resonance Imaging (^{23}Na-MRI) of Low- Grade Gliomas in Children with Neurofibromatosis Type 1

Project Summary: Neurofibromatosis type 1 (NF1) predisposes to low-grade gliomas (LGG). On MRI, focal areas of high signal intensity (FASI) of NF1 are benign, non-neoplastic processes that arise in most patients with NF1 during childhood. Both FASI and LGG have similar imaging characteristics with T2 hyperintensity on conventional ^{1}H MRI, making it difficult to differentiate between these two entities. Direct imaging of sodium (^{23}Na) is a novel physiological imaging approach in pediatric gliomas. ^{23}Na (sodium) MRI has a more direct physiological interpretation, reflecting biochemical and physiologic changes in the cells of tissues, cell integrity and tissue viability. The central hypothesis is that direct sodium MRI provides an objective imaging biomarker of the biological activity in LGG: A1. Use quantitative sodium MRI to differentiate LGG vs FASI in NF1 pediatric patients, we hypothesize sodium concentrations will be greater in LGG than FASI of NF1 patients and in healthy brain tissue of control patients. A2. Predict tumor progression using quantitative sodium MRI, we hypothesize that sodium concentrations and spatial extent of hyperintensity on serial ^{23}Na MRIs will increase with LGG progression in untreated NF1 patients, remain unchanged in stable LGG. Thus, ^{23}Na MRI will predict tumor behavior earlier than possible on conventional ^{1}H MRI.

What specific person or experience influenced your pursuit of pediatric radiology? As a radiology resident in Miami, my rotations at Miami Children's Hospital have me close interaction with many energetic pediatric radiologists and pediatric neuroradiologists. This was impactful for me and gave me the vision of my future.

Is this your first funded research? It is one of the first grants I received outside of internal institutional funding. This grant has been a huge impact in providing the academic motivation to continue the research and funding the Bhatia lab.

How did you or a colleague come up with this specific idea for your project? One of the biggest challenges in neuroimaging is early detection of brain tumors in Neurofibromatosis Type 1 patients, sodium MRI can help with early diagnosis.

Was implementing the project more difficult than you expected or more easier than you expected? More difficult, main challenge is recruiting NF1 patients that meet the criteria and are able to be imaged without sedation.

What did you learn personally about how easy or difficult the project was? There are different ways to recruit subjects, and we are working on many pathways that are also best for the patients.

Was the SPR REF symposium at the SPR annual meeting the first time you presented at a national meeting? No, have presented at other conferences but SPR has a special family feeling for me.

Tell us a little about yourself, such as a hobby or outside pursuit of yours! I enjoy fast cars, racing cars is an interest but not much time currently.

Anything else our readers should know? I was zero for 13 on grants before arriving to CHOP, it is the combination of a vision, learning from the process and past grants, and right institution with mentors to be successful in academic radiology.

*Stay tuned for the net issue of **Foundational Insights** to hear from more grant recipients.*

The Mission of the Foundation is to assess the research and education needs of the pediatric radiology community and develop funding programs to address these needs; evaluate applications for funding and make grants for the research and education that will further the art and science of pediatric imaging; and to raise and manage the funds that make these grants possible.

Donate to the SPR REF

The SPR Research and Education Foundation
2501 Jolly Road, Suite 110
Okemos, MI 48864
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