

2014 Annual Report Research Development Committee

The Research Development Committee (RDC), chaired by Mitchell Schnall, MD, PhD, continues to pursue its initiatives to improve the quality and quantity of radiology research, enhance participation of radiologists in research, and to advise the RSNA Board of Directors about priorities for and RSNA programs in imaging science and research. Following is a summary of its activities in 2014.

2014 Research Development Courses

The RDC organized the following research development and grant-writing workshops:

PROGRAM	STUDENT # (2014)	Program Duration and Location
<i>Clinical Trials Methodology Workshop</i>	29	6½-day workshop in Scottsdale, AZ, January 2014
<i>Writing a Competitive Grant Proposal</i>	22	1½-day workshop at RSNA Headquarters, February 2014
<i>Advanced Course in Grant Writing</i>	15	Four-weekend course September 2013 - April 2014 at RSNA Headquarters
<i>Introduction to Academic Radiology</i>	42	4½- day seminar at RSNA Annual Meeting
<i>NIH Grantsmanship Workshop</i>	30*	½-day workshop at RSNA Annual Meeting
<i>RSNA/ARR Study Section Reviewers Workshop</i>	8*	½-day workshop at RSNA Annual Meeting

*anticipated numbers, based on past attendance and current registration data

Other RDC Activities:

Vice Chairs of Research (VC)

Leadership for this group was successfully transitioned to Elisabeth Krupinski, MD and James Carr, PhD. Under their leadership, a planning group has been established to assist with program development. Dr. Schnall is serving as an advisor to the group and liaison to the RDC. The Vice Chairs of Research held in-person meetings at RSNA 2013 and the AUR 2014 meeting in Bethesda, Maryland. The Bethesda meeting was designed as a half-day workshop with presentations and discussions on collaborations and other research strategies, and the role of ARR in promoting research funding. A White Paper on departmental practices in Junior Faculty Development, based on results of a survey conducted in 2012 by the VC group, was recently submitted to *Academic Radiology*.

Workshop on Integrated Diagnostics

On April 23-24, 2014, in collaboration with the American Society for Clinical Pathologists (ASCP), an invitational workshop was held to explore the role of integrated diagnostics in the era of precision medicine, how clinicians visualize the future of diagnostics and what would be needed to provide infrastructure support for an integrated diagnostic/theranostics service. SWOT analysis exercises were conducted in the five main topic areas:

Integration and Communication of Non-image based Data; Fundamentals of Image-based Rad/Path Correlation Issues; Opportunities for Integrated Imaging System Work Flow; High Dimensional Fused-informatics: is there an opportunity to redefine the diagnostic process?; and Education and Training Programs. A Special Interest Session has been planned for RSNA 2014 to share the highlights of the workshop and present the proposed goals, associated value proposition and near-term opportunities for radiology and pathology integration. One of the priorities identified at the workshop was to establish small exploratory work groups on the informatics needs around an integrated workflow, and ontology and text mining.

Comparative Effectiveness Research

A workgroup has been re-established to explore how best to raise awareness and provide education for CER in the radiology community to allow radiologists to be competitive for PCORI and other funding opportunities. The group will develop a proposal outline for discussion at the December RDC meeting. Subsequent recommendations will be fleshed out and brought to the RSNA Board for considerations

Quantitative Imaging Biomarker Alliance (QIBA)

Following the award of the 2013 contract for ~ \$1.25M to support QIBA, NIBIB is providing an additional year of funding to RSNA/QIBA. This marks the fourth consecutive year that NIBIB has funded research groundwork by QIBA. A portion of this new ~\$1.27M award has been earmarked to support QIBA projects and activities, including further development of the Quantitative Imaging Data Warehouse (QIDW), research to characterize the sources of bias and achievable precision associated with quantitative imaging, and to further develop and test phantoms and digital reference objects (DROs).

Metrology

Following the two QIBA Metrology Workshops held in April and October of 2012, subgroups worked extensively on a suite of five papers, which were accepted earlier this year by the journal, *Statistical Methods in Medical Research*. An overview paper has been submitted recently to *Radiology*. Statistical methodologies and terminology guidelines are being incorporated by the QIBA Technical Committees.

Quantitative Imaging Data Warehouse (QIDW)

The QIDW has been used internationally by biomedical imaging, clinician and industry research collaborators. Current usage has been restricted to QIBA members, but future plans are to open access to the public. Initially the QIDW has been used for phantom images and digital reference objects only, but clinical images are now being uploaded for research activities. QIDW User Agreement, Data Upload and User Access forms have been formalized. Enlisting a data curation service is in process. Future goals are to enhance the QIDW with functionality beyond that of a data warehouse, and evolve this into a more sophisticated cloud-based image data, metadata, algorithm, and analysis results resource for the quantitative imaging research community.

The RDC is grateful to all its members and many volunteers who have contributed to the success of its programs.

Respectfully submitted,

Mitchell D. Schnall, MD, PhD

Chair