

**2012 Annual Report
Research Development Committee**

The Research Development Committee (RDC), chaired by Carolyn Meltzer, MD, continues to pursue its initiatives to improve the quality and quantity of radiology research, enhance participation of radiologists in research, and provide oversight for Quantitative Imaging and Imaging Biomarker activities. In September the RSNA Board approved a slight modification of the Committee’s Charge to broaden its advisory scope to programs in “imaging science and research.”

Following is a summary of its activities in 2012.

Governance and Scope

In order to ensure depth of knowledge of the workings of the RDC as well as to plan for leadership succession, Dr. Mitchell Schnall has been appointed as RDC Vice Chair. Additional future activities of the RDC for consideration include: 1) developing state-of-the-art conferences and/or workshops on critical scientific questions on the role of imaging [e.g., Combining imaging data with non-imaging (e.g., genomic) data for decision-making, Imaging in Alzheimer Disease/neurodegeneration, Imaging for personalized medicine, and multi-modality imaging]; 2) continued emphasis of the current focus on Comparative Effectiveness Research (CER) and Outcomes Research; 3) Interdisciplinary outreach; and 4) Implementation Research (eg., decision support, quantitative imaging, inexpensive technologies).

2012 Research Development Courses

The RDC organized the following research development workshops:

PROGRAM	STUDENT # (2012)	Program Duration and Location
<i>Clinical Trials Methodology Workshop</i>	24	6½-day workshop in Phoenix, AZ, January 2012
<i>Writing a Competitive Grant Proposal</i>	36	1½-day workshop at RSNA Headquarters, February 2012
<i>Advanced Course in Grant Writing</i>	12	Four-weekend course October 2011 - May 2012 at RSNA Headquarters
<i>Introduction to Academic Radiology</i>	42	4½- day seminar at RSNA Annual Meeting
<i>NIH Grantsmanship Workshop</i>	25-30	½-day workshop at RSNA Annual Meeting
<i>RSNA/ARR Study Section Reviewers Workshop</i>	10-15	½-day workshop at RSNA Annual Meeting

Additional RDC Activities:

Vice-Chairs of Research (VC) Group

At RSNA 2011, the VC Group (chaired by Mitch Schnall, MD, PhD) met and decided that additional data on faculty development practices, financing structures and cores services should be collected to identify models and good practices for successful radiology departments. Working groups were created to develop questions in these three areas and a survey was disseminated in August to the top 50 NIH-funded radiology departments. There was an encouraging response rate of over 43%. Preliminary results were discussed at a small-group meeting in October and a Special Interest Session at RSNA 2012 will be used to share the results. It is anticipated that a White Paper will be developed on best practice guidelines and models.

CER Workshop

A second CER Workshop was convened in October 2012 to address Data Needs of CER in Diagnostic Imaging. The participant group of 33 radiologists, biostatisticians and industry and government representatives organized into three working groups to focus on Data Elements, Structured Reporting and Interoperability.

Recommendations and concrete next steps were developed and will be shared with the RDC at its November meeting

Quantitative Imaging Biomarker Alliance (QIBA)

The two-year NIBIB contract has funded the conduct of 26 groundwork projects as well as offsetting expenses for QIBA-related meetings, including the fifth QIBA Annual Meeting in Chicago, and two QIBA Metrology Workshops. Completion of some of the Round 2 groundwork projects required a request for a six-month no-cost extension, which has been granted. It is anticipated that the projects will provide some of the imaging biomarker data necessary to support the claims made in the Profiles, two of which have gone through a Public Comment process and are being prepared for field testing.

QIBA Technical Committees

- QIBA added a sixth Technical Committee for Ultrasound (US) Shear Wave Speed (SWS).
- The CT Volumetry Technical Committee finalized its QIBA Profile, which has been deployed in drug clinical trials and is planning next steps, including redirecting its attention to tracking of small lung nodules for screening applications. Many groundwork projects are underway or completed, and committee work has resulted in 10 publications and several manuscripts in development.
- The DCE-MRI committee completed its QIBA Profile and in recent months has been reorienting to address diffusion-weighted MR imaging, and changed its name to PDF (Perfusion, Diffusion and Flow) Technical Committee.
- The FDG-PET Technical Committee completed a draft QIBA Profile that is ready for dissemination for public comment. Several groundwork projects are in various stages of completion, including creation of a digital reference object.
- The COPD Technical Committee has been actively engaged in designing, manufacturing and testing a physical phantom.
- The fMRI Technical Committee, which focuses on fMRI for presurgical planning, is in the process of QIBA Profile development.

Metrology

Two QIBA Metrology Workshops were held in April and October of 2012. Teams of imaging scientists, government agency representatives, biostatisticians and industry stakeholders are working to address metrology issues that have arisen in the course of the QIBA work. During the second meeting, recommendations in the areas of Algorithm Comparison, Technical Performance and Terminology were developed and will be shared via a series of White Papers.

Open Image Data Warehouse

QIBA continues its partnership with the RSNA Radiology Informatics Committee (RIC) to conduct a proof-of-concept project to create a warehouse for quantitative images and their associated metadata. Once configured, the first dataset to be entered will be from a phantom project conducted by the DCE-MRI Technical Committee. Metrics for efficiency and user friendliness have been identified and will be analyzed by the working committee.

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

Respectfully submitted,

Carolyn C. Meltzer, MD
Chair