Quantitative Imaging Biomarkers Alliance

The Quantitative Imaging Biomarkers Alliance (*QIBA*) was organized by RSNA in 2007 to unite researchers, healthcare professionals, and industry stakeholders in the advancement of quantitative imaging and the use of biomarkers in clinical trials and practice.

Quantitative imaging is the acquisition, extraction and characterization of relevant quantifiable features from medical images for use in research and patient care. Standardizing the use of imaging biomarkers in clinical trials will reduce the variance inherent across different hardware and software platforms. RSNA views this work as a step toward an ultimate goal of enhancing the use of quantitative imaging methods in clinical practice.

QIBA is an important part of RSNA's commitment to transforming radiology from a *qualitative* to a more *quantitative* science and to the improved patient care resulting from accelerated development and dissemination of new pharmacologic, biologic and interventional diagnosis and treatment approaches.

QIBA Mission

Improve the value and practicality of quantitative imaging biomarkers by reducing variability across devices, patients and time.

The work of QIBA has advanced through the generous efforts of volunteer members from academia, the medical device industry, the pharmaceutical and other business sectors, and government. There are six technical committees – **CT Volumetry; COPD/Asthma; Perfusion, Diffusion and Flow – MRI; fMRI; FDG-PET; Ultrasound Shear Wave Speed** open to all interested persons. These Committees have specific tasks and deliverables for their respective modalities and disease-based approach.

The QIBA Approach

The work of the QIBA Committees follows a defined, coordinated process to develop solutions and promote their adoption.

I. ***Identify Sources of Error and Variation in Quantitative Results from Imaging Methods.*** Stakeholders work to identify problems leading to error or variability in quantitative results from imaging methods.

II. ***Specify Potential Solutions.*** Stakeholders identify potential strategies and infrastructure for error mitigation and collaborate on development of hardware, software, and protocol solutions, documenting them in the form of QIBA Profiles.

III. ***Test Solutions.*** Vendors and researchers implement QIBA solutions to assess their feasibility and efficacy.

IV. ***Promulgate Solutions.*** Validated solutions are disseminated and implemented through vendor adoption, research integration and clinical education.

QIBA Resources

QIBA meeting summaries, key criteria for identifying biomarker opportunities, the *QIBA Newsletter* and other documents are available on the QIBA website http://rsna.org/QIBA_.aspx and wiki http://qibawiki.rsna.org/

Volunteers for the QIBA Committees are welcome; please contact us at: qiba@rsna.org

QIBA Committees

QIBA Governance Structure

QIBA Chair:
Daniel C. Sullivan, MD (Duke University Medical Center/RSNA Science Advisor)

QIBA Vice–Chair:
Edward F. Jackson, PhD (University of Wisconsin - Madison)

Program Director:
Andrew J. Buckler, MS (Buckler Biomedical LLC)

Scientific Coordinator:
Paul L. Carson, PhD (University of Michigan Health System)

Program Advisor:
Kevin O'Donnell, MASc (Toshiba Medical Research Institute - USA, Inc.)

Technical Committees

CT Volumetry
Co-Chairs:
Samuel G. Armato III, PhD (University of Chicago)
Gregory V. Goldmacher, MD, PhD (ICON Medical Imaging)
Lawrence H. Schwartz, MD (Columbia University)

COPD/Asthma
Chair:
Philip F. Judy, PhD (Brigham and Women's Hospital and Harvard Medical School)

Perfusion, Diffusion and Flow - MRI
Co-Chairs:
Marko K. Ivancevic, PhD (Philips Healthcare)
Edward F. Jackson, PhD (University of Wisconsin - Madison)
Gudrun Zahlmann, PhD (F. Hoffman-La Roche Ltd)

fMRI
Co-Chairs:
Edgar DeYoe, PhD (Medical College of Wisconsin)
Cathy Elsinger, PhD (NordicNeuroLab, Inc.)
Jeffrey Petrella, MD (Duke University Medical Center)

FDG-PET
Co-Chairs:
Paul E. Kinahan, PhD (University of Washington)
Ling X. Shao, PhD (Philips Healthcare)
Richard L. Wahl, MD (Johns Hopkins Medical Institutions)

Ultrasound Shear Wave Speed
Co-Chairs:
Brian Garra, MD (Washington DC VA Medical Center/FDA)
Timothy J. Hall, PhD (University of Wisconsin - Madison)
Andy Milkowski, MS (Siemens)