

# The Quantitative Imaging Network: A Decade of Achievement

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This issue of *Tomography* is a collection of articles derived from over 20 research teams which comprise the Quantitative Imaging Network (QIN) of the National Institutes of Health (NIH).

A primary motivation for establishing the QIN program was the acknowledgement of the lack of validated and reproducible tools appropriate for performing quantitative analysis of medical imaging data to support prediction of clinical tumor responses and outcomes. This consortium, which currently consists of 21 individual research teams, has come together to form a cohesive and productive collaborative effort that supports development, optimization, and validation of quantitative imaging methods and associated software tools. The advances that have been developed as part of these efforts form the infrastructure for which practicing oncologists and radiologists can derive and utilize quantitative imaging metrics in decision support for improvement of individual patient care as well as for clinical trial assessment of novel therapeutics. This issue of *Tomography* celebrates the 10th-year anniversary of QIN advances following its inception in 2008. During this time, the NCI program staff has supported QIN efforts through program announcements, providing opportunities for the network to grow. Furthermore, investigators and governments from the international community have taken interest in this important effort. Today, the QIN includes teams from 11 different countries; in addition to laboratories from the United States, 2 teams were added to the QIN as Full Members through support from the Canadian Government, and teams from 9 other countries joined as Associate Members. Additional funding announcements have emerged to advance research objectives that include PAR-18-248 (a UG3/UH3

mechanism). This announcement is focused on supporting the development and adaptation/implementation of quantitative imaging methods, protocols, and/or software tools based on existing commercial imaging platforms and instrumentation for application in current or planned clinical therapy trials. Moreover, an R01 mechanism, PAR-18-919, is now also available for research teams with a fully developed and optimized clinical decision tools needing clinical validation.

As evidenced from the articles presented in this special issue, translation of quantitative imaging methods and algorithms as clinical decision support tools into clinical utility has been successfully achieved across imaging modalities and instrument manufacturers. Collectively, these contributions exemplify the unified effort provided by the organizational structure of the QIN that consists of an executive committee, technical teams, working groups, and a coordinating committee.

The articles in this issue indicate the diversity and versatility of the membership and highlight their ingenuity and dedication to further improve the use of imaging in patient care. It is an honor to thank the contributors to this special issue for their excellent contributions and for their effective partnership with NIH staff to advance quantitative imaging. The impact of these efforts will be ever more apparent over time—long after the NIH QIN has formally ended funding of this vitally important program. The advances produced by the QIN teams of dedicated clinicians and scientists will directly translate into improved patient care, yielding improved clinical outcomes in the decades ahead.

