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The Emerging Scientific Discipline of Pharmacometrics

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The Emerging Scientific Discipline of Pharmacometrics

This supplement to the *Journal of Clinical Pharmacology* includes work presented at the first two meetings of the American Conference on Pharmacometrics in Tucson, Arizona (2008), and Mystic, Connecticut (2009), along with other invited contributions. The articles that comprise this supplement provide only a small sample of the diverse directions, perspectives, challenges, opportunities, and aspirations of the emerging scientific discipline of pharmacometrics.

Pharmacometrics has expanded far beyond its initially defined focus on the analysis of measurements (metrics) associated with pharmacokinetics and biopharmaceutics.¹ As an emerging quantitative science, pharmacometrics spans the spectrum from basic research into disease and mechanisms of drug action to the rational use of medicines in patient care. Quantitative modeling and simulation provide the foundation for this multidisciplinary effort that involves basic and applied university researchers, industry drug development scientists and decision makers, government regulatory scientists, clinicians, and other health professionals.

Although the domain of pharmacometrics continues to broaden, three overarching themes are clearly guiding this evolution. These are *Integration*, *Innovation*, and *Impact*: (1) quantitative *integration* of multisource data and knowledge through the application of clinical, biomedical, biological, engineering, statistical, and mathematical concepts, resulting in (2) continuous methodological and technological *innovation* enhancing scientific understanding and knowledge, which in turn (3) has an *impact* on discovery, research, development, approval, and utilization of new medicines. The triplet of *Integration–Innovation–Impact* forms a circle of excellence (the logo of this supplement shown above right) that can provide the fuel of self-renewal that is necessary to expand pharmacometrics as a vibrant scientific discipline.

This supplement is organized based on the themes of *Integration–Innovation–Impact* as outlined in the table of contents. The contributions include commentaries, white papers, reviews, and original research articles. We hope that this issue will stimulate the
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new thinking necessary to ensure the success and growth of pharmacometrics.

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Guest Editors

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REFERENCE

1. Benet LZ, Rowland M. Pharmacometrics: a new journal section. *J Pharmacokin Biopharm.* 1982;10:349-350.

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