

Conference Report: R / Medicine Report

by Joseph Rickert, Naras Balasubramanian, and Michael Kane

R has found widespread use and is flourishing in bioinformatics, the pharmaceutical industry, clinical trials, and basic science labs. While R is being adopted in clinical informatics, its potential has not yet been realized. We believe R will fundamentally transform the space because of its strengths in making new methods available, the availability of tools for reproducible research, its interfaces to other languages, and its ability to disseminate new approaches through web interfaces and packaging for rapid prototyping of ideas and implementations.

Moreover, while large number of clinicians, scientists, and statisticians contribute to data driven medical science, communication between individuals working in similar areas has been limited. The goals of the R Medicine working group, and the annual R / Medicine conference, are: (1) to form an international community that can help to facilitate collaboration and awareness of developments in the field; and (2) to do a better job of integrating data scientists into medical research to form more meaningful collaborations with clinicians.

R / Medicine 2018

The inaugural conference, R / Medicine 2018 (<https://bit.ly/2Hzpm76>), was held on September 7th and 8th at a venue just off the Yale University campus. The conference was produced by the Yale School of Public Health and the Department of Biostatistics. Sponsors included the R Consortium, Medidata Inc., The New England Statistical Society, and RStudio.

Keynotes and Talks

Four keynote addresses were delivered: Robert Tibshirani of Stanford University spoke about predicting platelet demand at the Stanford Blood Center (<https://bit.ly/2B3xWFi>). Victoria Stodden of the University of Illinois at Urbana-Champaign presented *Computational Reproducibility in Medical Research: Toward Open Code and Data* (<https://stanford.io/2U1AqWF>). Michael Lawrence of Genentech and the R Core Group presented *Scientific software in-the-large* (<https://bit.ly/2RU7rg4>). And, Dr. Harlan Krumholz of Yale University and the Yale-New Haven Hospital presented *Dream Crazy: Imagine the Possibilities of Data Science in Medicine*.

Additional talks ranged from tutorials on Shiny and Stan to presentations on reproducible research and tidy models, analyzing genomic data and more. For a complete list of talks refer to the conference website. A high point of the conference was the closing roundtable discussion with the theme *Bridging the Two Cultures*. This considered how the professional representing the statistical and clinical points of view may conceptualize and approach medical challenges in very different ways. For a fuller account of this discussion and the conference as a whole see <https://bit.ly/2Myn5rm>.

Organizing and Program Committees

The conference organizing committee consisted of: Beth Atkinson, The Mayo Clinic; Denise Esserman, Yale University; Michael Kane, Yale University (Conference Chair); Balasubramanian Narasimhan (Naras), Stanford University; Joseph Rickert, RStudio; and Hongyu Zhao, Yale University.

The program committee was composed of Denise Esserman (Program Chair), Beth Atkinson, Michael Kane, Balasubramanian Narasimhan, and Hongyu Zhao

R / Medicine 2019

R / Medicine 2019 will be held at Yale University from September 19th through September 21st. The conference goal is to grow the community and nurture the conversation about developing useful clinical research and operational solutions. The conference organizers invite clinicians, statistical researchers and others who have an interest in promoting R in clinical practice and medical research to participate however they can. We also invite interested organizations to consider sponsoring R / Medicine 2019. Please watch the website below for announcements regarding abstract submissions, sponsorship opportunities and important dates.

R / Medicine 2019 conference website: <https://r-medicine.com/>

Twitter: [#rmedicine](#)

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