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JALA Names “The 2013 JALA Ten” Breakthroughs in Innovation

CHICAGO – To honor scientific achievements that have made seminal impact toward addressing key biological and medical quandaries, the *Journal of Laboratory Automation* (JALA) has named The JALA Ten for 2013 in its February 2013 issue (Volume 18, Issue 1).

The JALA Ten is an annual editorial feature that highlights 10 top technological breakthroughs across a spectrum of fields that include but is not limited to laboratory automation, drug discovery, drug screening, novel therapeutic strategies and delivery technologies, diagnostics, nanotechnology, nanomedicine, microtechnology as it relates to biology and medicine, novel characterization techniques, and more. It was a requirement that nominated work be reported in a peer-reviewed publication.

According to JALA Editor-in-Chief Dean Ho, Ph.D., of the University of California Los Angeles, “Our 2013 JALA Ten nominations hailed from all corners of the research universe, including universities; companies, both early stage and established; and government research laboratories. Our ten honorees have developed new approaches that range from the fundamental to those that have been successfully transitioned into commercial products. This year’s selections demonstrate the remarkable progress that can be realized when top scientists and engineers combine their talents with those of translationally minded clinicians and entrepreneurs.”

The 2013 JALA Ten (in alphabetical order by first author)

Optimizing Design Outcomes

By Francesco Ciucci¹, Tomonori Honda² and Maria C. Yang²

¹Universitat Heidelberg, Germany

²Massachusetts Institute of Technology, Cambridge, MA, USA

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High-Throughput Three-Dimensional Tracking of Human Sperms Using Computational On-Chip Imaging

By Ting-Wei Su, Liang Xue and Aydogan Ozcan
University of California, Los Angeles, Los Angeles, CA, USA

Cantilever-Free Scanning Probe Molecular Printing

By Louis Giam and Chad A. Mirkin
Northwestern University, Evanston, IL, USA

Reversible Regulation of Aptamer Activity with Effector-Responsive Hairpin Oligonucleotides

By Na Li
University of Miami, Miami, FL, USA

Hydrodynamic Stretching of Single Cells for Large Population Mechanical Phenotyping

By Daniel R. Gossett, Henry T. K. Tse, Serena A. Lee, Yong Ying, Anne G. Lindgren, Otto O. Yang, Jianyu Rao, Amander T. Clark and Dino Di Carlo
University of California, Los Angeles, Los Angeles, CA, USA

Thermal Biosensing with Phase Change Nanoparticles

By Chaoming Wang, Zhaoyong Sun, Liyuan Ma and Ming Su
University of Central Florida, Orlando, FL, USA

Controlling Spatial Organization of Multiple Cell Types in Defined 3D Geometries

By Halil Tekin^{1,2}, Jefferson G. Sanchez^{1,2}, Christian Landeros^{1,2}, Karen Dubbin^{1,2}, Robert Langer¹ and Ali Khademhosseini^{1,2}

¹Massachusetts Institute of Technology, Cambridge, MA, USA

²Harvard Medical School, Boston, MA, USA

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Selective Trapping and Manipulation of Microscale Objects Using Mobile Microvortices

By Li Zhang^{1,2}, Tristan Petit^{1,3}, Kathrin E. Peyer¹, Bradley Kratochvil¹, and Bradley J. Nelson¹

¹Institute of Robotics and Intelligent Systems, Zurich, Switzerland

²The Chinese University of Hong Kong, Hong Kong, China

³Diamond Sensors Laboratory, Gif-sur-Yvette, France

Acoustic Tweezers: A Noninvasive, Noncontact, Versatile, On-Chip Platform for Cell Manipulation

By Xiaoyun Ding, Sz-Chin Steven Lin, Brian Kiraly, Hongjun Yue, Sixing Li, I-Kao Chiang, Jinjie Shi, Stephen J. Benkovic and Tony Jun Huang
The Pennsylvania State University, University Park, PA, USA

Simultaneous Detection of Ca²⁺ and Diacylglycerol Signaling in Living Cells

By Paul Tewson¹, Mara Westenberg¹, Yongxin Zhao², Robert E. Campbell³, Anne Marie Quinn¹ and Thomas E. Hughes^{1,3}

¹Montana Molecular, Bozeman, MT, USA

²University of Alberta, Edmonton, Alberta, Canada

³Montana State University, Bozeman, MT, USA

Nominations were open to SLAS members and nonmembers. A JALA Ten Selection Committee evaluated all nominations received, specifically searching for work that generated profound impact upon the general fields of biology and medicine. Fundamental and applied breakthroughs were eligible, and all fields of innovation with specific relevance toward biology and medicine were considered.

For more information, visit www.slas.org.

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***The Journal of Laboratory Automation (JALA)** is a multi-disciplinary international forum devoted to the advancement of technology in the laboratory. It is one of two official, peer-reviewed journals of SLAS, and provides a unique forum for the presentation of method focused scientific papers, and related news, events and products. Six issues are published each year in partnership with SAGE Publications.*

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