John P. Nolan, Ph.D.

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La Jolla Bioengineering Institute
3535 General Atomics Court
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Education

The Pennsylvania State University, University Park, PA	Ph.D.	1992	Biochemistry
University of Illinois, Urbana, IL	B.S.	1987	Biology, Chemistry

Professional Experience

Professor, 2004-present
La Jolla Bioengineering Institute
Director and PI, National Flow Cytometry Resource, 2001-2004
Bioscience Division, Los Alamos National Laboratory
Member, Cancer Research and Training Center, 2002-2004
School of Medicine, University of New Mexico
Adjunct Professor, Department of Pathology, 1999-2004
School of Medicine, University of New Mexico
Technical Staff Member, 1996-2004
Bioscience Division, Los Alamos National Laboratory
Postdoctoral Researcher, 1993-1996
Life Sciences Division, Los Alamos National Laboratory
Postdoctoral Researcher, 1992-1993
Dept. of Chemical Engineering, The Pennsylvania State University
Graduate Research Assistant, 1987-1992
Dept. of Molecular and Cell Biology, The Pennsylvania State University

Honors, Awards

President-elect, International Society for Advancement of Cytometry (ISAC), 2010-2012
Fellow, American Institute for Medical and Biological Engineering, elected 2006
Outstanding Mentor Award, LANL, 2003
Distinguished Performance Award, LANL, 1999
Presidential Award for Excellence, International Society for Analytical Cytology, 1996
Deutcher Award, Penn State University, 1990
Graduate Research Award, Penn State University, 1989

Funding History

Principal Investigator: NIH R01-EB003824, “Raman Flow Cytometry for Drug Discovery and Diagnostics” (2010-2014), Bioengineering Research Partnership, ~$6,427,000 total costs over 5 years (Years 6-10).

Principal Investigator: DOD Global Epidemic Surveillance Program “Multiplexed Analysis of Influenza Virus Antibodies” (2009-2010), Sub-contract from Naval Health Research Lab, San Diego, $112,237 total costs.

Principle Investigator: NIH 1S10RR22330, “Becton Dickenson FACSAria Cell Sorter” (2006) Shared Instrument Grant, $431,048 direct costs.

Principal Investigator: NIH R01-EB003824, “Raman Flow Cytometry for Drug Discovery and Diagnostics” (2004-2009), Bioengineering Research Partnership, ~$6,399,133 total costs over 5 years (Years 1-5).

Principal Investigator: Cooperative Research and Development Agreement (CRADA) – “Development of Phase Resolved Fluorescence Detection”, (2004), Advanced Cytometry Instrumentation Systems, $75,000 total costs.

Principal Investigator: CRADA – “Non-invasive Detection of Bacteria in Blood” (2003-2005), APD Life Sciences, $100,000/year total costs for 2 years.

Principal Investigator: CRADA – “Flow Sorting of Rat Y Chromosome” (2003), Agencourt Biotechnologies, $30,000 total costs.

Principal Investigator: NIH P41-RR01315, "National Flow Cytometry and Sorting Resource" (2002-2004), $764,547/year direct costs.

Principal Investigator: Laboratory Directed Research and Development (Los Alamos National Laboratory competitive internal funding), “Magnetization and Fluorescence Measurements of Particles in Flowing Streams” (2001-2003). $220,000/year total costs.

Principal Investigator: DOE Chemical and Biological Non-Proliferation Program “Rapid Pathogen Detection Using Microsphere-Based Flow Cytometry” (2000-2002) $350,000/year total costs.

Principal Investigator: CRADA – “Multiplexed Genotyping of Cardiovascular Risk Factors” (2001-2002), Genematrix Corp, $60,000.

Principal Investigator: NIH R01-RR14101, "High Throughput SNP Discovery and Scoring Using Flow Cytometry" (1999-2001), $563,737 direct costs over 3 years.

Co-Investigator: NIH P41-RR01315, "Microsphere-Based Approaches to Molecular Assembly" (1997-2002), $120,000/year direct costs. National Flow Cytometry Resource, Jim Jett, Program PI.

Principal Investigator: Laboratory Directed Research and Development, "Rapid Genotyping Assay for Beryllium Disease Susceptibility” (1998-2000). $120,000/year total costs.

Professional Service - Society

President-elect: International Society for Advancement of Cytometry (ISAC), 2010-2012
Chair, Standards Committee: ISAC, 2008-2012
Chair, Scientific Advisory Committee: ISAC, 2004-2008
Member, Scientific Advisory Committee: ISAC, 2002-2004
Councilor (elected): ISAC, 2002-2006
Member, International Society for Advancement of Cytometry
Member, International Society for Thrombosis and Hemostasis
Member, American Chemical Society
Member, American Institute of Medical and Biological Engineering

Professional Service - Editorial

Editorial Board: Cytometry, 2007-present
Editorial Board: Current Protocols in Cytometry, 2005 - present
Guest Editor: Cytometry, Special Issue on Microsphere and Microparticle Analyses, 2006
Editorial Board: Journal of Fluorescence, 2001 – present
Editorial Board: International Journal of High Throughput Screening, 2009-present
Reviewer: *ACS Nano; Analytical Chemistry; Biochemical Journal; Biochemistry; Biochimica et Biophysica Acta; Biology of Reproduction; BioTechniques; BMC Biotechnology; Clinical Cytometry; Clinica Chimica Acta; Cytometry; Environmental Microbiology and Environmental Microbiology Reports; Genome Research; Human Mutation, Journal of Andrology; Journal of the Association for Laboratory Automation; Journal of Biomedical Optics; Journal of Biotechnology; Clinical and Diagnostic Laboratory Immunology; Journal of Fluorescence; Journal of Reproduction and Fertility; Journal of Physical Chemistry; Langmuir; Nature Biotechnology; Nature Methods; Nature Nanotechnology; Nucleic Acids Research; Physical Reviews Letters; PLOS ONE; Proceedings of the National Academy of Science, USA; Reproduction, Fertility, and Development; Talanta*

Professional Service – Grant Review

Member, NIH, NIAAA SBIR SEP ZAA1-GG(01), March 2011
Member, NIH, Biodefense Diagnostics ZAI1-BLG-M-M1, ZAI1-BLG-M-M2, February 2011
Chair, NIH, Shared Instrument Grants ZRG1 CB-J (30), July 2010
Member, NIH, Director’s Opportunity for Research (RC4) ZRG1 CB-B (55) R Stage 1, June 2010

Member, NIH, Instrument Development for Biomedical Applications ZRR1 BT-7 (01), March 2010
Chair, NIH, Shared Instrument Grants ZRG1 CB-J (31), October 2009
Member, Ontario Research Fund, Scientific Merit Review, October 2009
Member, RusNano, Scientific Merit Review, August 2009
Member, NIH, Biotechnology Fellowship ZRG1 F14-C (20) I, July 2009
Member, NIH, Instrument and System Development (ISD) IRG, June 2009
Member, NIH, Challenge Grants in Health and Science Research, June 2009
Member, NIH, Biomedical Technology Center NIH ZRR1 BT-9 (01) 1 X02, May 2009
Member, NIH, Instrument Development for Biomedical Applications ZRR1 BT-7 (01), March 2009
Member, Netherlands Organisation for Scientific Research, Chemical Sciences Division, Feb. 2009
Member, Welcome Trust, Equipment, Technology Develop & Biomedical Resources, Nov. 2008
Chair, NIH, Biomedical Technology Resource Center P41 Site Visit, July 2007
Member, NIH, NIBIB Quantum Grants ZEB1 OSR-C (O1) R, June 2007
Member, NIH, Program Project SEP ZEB1 OSR-C J1 (P), November 2006
Member, NIH, NIBIB Quantum Grants SEP ZEB1 OSR-C (01) (P), June 2006
Member, NIH, Shared Instrument Grants ZRG1 BCMB-P (30) (S), August 2006
Member, NSF, Scientific Merit Reviewer, 2005
Member, Netherlands Org for Scientific Research, Innovational Research Incentives Scheme, August 2005
Member, NIH, Biomedical Technology Resource Center P41 Reverse Site Visit, April 2005
Chair, NIH, Bioengineering Research Partnership SEP ZRG1, July 2004
Chair, NIH, Biomedical Technology Resource Center P41 Site Visit, April 2004
Chair, NIH, NIEHS SBIR Special Emphasis Panel, 2004
Member, NIH, Biomedical Technology Resource Center P41 Review, July 2003
Member, LANL, Laboratory Directed Research and Development, Chem & Bio Tech Panel, May 2003
Member, NIH, Biomedical Information Science and Technology Initiative SSS-H(91), February 2003
Member, French Ministry of Research, Scientific Merit Review, February 2003
Member, NIH, Biomedical Information Science and Technology Initiative, SSS-H October 2002
Member, LANL, Laboratory Directed Research and Development, Engineering Panel, May 2002
Member, NIH, NIEHS SBIR Special Emphasis Panel, April 2001
Member, LANL, Laboratory Directed Research and Development, Engineering Panel, May 2001
Member, LANL, Laboratory Directed Research and Development, Biology Panel, July 2000
Member, LANL, Laboratory Directed Research and Development, Biology Panel, June 1999

Teaching Experience: Courses and Short-courses

Microparticles, Multiplexing, and More (Lecture, Annual Course in Flow Cytometry, UNM, June 2011)
Blood Biophotonics (Lecture, Photonics in Everyday Life, ECE80, UCSD, Winter 2010)
Microparticles, Multiplexing, and More (Lecture, Annual Course in Flow Cytometry, UNM, June 2009)
Blood Biophotonics (Lecture, Photonics in Everyday Life, ECE80, UCSD, Winter 2009)
Blood Biophotonics (Lecture, Photonics in Everyday Life, ECE80, UCSD, Spring 2008)
Optical Measurements in Flow (Lecture, Advanced Biophotonics, BENG247A, UCSD, Fall 2007)
Multiplexed and Microsphere-based Analysis (Lecture, Annual Course in Flow Cytometry, LANL June 2007)
Flow Cytometry Calibration and Standardization (Lab, Annual Course in Flow Cytometry, LANL June 2007)
Blood Biophotonics (Lecture, Photonics in Everyday Life, ECE80, UCSD, Spring 2007)
Multiplexed Molecular Analysis (Lecture and labs, Annual Course in Flow Cytometry, LANL, June 2005)
Flow Cytometry (Lecture, Biological Transport Phenomenon, BENG253, UCSD, Winter 2005)
Molecular Biology and Microspheres (Lecture, the Latex Course, San Diego, September 2004)
Microsphere-Based Molecular Analysis (Tutorial, ISAC XXII Congress, Montpellier, France, May 2004)
Multiplexed Molecular Analysis (Lecture and labs, Annual Course in Flow Cytometry, LANL, June 2003)
Molecular Cytometry (Lecture, Clinical Cytometry Course, Northwestern University, Aug 2002)
Microsphere-based Analysis Using Flow Cytometry (Lecture, The Latex Course, Indianapolis, June 2002)
Multiplexed Molecular Analysis (Lecture, Annual Course in Flow Cytometry, Bowdoin College, June 2002)
Microsphere-Based Genetic Analysis (Tutorial, ISAC XXI Congress, San Diego, May 2002)
Kinetic and High Throughput Analyses (Lecture and lab, Annual Course in Flow Cytometry, LANL June 2001)
Kinetic and High Throughput Analyses (Lecture and lab, Annual Course in Flow Cytometry, LANL June 1999)
Kinetic Analysis of Cells and Molecules (Lecture and lab, Annual Course in Flow Cytometry, LANL June 1997)

Kinetic Analysis of Cells and Molecules (Lecture, Annual Course in Flow Cytometry, LANL June 1997)
Kinetic Analysis of Cells and Molecules (Lecture, Annual Course in Flow Cytometry, LANL June 1995)
Membrane Biochemistry (Lectures, PSU Fall 1992)
Biochemical Methods (Teaching Assistant, PSU Fall 1990)
Introduction to Techniques of Molecular and Cell Biology (Teaching Assistant, PSU Spring 1988, 1989)

Graduate/Post-graduate Trainees

Dr. Er Liu (Post-doctoral researcher, 2011-now)
Dr. David Sebba (Post-doctoral researcher, 2008-2009) – Currently: Research Scientist, NanoComposix, Inc.
Mr. Neil Bonzagni – University of North Carolina (MPH student, 2008)
Dr. Loretta Yang (Post-doctoral researcher, 2005-2006) – Currently: Research Scientist, National University of Ireland, Galway
Ms. Anna Bergstrom - Chalmers Technical University – Gothenberg, SE (MS student, 2003-2004)
Dr. Alina Deshpande – University of New Mexico (Ph.D student, 1998-2003) – Currently: Technical Staff Member, Los Alamos National Lab
Dr. Feng Zhou (Post-doctoral researcher, 1999-2002) – Currently: Biophoretics, Inc.
Dr. Steven Graves (Post-doctoral researcher, 1999-2001) – Currently: Associate Professor, Department of Chemical and Nuclear Engineering, University of New Mexico
Dr. Sabine Lauer (Post-doctoral researcher, 1997-2001) – Currently: Technical Staff Member, LANL

Undergraduate Trainees

Ben Farmos – University of California, San Diego (2011)
Connie Lu – University of California, San Diego (2010)
Olga Souverneva – University of California, San Diego (2010)
Danilo Condello - University of California, San Diego (2010)
Sam Stoner – University of California, San Diego (2010)
Christine Vu – University of California, San Diego (2010)
Mahin Kahn – University of California, San Diego (2010)
Qian Zhao – University of California, San Diego (2010)
Jessica Kwan – University of California, San Diego (2010)
Kenneth Stapleton – University of California, San Diego (2010)
Vikram Chauha – University of California, San Diego (2010)
Michael Ballesteros – University of California, San Diego (2010)
Denise Choi - University of California, San Diego (2010)
Isha Dave - University of California, San Diego (2009)
Brian Pearson - University of California, San Diego (2009)
Alexander Saal – University of California, San Diego (2009)
Grace Jang - University of California, San Diego (2009)
Gurraj Bedi - University of California, San Diego (2009)
Demosthenes Morales - University of California, San Diego (2008)
Andrew Chen – University of California, San Diego (2008)
Sruti Kumar – University of California, San Diego (2008)
Peter Struss – University of California, San Diego (2008)
Christine Do – University of California, San Diego (2007)
Miguel Vargas – University of California, San Diego (2006)
Zev Binder – University of California, Davis (2002)
See-Young Lee – University of Illinois, Urbana-Champaign (2002)
Carrie Harrington - University of Tennessee (2002)
Wesley Solomon – Morehouse College (2002)
Christy Keenan - Massachusetts Institute of Technology (2001)
Keith Corbino – Cornell University (2000)
James Tanyi – US Military Academy West Point (1999)
Yamil Gerena-Lopez - University of Puerto Rico (1998)
Mike McGuire - US Air Force Academy (1998)
Sharon Compton – University of Florida (1998)

John Morris - US Military Academy West Point (1997)
Anna Nogar - University of New Mexico (1997)

Sabbatical and Visiting Scientists
Dr Raymond Erikson – Harvard University (1998)
Dr Gary Killian – Penn State University (2000)

Invited Lectures and Presentations
"Sperm Membrane Structure and Function" Liposome Research Laboratory, University of British Columbia, Vancouver, B.C. (September 1992).

"Dynamic DNA Packaging" Life Sciences Division, Los Alamos National Laboratory (March 1993).

"Mechanisms of Molecular Assembly" ICOS Corporation, Bothell, WA (July 1996).

"Analysis of Molecular Assembly by Flow Cytometry" School of Medicine, University of New Mexico (September 1996).

“Real-Time Analysis of Molecular Assembly Using Flow Cytometry” Dept of Bioengineering, University of California San Diego (August 1997)

“Analysis of Molecular Interactions in Living Cells” Axiom Biotechnologies, La Jolla, CA (August 1997)

“Real-Time Analysis of Macromolecular Assembly and Function Using Flow Cytometry” Dept of Biochemistry and Molecular Biology, Penn State University (September 1997)

“Analysis of Molecular Assembly Using Flow Cytometry: Genomics Applications” Affymax Research Institute, Santa Clara, CA (January 1998)

“Molecular and Genetic Analyses Using Flow Cytometry” Dept of Physiology, University of Puerto Rico (October 1999)

“Molecular and Genetic Analyses Using Flow Cytometry” Dept of Pharmacology and Experimental Therapeutics, Mayo Medical School (December 1999)

“Molecular and Genetic Analyses Using Flow Cytometry” Becton Dickenson Biosciences, San Jose, CA (January 2000)

“Real Time Analysis of Molecular Assembly Using Flow Cytometry” Royal Microscopy Society Flow 2000 Conference, York, UK (September 2000)

“Genotyping of Single Nucleotide Polymorphisms by Flow Cytometry”, Royal Microscopy Society Flow 2000 Conference, York, UK (September 2000)

“Microbead Technology: A New Dimension for Flow Cytometry”, Special Guest Lecture, Royal Microscopy Society Flow Cytometry Course, University of Sheffield, UK (September 2000)

“High Throughput Genomic Analysis using Multiplexing Microsphere Arrays (GAMMArrays) and Flow Cytometry” IBC Nucleic Acid Detection and Screening Technologies, San Diego, CA (September 2000)

“Molecular and Genetic Analyses Using Flow Cytometry” Laboratory Centre for Disease Control, Health Canada, Ottawa, Canada (October 2000)

“Molecular and Genetic Analyses Using Flow Cytometry” RCMI International Symposium on Health Disparities, San Juan, PR (November, 2000)

“Soluble Microarrays: Evolution of the Flat Chip Paradigm” HPCE2001, Boston, MA (January 2001)

“High Throughput Genomic and Proteomic Analysis” Life Sciences Consortium, Penn State University (April 2001)

“Molecular Analysis by Flow cytometry” NSF Workshop: Advanced Instrumentation for the New Millennium, University of Arizona (December, 2001)

"Biosensor Platforms and Assays" BTR 2002: Unified Science & Technology for Reducing Biological Threats & Countering Terrorism, University of New Mexico (March, 2002)

"Microsphere-based Molecular Analysis Using Flow Cytometry" The Latex Course, Indianapolis, IN (June 2002)

"Technologies for Predisposition" Panel Discussion, NIH BECON Symposium: Sensors for Biological Research and Medicine, Bethesda, MD (June, 2002)

"Molecular Cytometry: New Approaches to the Analysis of Molecular Assemblies" Department of Chemistry, Purdue University (October, 2002)

"Molecular Cytometry: High Throughput Genomic and Proteomic Analysis" La Jolla Bioengineering Institute (January, 2003)

"Molecular Cytometry: Genetic and Genomic Applications" Danish Society for Flow Cytometry Symposium on Microarray Technology, Copenhagen (April 2003)

"Molecular Cytometry: Genetic and Genomic Applications" San Diego Flow Cytometry Users Group (June, 2003)

"Molecular Cytometry: New Approaches to Large Scale Cell and Molecular Analysis" Children's Hospital of Oakland Research Institute, CHORI (April 2004)

"Molecular Cytometry: New Approaches to Large Scale Cell and Molecular Analysis" University of California, Davis (April 2004)

"Flow Futures: New Analytical Challenges in Biology and the Technologies to Meet Them" Chesapeake Cytometry Consortium Symposium, Bethesda, MD (September, 2004)

"Molecular Biology and Microspheres" The Latex Course, San Diego, CA (September 2004)

"Flow Technology and the Study of Bacterial Protein Toxins" Great Lakes International Imaging and Flow Cytometry Association Annual Meeting, Milwaukee, WI (October, 2005)

"High Throughput Molecular Analysis Using Microsphere Arrays" Stem Cells in the Age of Fluorescence Technology 5th Samual A. Latt Conference, Goldcoast, Queensland, Australia (November, 2005)

"Extending the Reach of Flow-based Analysis: Instrumentation for Spectroscopy and Nanotechnology" San Diego Flow Cytometry Users Group (March, 2006)

"State of the Science in Flow Cytometry for Rapid and Unattended Multi-agent Detection" Defense Threat Reduction Agency Biotechnology Workshop (June, 2006)

"Sweating the Small Stuff: Flow Cytometry for the Quantitative Analysis of Natural and Synthetic Nanoparticles" 2007 Northwest Cytometry Meeting (March 2007)

"Molecular Cytometry: Extending the Capabilities of Flow-based Analysis" The Burnham Institute for Medical Research (September, 2007)

"Cytometry and Nanomedicine" First International Symposium on Applied Nanomedicine, Qatar Foundation, Doha, Qatar (March, 2008)

"Raman Spectroscopy Meets Flow Cytometry: High Speed Multiplexed Cell and Biomolecular Analysis" Department of Chemistry, University of Alberta (April, 2008)

"Single particle Raman spectroscopy in flow: Making the most of the spectrum for multiparameter analysis" Microscopy and Microanalysis, Albuquerque, NM (August, 2008)

"Single particle Raman spectroscopy in flow: Making the most of the spectrum for multiparameter analysis" Department of Bioengineering, University of California, Riverside (November, 2008)

"Molecular Analysis of the Host-Pathogen Interface: Multiplexed Approaches for a System-wide View" Huck Institutes of the Life Sciences, Penn State University (July, 2009)

"Quantitative Analysis of Glycan-Receptor Interactions using Microspheres and Flow Cytometry" Consortium for Functional Glycomics Workshop, National Institutes of Health (October 2009)

“Raman Flow Cytometry: Cell Measurements Beyond 20 Parameters” Torrey Pines Optical Technology Symposium, The Scripps Research Institute (November, 2009)

“SERS Cytometry for High-Content Analysis: More Parameters for Less” High Content Analysis, Cambridge Healthtech, San Francisco, CA (January, 2010)

“Screening and Systems Cytometry: More Samples, More Parameters” AAAS Science Webinar, www.sciencemag.com\webinars (March, 2010)

“Multiplexed Analysis of Antibody-Antigen Interactions” Sorrento Therapeutics, San Diego, CA (March, 2010)

“SERS Cytometry for High-Content Analysis: More Parameters for Less” Experimental Biology 2010, Anaheim, CA (April, 2010)

“SERS Cytometry: More Parameters for Less” CYTO2010 Plenary Session, Seattle, WA (May, 2010)

“Multiplexed Analysis of Antibody-Antigen Interactions” AnaptysBio, San Diego, CA (June, 2010)

“Engineering SERS Tags for Cytometry” FACSS Symposium, Raleigh, NC (October, 2010)

“Approaches to Microparticle Analysis to Assess Endothelial Dysfunction” Amgen, Thousand Oaks, CA (December, 2010)

“Cytometry Technologies for the Measurement of Antigen-specific Immune Responses” La Jolla Institute for Allergy and Immunology (June, 2011)

“Quantitative and Multiplexed Measurement of Glycan-Receptor Interactions” Carbohydrates Gordon Research Conference, Waterville, ME (June, 2011)

“Flow Cytometry of Nanoparticles” Robert Spencer Memorial Lecture, flowcytometryUK, York, UK (July, 2011)

Platform Presentations

"Multiparameter Measurement of Sperm Cell Function." Reproductive Biology Workshop. International Society for Analytical Cytology Annual Meeting, Colorado Springs, CO (March 1993)

"Regulation of Transbilayer Lipid Distribution in Bull Sperm." Society for the Study of Reproduction Annual Meeting, Fort Collins, CO (July 1993)

"Development of a Rapid Kinetic Flow Cytometer." Rocky Mountain Cytometry Conference, Angel Fire, NM (June 1994)

"Kinetic Analysis of Human Flap Endonuclease-1 by Flow Cytometry" International Society for Analytical Cytology XVIII Congress, Rimini, Italy (April 1996)

"Real-Time Kinetic Analysis of Nuclease-DNA Binding and Cleavage" Biophysical Society Annual Meeting, New Orleans, LA (March 1997)

“Real-Time Analysis of Molecular Assembly Using Kinetic Flow Cytometry” Advances in Optical Biophysics, SPIE-The International Society for Optical Engineering Photonics West Conference, San Jose, CA (January, 1998)

“Green Fluorescent Protein Standard Particles for Flow Cytometry and Fluorescence Microscopy” International Society for Analytical Cytology XIX Congress, Colorado Springs, CO (March 1998)

“Nucleic Acid and SNP Detection Using Flow Cytometry: A New Platform for High Throughput Genomic Analysis” LabAutomation’99, San Diego, CA (February, 1999)

“Multiplexed SNP Scoring Using Soluble Microsphere Arrays” LabAutomation2001, Palm Springs, CA (January 2001)

“Molecular Microbiology” International Society for Analytical Cytology XXI Congress, San Diego, CA (May 2002)

“Pharmacogenetics” International Society for Analytical Cytology XXI Congress, San Diego, CA (May 2002)

"Analysis of Sub-micron Biological Particles by High Sensitivity Flow Cytometry" International Society for Analytical Cytology XXII Congress, Montpellier, France (May 2004)

"Influenza Typing by Flow Cytometry" Clinical Cytometry Society Annual Meeting, Long Beach, CA (October 2004)

"High Throughput Molecular Analysis Using Microsphere Arrays" 5th Samuel A. Latt Conference, Goldcoast, Queensland, Australia (November, 2005)

"Raman Flow Cytometry" International Society for Analytical Cytology XXIII Congress, Quebec City, Canada (May 2006)

"A Flow Cytometer for the Measurement of Raman Spectra" International Society for the Advancement of Cytometry XXIV Congress, Budapest, Hungary (May 2008)

"Multiparameter Measurements using Raman Flow Cytometry" International Society for the Advancement of Cytometry XXIV Congress, Budapest, Hungary (May 2008)

"Single particle Raman spectroscopy in flow: Making the most of the spectrum for multiparameter analysis" Microscopy and Microanalysis, Albuquerque NM (August 2008)

"Standardization of flow cytometry measurement, analysis, and reporting: Considerations for quantification of cell-derived membrane vesicles" International Society of Thrombosis and Hemostasis, Scientific and Standardization Committee, Vascular Biology Sub-committee, Boston MA (July 2009)

"Flow spectroscopy for high throughput single nanoparticle analysis" SPIE Optics + Photonics, San Diego, CA (August 2009)

"Multiparameter Cell Analysis using Raman Flow Cytometry" CYTO 2011, Baltimore, MD (May, 2011)

"Strain-specific Human Antibody Responses to Influenza Virus" CYTO 2011, Baltimore, MD (May, 2011)

Meeting, Workshop, and Tutorial Organization

Session Chair, Advances in Optical Biophysics, SPIE-The International Society for Optical Engineering, Photonics West, San Jose, CA (January 1998).

Workshop on Bead-Based Flow Cytometric Analyses, International Society for Analytical Cytology XIX Congress, Colorado Springs, CO (March 1998).

Workshop on Microsphere-Based Analyses, International Society for Analytical Cytology XX Congress, Montpellier, France (May 2000).

Organizer, Session Chair, Genomics-SNP Technology Session, LabAutomation2001, Palm Springs, CA (January 2001)

Organizer, Session Chair, Genomics-SNP Technology Session, LabAutomation2002, Palm Springs, CA (January 2002)

Tutorial on Microsphere-Based Genetic Analysis, International Society for Analytical Cytology XXI Congress, San Diego, CA (May 2002)

Workshop on Microsphere-based Analysis, International Society for Analytical Cytology XXI Congress, San Diego, CA (May 2002)

Session Chair, Microbiology Parallel Session, International Society for Analytical Cytology XXI Congress, San Diego, CA (May 2002)

Organizer, Session Chair, Advanced Technology-Genomics Session, LabAutomation2003, Palm Springs, CA (February, 2003)

Organizer, Annual Course in Flow Cytometry, Los Alamos National Laboratory (June, 2003)

Session Chair, Flow in the Fast Lane Parallel Session, International Society for Analytical Cytology XXII Congress, Montpellier, France (May 2004)

Tutorial, Microsphere-Based Molecular Analysis, International Society for Analytical Cytology XXII Congress, Montpellier, France (May 2004)

Workshop, Multiplexed and Macromolecular Analysis, International Society for Analytical Cytology XXII Congress, Montpellier, France (May 2004)

Session Organizer/Chair, Flow Spectroscopy, Cytometry Development Workshop, Asilomar CA (October 2005)

Program Committee, Session Chair, Stem Cells in the Age of Fluorescence Technology 5th Samuel A. Latt Conference, Goldcoast, Queensland, Australia (November, 2005)

Program Committee, International Society for Analytical Cytology XXIII Congress, Quebec City, Canada (May, 2006)

Workshop Organizer, Chair, International Society for Analytical Cytology XXIII Congress, Quebec City, Canada (May, 2006)

Parallel Session Organizer, Chair, International Society for Analytical Cytology XXIII Congress, Quebec City, Canada (May, 2006)

Session Organizer/Chair, Flow Spectroscopy, Cytometry Development Workshop, Asilomar CA (October 2007)

Organizing Committee, International Society for Analytical Cytology XXIV Congress, Budapest, Hungary (May, 2008)

Workshop Organizer, Chair, International Society for Analytical Cytology XXIV Congress, Budapest, Hungary (May, 2008)

Session Organizer/Chair, Raman Cytometry, Cytometry Development Workshop, Asilomar CA (October 2008)

Session Organizer/Chair, Cytometry Technology Cytometry Development Workshop, Asilomar CA (October 2008)

Organizing Committee, CYTO 2010, International Society for Advancement of Cytometry Congress, Seattle, WA (2010)

Session Organizer/Chair, Cytometry Technology, Cytometry Development Workshop, Asilomar CA (October 2010)

Organizing Committee, CYTO 2011, International Society for Advancement of Cytometry Congress, Baltimore, MD (May, 2011)

Program Chair, CYTO 2012, International Society for Advancement of Cytometry Congress, Leipzig, Germany (May, 2012)

Patents and Applications

1. **Nolan JP**, White PS, Cai H (2001) DNA polymorphism identity determination using flow cytometry. USPTO# 6,287,766

2. **Nolan JP**, Nolan RL, Ruscetti T, Lehnert BE (2002) Recombinant fluorescent protein microsphere calibration standard. USPTO# 6,326,157.

3. **Nolan JP**, White SW (2006) DNA polymorphism identity determination using multiplexed oligonucleotide PCR. USPTO# 7,153,656

4. **Nolan JP**, Zhou F (2007) Early leukemia diagnostics using microsphere arrays. USPTO# 7,179,598

5. Kraus RH, Zhou F, **Nolan JP** (2007) Bioassay and biomolecular identification, sorting, and collection methods using magnetic microspheres. USPTO# 7,232,691

6. Kraus RH, Zhou F, **Nolan JP** (2003) Apparatus used in identification, sorting and collection methods using magnetic microspheres and magnetic microspheres kits. 20030186465

7. Sebba DS, **Nolan JP** (2009) Raman scattering tags for biological sensing (provisional).

Publications

1. Hammerstedt, R.H., J.K. Graham **J.P. Nolan** (1990) Cryopreservation of mammalian sperm: what we ask them to survive. Journal of Andrology 11: 73-88.

2. Graham, J.K., **J.P. Nolan**, R.H. Hammerstedt (1991) Effect of dilauroyl-phosphatidylcholine liposomes on motility, induction of the acrosome reaction, and subsequent egg penetration by epididymal ram sperm. Biology of Reproduction 44: 1092-1099.

3. **Nolan, J.P.**, J.K. Graham, R.H. Hammerstedt (1992) Artificial induction of exocytosis in bull sperm. Archives of Biochemistry and Biophysics 292: 311-322.

4. Andrews, J.C., **J.P. Nolan**, R.H. Hammerstedt, B.D. Bavister (1994) Role of zinc during hamster sperm capacitation. Biology of Reproduction 51: 1238-1247.

5. **Nolan, J.P.**, S.F. Magargee, R.G. Posner, R.H. Hammerstedt (1995) Flow cytometric analysis of transmembrane phospholipid movement in bull sperm. Biochemistry 34: 3907-3915.

6. Andrews, J.C., **J.P. Nolan**, R.H. Hammerstedt, B.D. Bavister (1995) Characterization of N-(6-methoxy-8-quinolyl)-p-toluenesulfonamide for the detection of zinc in hamster sperm. Cytometry 21:153-159.

7. **Nolan, J.P.**, R.G. Posner, R. Habbersett, J.C. Martin, L.A. Sklar (1995) A rapid mix flow cytometer with subsecond kinetic resolution. Cytometry 21:223-229.

8. Shen, B., **J.P. Nolan**, L.A. Sklar, M.S. Park (1996) Essential amino acids for substrate binding and catalysis of human flap endonuclease-1. Journal of Biological Chemistry 271:9173-9176.

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