

Kathy L. Rowlen

Education

B.S. (high honors) in Chemistry, Grand Valley State University, Allendale, MI (1984)

Ph.D. in Chemistry, University of Colorado, Boulder, CO (1989)

Employment Positions

Chief Executive Officer, InDevR Inc.

(July 2008 – present)

Chief Science Officer, InDevR Inc.

(July 2003 – present)

Professor, Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO

(April 2001 – January 2008).

Associate Professor, Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO

(September 1997 – March 2001).

Visiting Scholar, Department of Chemistry, Northwestern University, Evanston, IL

(February 1998 - April 1998).

Assistant Professor, Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO

(January 1991- August 1997)

Post-Doctoral Research, University of Utah, Salt Lake City, UT

(August 1989 - October 1990).

Ph.D. Department of Chemistry and Biochemistry, University of Colorado, Boulder, CO

(September 1984 - June 1989).

Honors

Inventor of the Year (CU-Boulder, 2006/2007)

Council on Research and Creative Work Faculty Fellowship (2004/2005, CU)

Distinguished Alumna, Grand Valley State University (2003)

National Science Foundation Career Award (1995 -1998)

Society of Analytical Chemists of Pittsburgh Fellowship (1993)

Junior Faculty Development Award (Univ. of Colorado, 1992)

Beckman Foundation Young Investigator (1991- 1993)

Summary of Academic Activities

Number of Graduate Students Advised: 25

Number of Undergraduates Advised: 27

Publications: >80

Research Seminars: >100

Patents or patent applications: 15

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Publications (January 2004 – December 2009)

- 81) Thomas Reilly; Robert Tenent; Teresa Barnes; Kathy Rowlen; JaoVan De Lagemaat "**Controlling the Optical Properties of Plasmonic Disordered Nanohole Silver Films,**" in press *ACS Nano*
- 80) Erica D. Dawson, Kathy L. Rowlen "**MChip: A Single Gene Diagnostic Microarray for Influenza A**" in *Influenza: Molecular Virology*, Horizon Scientific Press, in press <http://www.horizonpress.com/influenza>
- 79) Erica D. Dawson, Kathy L. Rowlen "**InDevR's FluChip for Swine Flu Detection**", Clinical and Diagnostic Immunology Division of AACC, *Immunotes*, Autum **2009**.
- 78) Erica D. Dawson, Amber W. Taylor, James A. Smagala, Kathy L. Rowlen "**Molecular Detection of *Streptococcus pyogenes* and *Streptococcus dysgalactiae* subspecies *equisimilis***" *Molecular Biotechnology* **2009**, 42(1), 117-127.
- 77) Thomas H. Reilly III, Jao van de Lagemaat, Anthony J. Morfa, Robert C. Tenent, Kathy L. Rowlen "**Random Nanohole Arrays as Transparent Electrodes in Organic Photovoltaics**" *Applied Physics Letters* **2008**, 92, 243304-243307.
- 76) Michael B. Townsend, James A. Smagala, Erica D. Dawson, Varough Deyde, Alexander I Klimov, Robert D. Kuchta, and Kathy L. Rowlen "**Detection of Adamantane-Resistant Influenza on a Microarray**" *Journal of Clinical Virology* **2008**, 42, 117-123.
- 75) Anthony J. Morfa, Kathy L. Rowlen, Thomas H. Reilly III, Manuel J. Romero, Jao van de Lagemaat "**Plasmon-Enhanced Solar Energy Conversion in Organic Bulk Heterojunction Photovoltaics,**" *Applied Physics Letters* **2008**, 92, 013504 – 013507.
- 74) Hadley D. Sikes, Ryan R. Hansen, Leah M. Johnson, Robert Jenison, John W. Birks, Kathy L. Rowlen, Christopher N. Bowman "**Using Polymeric Materials to Generate an Amplified Response to Molecular Recognition Events,**" *Nature Materials* **2007**, 7, 52-56.
- 73) Chad L. Moore, James A. Smagala, Catherine B. Smith, Erica D. Dawson, Nancy J. Cox, Robert D. Kuchta, and Kathy L. Rowlen "**Evaluation of MChip with Historic A/H1N1 Influenza Viruses Including the 1918 "Spanish Flu"**" *Journal of Clinical Microbiology* **2007**, 45(11) 3807-3810.
- 72) Thomas H. Reilly III, Jordan D. Corbman, Kathy L. Rowlen "**Vapor Deposition Method for Sensitivity Studies on Engineered SERS-Active Substrates**" *Analytical Chemistry* **2007**, 79, 5078-5081.
- 71) Martin Mehlmann, Aleta B. Bonner, John V. Williams, Daniela M. Dankbar, Chad L. Moore, Robert D. Kuchta, Amy B. Podsiad, John D. Tamerius, Erica D. Dawson, Kathy L. Rowlen "**Comparison of the MChip to Viral Culture, Reverse Transcription-PCR and the QuickVue[®] Influenza Test for Rapid Diagnosis of Influenza**" *Journal of Clinical Microbiology* **2007**, 45(4), 1234-1237.

- 70) Rebecca H. Blair, Eric S. Rosenblum, Erica D. Dawson, Robert D. Kuchta, Laura R. Kuck, Kathy L. Rowlen **"Real-Time Quantification of RNA Polymerase Activity using a "Broken Beacon"** *Analytical Biochemistry* **2007**, *362*, 213-220.
- 69) Thomas H. Reilly III, Shi-hui Chang, Jordan D. Corbman, George C. Schatz, Kathy L. Rowlen **"Quantitative Evaluation of Plasmon Enhanced Raman Scattering from Nanoaperture Arrays"** *Journal of Physical Chemistry C* **2007**, *111*, 1689-1694.
- 68) Daniela M. Dankbar, Martin Mehlmann, Erica D. Dawson, Chad L. Moore, James A. Smagala, Michael W. Shaw, Nancy J. Cox, Robert D. Kuchta, Kathy L. Rowlen **"Diagnostic Microarray for Influenza B Viruses"** *Analytical Chemistry* **2007**, *79*(5), 2084-2090.
- 67) Erica D. Dawson, Chad L. Moore, James A. Smagala, Daniela M. Dankbar, Martin Mehlmann, Michael B. Townsend, Catherine B. Smith, Nancy J. Cox, Robert D. Kuchta, Kathy L. Rowlen **"Identification of A/H5N1 Influenza Viruses using a Single Gene Diagnostic Microarray"** *Analytical Chemistry* **2007**, *79*, 378-384.
- 66) Erica D. Dawson, Chad L. Moore, James A. Smagala, Daniela M. Dankbar, Martin Mehlmann, Michael B. Townsend, Catherine B. Smith, Nancy J. Cox, Robert D. Kuchta, Kathy L. Rowlen **"MChip: A Tool for Influenza Surveillance"** *Analytical Chemistry* **2006**, *78*(22), 7610-7615.
- 65) Jacobson, M. L., Rowlen, K. L. **"The Role of O₂ in SERS-Active Thin Metal Film Photodynamics,"** *Journal of Physical Chemistry B*. **2006**, *110*, 19491-19496.
- 64) Michael B. Townsend, Erica D. Dawson, Martin Mehlmann, James A. Smagala, Daniela Dankbar, Chad L. Moore, Catherine B. Smith, Nancy J. Cox, Robert D. Kuchta and Kathy L. Rowlen **"FluChip: Experimental Evaluation of a Diagnostic Influenza Microarray"** *Journal of Clinical Microbiology* **2006**, *44*(8), 2863-2871.
- 63) Martin Mehlmann, Erica D. Dawson, Michael B. Townsend, James A. Smagala, Chad L. Moore, Catherine B. Smith, Nancy J. Cox, Robert D. Kuchta, and Kathy L. Rowlen **"FluChip: Robust Sequence Selection Method for a Diagnostic Influenza Microarray"** *Journal of Clinical Microbiology* **2006**, *44*(8), 2857-2862.
- 62) Smagala, J. A., Dawson, E. D., Mehlmann, M., Townsend, M. B., Kuchta, R. D., Rowlen, K. L. **"ConFind: a Robust Tool for Conserved Sequence Identification"** *Bioinformatics* **2005**, *21*(24), 4420-4422.
- 61) Mehlmann, M., Townsend, M., Stears, R., Kuchta, R., Rowlen, K.L. **"Optimization of Fragmentation Conditions for Microarray Analysis of Viral RNA"** *Analytical Biochemistry* **2005**, *347*, 316-323.
- 60) Stoffel, C.L.; Finch, R.; Christensen, K.; Edwards, D.; Rowlen, K.L. **"Rapid Determination of Baculovirus Titer by a Dual Channel Virus Counter"**, *American Biotechnology Laboratory* **2005** *37*(22), 24-25.

- 59) Moore, A.A., Jacobson, M.L., Belabas, N., Rowlen, K.L., Jonas, D.M. **"2D Correlation Analysis of the Continuum in Single Molecule Surface Enhanced Raman Spectroscopy"** *Journal of the American Chemical Society* **2005**, 127(20); 7292-7293.
- 58) Dawson, E. D., Reppert, A. L., Rowlen, K. L., Kuck, L. R. **"Spotting Optimization for Short Oligo Microarrays on Aldehyde-Glass"** *Analytical Biochemistry* **2005**, 341, 352-360.
- 57) Stoffel, C. L., Rowlen, K. L. **"Design and Characterization of a Compact Dual Channel Virus Counter"** *Cytometry A* **2005**, 65A, 140-147.
- 56) Stoffel, C. L., Rowlen, K. L. **"Data Analysis for a Dual-Channel Virus Counter"** *Analytical Chemistry* **2005**, 77(7), 2243-2246.
- 55) Jacobson, M. L., Rowlen, K. L. **"PhotoDynamics on Thin Silver Films"** *Chemical Physics Letters* **2005**, 401, 52-57.
- 54) Jacobson, M. L., Reilly, T., Rowlen, K. L. **"Harnessing Surface Plasmons"** *SPIE Proceedings* Volume 5513 on Physical Chemistry of Interfaces and Nanomaterials III, **2004**, p. 86-100
- 53) Jacobson, M. L., Rowlen, K. L. **"Investigation of the Blinking Phenomenon in SERS"** *SPIE Proceedings* Volume 5513 on Physical Chemistry of Interfaces and Nanomaterials III, **2004**, p. 107-15.
- 52) Reilly, T., Rowlen, K. L. **"Enhancement on Nanoaperture Arrays"** *SPIE Proceedings* Volume 5513 on Physical Chemistry of Interfaces and Nanomaterials III, **2004**, p. 250-257
- 51) Andersen, P. C., Jacobson, M. L., Rowlen, K. L. **"Flashy Silver Nanoparticles,"** *Journal of Physical Chemistry B* **2004**, 108(7), 2148-2153.