BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.

NAME: **John T. McDevitt** | POSITION TITLE: **Professor**

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
California Polytechnic State University	***B.S.***	***1982***	***Chemistry/Sensors & Devices***
Stanford University	***Ph.D.***	***1987***	***Physical/Materials Chemistry***
University of North Carolina	***Post-doc***	***1987-89***	***Analytical/Materials Chemistry***

WORK EXPERIENCE

Starting July 2009	**Brown-Weiss Professor of Bioengineering and Chemistry**, Rice University
Sept. 2008-present	**Adjunct Professor of Bioengineering and Chemistry**, Rice University
Sept. 2005-present	**Adjunct Professor of Clinical Chemistry**, University of Texas Medical Branch
Sept. 2000-current	**Full Professor**, University of Texas at Austin Inorganic, Analytical and Physical Chemistry Divisions
Sept. 1995-Aug. 2000	**Associate Professor**, University of Texas at Austin
July 1989- Aug. 1995	**Associate Professor**, University of Texas at Austin

ACCOMPLISHMENTS, HONORS AND AWARDS

Popular Science's "Best of What's New Award" in Medical Device category (2008)
Developed first integrated lab-on-a-chip system for diagnosis of oral cancer (featured on NIH www site, 2007)
Developed "Cardiobioscore" method for the assessment of cardiac health (2007)
Received one of four awards nationwide from the NIH to participate in a cooperative research program for development of next generation saliva diagnostic devices (2006)
Founded new company to distribute and manufacture biochips for use in resource poor settings (2005)
Developed new biochip methods for saliva-based diagnostics (2005)
Coordinated one of the largest technology transfer efforts in the history of UT Austin (2004)
Gates grant recipient for HIV monitoring biochips for use in Africa (2004)
Developed HIV monitoring biochips for use in resource poor settings (2003)
Developed new methods for rapid bacteria-spore detection (2002)
Developed initial cardiac risk factors chip (2002)
Taste chip research facilitated the award and creation of two new sensor centers at UT (1998):
Beckman Center for Chemical Sensors & Army Research Office MURI Center for Biological Sensors
Taste Chip selected for Science Coalition Best Scientific Advances (1998)
Best Poster Award, Boston MRS meeting (1997)
UT College of Natural Sciences Multimedia Contest, First Place, (1997)
Primary inventor of "Taste Chip Technology" (1996)
Presidential Young Investigator Award, U.T. Austin (1990-1995)
Exxon Education Foundation Award, U.T. Austin (1992)
Grace Fellowship, Stanford University (1983-1987)
Chemistry Dept. Research Award, California Polytechnic State Univ. (1982)
Dean's List Academic Award, California Polytechnic State University (1979-1982)

SYNERGISTIC ACTIVITIES

September 2005	***NIH Workshop Organizer, "****Improving Healthcare Accessibility Through Point-of-Care Technologies."*
May 2005-Present	***Scientific Advisory Board Member****, LabNow Corporation, Austin, TX. Technical Advisor for sensor array applications.*
January 2005-Present	***NIH Study Session Member****, Assays and Methods Development (AMD).*
July 2004-Present	***Chief Technology Consultant****, LabNow Corporation, Austin, TX. Technical Advisor for sensor array applications.*
July 2004	***Founder****, LabNow Corporation, Austin, TX. HIV monitoring applications for resource poor settings.*

April 2001- Present	***Scientific Advisory Board**, Constellation Technology Corporation, Largo, FL.*
April 2001	***Symposium Organizer** "Impact of Solid-State Chemistry and Materials Chemistry on Current Technologies" Inorganic Chemistry Section of the National American Chemical Society meeting, San Diego, CA.*
April 2000	***Chief Technologist**, Labnetics, Corp., Austin, TX.*
December 2000	***External Program Review Committee**, Program in Materials Science and Engineering at LSU.*
October 1999	***Symposium Organizer** "Materials Characteristics of High Temperature Superconductors," The Rio Grande Section the ACS, El Paso, TX.*
Sept. 1998- Pres.	***Steering Committee Member,** Texas Materials Institute-UT, Austin, TX.*

SELECT PUBLICATIONS (160 Total: selected recent relevant publications are listed below); 100 Patent and Patent Applications.

1. Shannon E. Weigum, Pierre N. Floriano, Nicolaos Christodoulides and John T. McDevitt, "Cell-based Sensor for Analysis of EGFR Biomarker Expression in Oral Cancer," **2007**, *Lab-on-a-Chip*, 10.1039/b703918b (article featured on inside journal front cover).
2. Jesse V. Jokerst, Pierre N. Floriano, Nicolaos Christodoulides, Glen Simmons and John T. McDevitt, "Integration of Semiconductor Quantum Dots into Nano-Bio-Chip Systems for Enumeration of CD4+ T Cell Counts at the Point-of-Need," Lab-on-a-Chip, 2008, 8, 2079 - 2090 (DOI: 10.1039/b817116e).
3. Nicolaos Christodoulides, Sanghamitra Mohanty, Craig S. Miller, Chris Langub, Pierre N. Floriano, Priya Dharshan, Mehnaaz Ali, Eric Anslyn, Philip C. Fox and John T. McDevitt, "Application of Electronic Taste Chip System for the Measurement of C-Reactive Protein in Human Saliva," *Lab on a Chip*, **2005**, *5*, 261-269. (article featured on journal cover).
4. William R. Rodriguez, Nick Christodoulides, Pierre Floriano, Susan Graham, Sanghamitra Mohanty, Meredith Dixon, Trevor Peter, Shabnam Zavahir, Ibou Thior, Dwight Romanovicz, Bruce Bernard, Adrian Goodey, Bruce D. Walker and John T. McDevitt, "Development of a Miniaturized CD4 Counting System for HIV Monitoring in Resource-Scarce Settings", *Public Library of Science*, **2005**, 2(7), 0001-0010.
5. The above referenced work has been features in the following article published in the June 2004 issue of Science. "Monitoring Treatment: At What Cost", *Science*, **2004**, vol. 304, 1936.
6. Nicolaos Christodoulides, Pierre N. Floriano, Shelley A. Acosta, Karri L. Michael Ballard, Shannon E. Weigum, Sanghamitra Mohanty, Priya Dharshan, Dwight Romanovicz, and John T. McDevitt, "Toward the Development of a Lab-on-a-Chip Dual-Function Leukocyte and C-Reactive Protein Analysis Method for the Assessment of Inflammation and Cardiac Risk" Clin. Chem., **Dec 2005**; 51: 2391-2395.
7. Pierre N. Floriano, Nick Christodoulides, Dwight Romanovicz, Bruce Bernard, Glennon W. Simmons, Myles Cavell and John T. McDevitt, "Membrane-Based On-line Optical Analysis System for Rapid Detection of Bacteria and Spores", *Biosensors and Bioelectronics*, **2005**, *20, 2079-2088.*
8. Kirby, R.; Cho, E. J.; Gehrke, B.; Bayer, T.; Park, Y. S.; Neikirk, D. P.; McDevitt, J. T.; Ellington, A. D. "Aptamer-Based Sensor Arrays for the Detection and Quantitation of Proteins", *Anal. Chem.* (Article) **2004**, *76*(14), 4066-4075. (article featured on journal cover).
9. McCleskey, S. C.; Griffin, M. J.; Schneider, S. E.; McDevitt, J. T.; Anslyn, E. V.; "Differential Receptors Create Patterns Diagnostic for ATP and GTP", *J. Am. Chem. Soc.*; **2003**; *125*(5); 1114-1115.
10. Adrian P. Goodey, John T. McDevitt, "Multi-shell Microspheres with Integrated Chromatographic and Detection Layers for Use in Array Sensors", *J. Amer. Chem. Soc.*, **2003**; *125*, 2870-2871.
11. Nick Christodoulides, Maiyen Tran, Pierre Floriano, Marc Rodriguez, Adrian Goodey, Mehnaaz Ali, Dean Neikirk and John T. McDevitt, "A Novel Microchip-based Multi-Analyte Assay System for the Assessment of Cardiac Risk", *Analytical Chemistry*, **2002,** 74, 3030-3036.

12. Adrian Goodey, John J. Lavigne, Steve M. Savoy, Marc Rodriguez, Theodore Curey, Andrew Tsao, Glen Simmons, John Wright , Seung-Jin Yoo, Youngsoo Sohn, Eric V. Anslyn, Jason B. Shear, Dean P. Neikirk, John T. McDevitt, "Development of Multi-analyte Sensor Arrays Composed of Chemically Derivatized Polymeric Microspheres Localized in Micromachined Cavities," *J. Am. Chem. Soc*., **2001**, Vol. 123, 2559-2570. The above article was highlighted in Analytical Chemistry's *"Analytical Currents"* section (May 1, 2001; p.248A.

13. Theodore E. Curey; Adrian Goodey; Andrew Tsao; John Lavigne; Youngsoo Sohn; John T. McDevitt; Eric V. Anslyn; Dean Neikirk; Jason B. Shear, "Characterization of Multicomponent Monosaccharide Solutions Using an Enzyme-Based Sensor Array," *Anal. Biochem*. **2001**, 293(2), 178-184.

14. Jason E. Ritchie, William R. Murray, Katherine Kershan, Veronica Diaz, Long Tran, and John T. McDevitt, "Surface Cleaning and Adsorbate Layer Formation: The Dual Role of Alkylamines in the Formation of Self-Assembled Monolayers on Cuprate Superconductors", *J. Am. Chem. Soc*., **1999**, Vol. 121, 7447-7448.

15. John Lavigne, Steve Savoy, Marvin B. Clevenger, Bridgett McDaniel, Seung-Jin Yoo, Eric V. Anslyn, John T. McDevitt, Jason Shear,and Dean Niekirk, "Simultaneous Analysis of Multiple Analytes by a Sensor Array in Solution. Toward the Development of an "Electronic Tongue", *J. Am. Chem. Soc.*, **1998,** Vol. 120, 6429-6430.

CURRENT RESEARCH SUPPORT

"Development of a Lab-on-a-Chip System for Saliva Based Diagnostics
National Institutes of Health *1 U01 DE017793-01* $6.1M 09/01/06 to 07/31/10
John T. McDevitt, Principal Investigator
The McDevitt group's role for this joint program that spans five research groups is to develop new methods for measurement of saliva-based analytes using microfluidic devices. (1.5 mo./summer= 50% effort)

"Integrated Single Bead Chromatographic Separation and Detection Themes for Metal Cation Detection"
The Welch Foundation *F-1193* *$150,000* 06/01/02 to 05/31/08
John T. McDevitt, Principal Investigator
The McDevitt group's role for this single investigator program involves the design, synthesis and study of bead-based metal cation separation and detection ensembles. (0.5 mo./summer= 16.5% effort)

"Integrated Microfluidic Sensor Systems for HIV Immune Function Monitoring"
LabNow Corporation $397,060 06/01/02 to 05/31/08
John T. McDevitt, Principal Investigator
The McDevitt group's role for this single investigator program involves the design, fabrication and testing of miniaturized sensor systems capable of complex cellular analysis. (0.5 mo./summer= 16.5% effort)

PENDING RESEARCH SUPPORT

4Life, "Development and Validation of Wellness Assays." $250,000 (PI: John T. McDevitt); 05/01/09 – 11/30/09.

NeuroDynamic Strategies, "Development of Oral Cancer and Cervical Cancer Microchip Systems for Use in Clinical Settings", $1,500,001 (PI: John T. McDevitt); 4/1/09 – 3/30/10.

Home Office Scientific Development Branch Program on Roadside Screening Device for Detection of Drugs – Alternative Methods Research, "Advanced Nano-Bio-Chips for Saliva-Based Drug Tests at the Point-of-Arrest", $600,000, (PI: John T. McDevitt) 9/1/09 – 8/31/12.

Alliance for NanoHealth (Department of Defense), "Towards the Creation of a NanoHealth Center For Early-Response To Acute Trauma and Injury", (joint program with University of Texas Health Science Center at Houston and Methodist Hospital), $400,000, 9/1/09 – 8/31/11.