

GARY R. KINSEL

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Education:

Ph.D. **Analytical Chemistry, University of Colorado - Boulder**
1989 Dissertation Title: Analytical Laser Mass Spectrometry: Promise for the Future

B.S. **Chemistry, ACS Approved, Western Illinois University**
1983 Minors: Mathematics and Physics, Graduated with Honors

Professional Experience:

July 2019 – Present **Interim Vice Chancellor for Research**
Southern Illinois University - Carbondale

February 2007 – August 2016 **Chair, SIUC Department of Chemistry and Biochemistry**
Southern Illinois University – Carbondale

August 2005 – Present **Professor of Analytical Chemistry**

February 2000 – August 2005 **Associate Professor of Analytical Chemistry**

August 1994 – February 2000 **Assistant Professor of Analytical Chemistry**
Director, Mass Spectrometry Facility
The University of Texas at Arlington

December 1998, December 1999 **Visiting Research Faculty**
The ETH Zentrum, Zurich, Switzerland

December 1991 - June 1994 **Post Doctoral Research Associate**
Texas A & M University

January 1990 - November 1991 **Post Doctoral Research Fellow**
Technical University Munich,
Institute for Physical and Theoretical Chemistry

August 1984 - December 1989 **Graduate Research Assistant**
University of Colorado - Boulder

Current Research Interests:

- The synthesis and optimization of Matrix-Assisted Laser/Desorption Ionization (MALDI) mass spectrometry based bioselective sensors for the discovery of novel cellular biomarkers.
- The investigation of laser initiated donor to biomolecule intracuster proton transfer for the elucidation of the mechanism of MALDI analyte ionization.

Awards:

2017 **National Academy of Inventors Induction**
Southern Illinois University Carbondale

2017 **College of Science Tenure / Tenure-Track Teaching Excellence Award**
Southern Illinois University Carbondale

2007 **Excellence Through Commitment Undergraduate Teaching Enhancement Award**
Southern Illinois University Carbondale

2002 **Outstanding Teacher of the Year Award**
University of Texas at Arlington, College of Science

1999 **National Science Foundation – CAREER**
Analytical Applications of MALDI Mass Spectrometry to the Study of Surface-Protein Interactions

1990 - 1991 **Alexander von Humboldt Research Fellowship**
Administered by the Alexander von Humboldt Foundation, Bonn, Germany.

1989 **Award for Graduate Student Teaching Excellence**
Administered by the University of Colorado, Department of Chemistry.

Professional Affiliations:

The American Chemical Society
The American Vacuum Society

The American Society for Mass Spectrometry
The International Society for Mass Spectrometry

Recent Publications (out of 52):

1. Qamar, A. Z.; Parker, G.; Kinsel, G. R.; Shamsi, M. H. "Evolution of wax-on-plastic microfluidics for sub-microliter flow dynamics and its application in distance-based assay" *Microfluidics and Nanofluidics* **2019**, *23*:81 (<https://doi.org/10.1007/s10404-019-2249-3>).
2. Chen, S.; Qamar, A.; Asfifeyzabadi, N.; Funneman, M.; Taki, M.; Elliott, L., Kinsel, M.; Kinsel, G.; Shamsi, M. "Hand-Fabricated CNT/AgNPs Electrodes using Wax-on-Plastic Platforms for ElectroImmunosensing Application" *Scientific Reports (Nature Publications)* **2019**, *9*:6131 (<https://doi.org/10.1038/s41598-019-42644-6>).
3. Knochenmuss, R.; Kirmess, K.; Kinsel, G.; Blanchard, G. Reply to "Comment on: MALDI ionization mechanisms investigated by comparison of isomers of dihydroxybenzoic acid" *J. Mass Spectrom.* **2016**, *51*, 1103-1104.
4. Kirmess, K.; Knochenmuss, R.; Blanchard, G. J.; Kinsel, G. R. "MALDI ionization mechanisms investigated by comparison of isomers of dihydroxybenzoic acid" *J. Mass Spectrom.* **2016**, *51*, 79-85.
5. Kirmess, K.; Knochenmuss, R.; Blanchard, G. J.; Kinsel, G. "Excited state dynamics in the matrix-assisted laser desorption/ionization matrix 2,4,6-trihydroxyacetophenone: Evidence for triplet pooling charge separation reactions" *Rapid Commun. Mass Spectrom.* **2014**, *28*, 2134-2140.

Patents:

1. D. Dyer, G. R. Kinsel "Method of fractionating peptides and other compounds" US Patent #8,143,571 (issued March 27, 2012).
2. K. Kirmess, G. R. Kinsel, K. Plunkett "Alpha-cyano-4-hydroxy-3-iodocinnamic acid as a matrix in MALDI mass spectrometry" Application #62592775 (provisional submission December 2017).

Textbooks:

1. G. R. Kinsel, *Solutions Manual for Fundamentals of Analytical Chemistry, 8th Edition*, Brooks Cole Publishing, August 2003.

Recent Conference Presentations (out of 171):

1. M. McMinn, L. Elliott, G. Kinsel "Thermodynamic studies of gas-phase equilibrium in MALDI-MS" Presented at the 255th ACS National Meeting, New Orleans, LA (**March 2018**). Poster
2. G. Kinsel, M. McMinn, L. Elliott "Thermodynamic Studies of Gas-Phase Equilibria in MALDI MS" Presented at the 65th ASMS Conference on Mass Spectrometry, Indianapolis, IN (**June 2017**). Poster
3. L. Elliott, K. Kirmess, G. Kinsel "Matrix Assisted Laser Desorption Ionization Mass Spectrometry and NMR Characterization of Plasma Polymerized Styrene" Presented at the 64th ASMS Conference on Mass Spectrometry, San Antonio, TX (**June 2016**). Poster
4. KD Priyasantha, G. Kinsel, "An assessment of in-class response technology as an approach to increase student involvement in the learning process in small classroom settings" Presented at the 251st ACS National Meeting, San Diego, CA (**March 2016**) Oral.
5. K. Kirmess, R. Knochenmuss, G. Blanchard, G. R. Kinsel "Correlation of matrix excited state dynamics with morphology and MALDI performance" Presented at the 63rd ASMS Conference on Mass Spectrometry, St. Louis, MO (**May 2015**). Poster

Funding for Current and Past External Research Awards >\$3.4M:**Students Directly Mentored:**

High School Students	
Undergraduate Students	50
MS Degrees Awarded	8
PhD Degrees Awarded	12
Post-Doctoral Scientists	8