

# BIOGRAPHICAL SKETCH

Robin McCarley

Professor of Chemistry  
Barbara Womack Alumni Professor  
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**Specialization:** Stimuli-responsive systems, particularly those based on liposomes, dendrimers and polymers; Electrochemical synthesis of highly oriented conducting polymers in organized media; Development of chemically modified surfaces for use in microanalytical devices and electrochemical and mass sensors; Scanning probe microscopy investigations of surfaces capable of inducing protein deposition, especially Alzheimer's protein; Template-directed synthesis of metal nanoparticles and their characteristics, as well as application in environmental catalysis.

## Professional Preparation:

The University of Texas, Austin TX	Chemistry	NSF Postdoctoral Fellow, 1990-1992
The University of North Carolina, Chapel Hill, NC	Chemistry	Ph.D., July 1990
Lake Forest College, Lake Forest, Illinois	Chemistry	B.A., May 1986

<b>Appointments:</b>	2008–present	LSU Faculty Fellow
	2007–present	Barbara Womack Alumni Professor–LSU
	2002–present	Professor of Chemistry–LSU
	1998–2002	Associate Professor of Chemistry–LSU
	1992-1998	Assistant Professor of Chemistry–LSU

## Selected Publications (TOTAL = 91)

### (i) Five publications closest to proposed activities

1. G. Chen, R.L. McCarley, C. Situma, S. A. Soper, and J. G. Bolivar, *Functional Template-Derived Poly(methyl methacrylate) Nanopillars for Solid-Phase Biological Reactions*, *Chem. Mater.* **2007**, 9(16), 3855–3857. DOI: [10.1021/cm0702870](https://doi.org/10.1021/cm0702870)
2. S. Balamurugan, A. Obubuafo, S.A. Soper, R.L. McCarley, and D.A. Spivak, *Designing Highly Specific Biosensing Surfaces Using Aptamer Monolayers on Gold*, *Langmuir* **2006**; 22(14), 6446–6453. DOI: [10.1021/la060222w](https://doi.org/10.1021/la060222w)
3. R.L. McCarley, B. Vaidya, S. Wei, A.F. Smith, A.B. Patel, J. Feng, M.C. Murphy and S.A. Soper, *Resist-free Patterning of Surface Architectures in Polymer-based Microanalytical Devices*, *J. Am. Chem. Soc.* **2005**, 127, 842–843. DOI: [10.1021/ja0454135](https://doi.org/10.1021/ja0454135)
4. S. Wei, B. Vaidya, A.B. Patel, S.A. Soper, and R.L. McCarley, *Photochemically Patterned Poly(methyl methacrylate) Microanalytical Devices*, *J. Phys. Chem. B.* **2005**, 109(35), 16988–16996. DOI: [10.1021/jp051550s](https://doi.org/10.1021/jp051550s)
5. A.C. Henry, T.J. Tutt, M. Galloway, Y. Davidson, C.S. McWhorter, S.A. Soper, and R.L. McCarley, *Chemical Modification of Plastics Used in the Construction of Microanalytical Devices*, *Anal. Chem.* **2000**, 72, 5331–5337. DOI: [10.1021/ac000685l](https://doi.org/10.1021/ac000685l)

### (ii) Five other significant publications

1. A.C. Henry, T.J. Tutt, M. Galloway, Y. Davidson, C.S. McWhorter, S.A. Soper, and R.L. McCarley, *Chemical Modification of Plastics Used in the Construction of Microanalytical Devices*, *Anal. Chem.* **2000**, 72, 5331–5337. DOI: [10.1021/ac000685l](https://doi.org/10.1021/ac000685l)
2. W. Ong, Y. Yang, A. Cruciano, and R. L. McCarley, *Redox-Triggered Release of a Liposomal Payload*, *J. Am. Chem. Soc.* **2008**, 130(44), 14739–14744. DOI: [10.1021/ja8050469](https://doi.org/10.1021/ja8050469)
3. W. Ong and R.L. McCarley, *Redox-driven Shaving of Dendrimers*, *Chem. Comm.* **2005**, (37), 4699–4701. DOI: [10.1039/b506724c](https://doi.org/10.1039/b506724c)
4. E.J. Pacsial-Ong, R.L. McCarley, W. Wang, and R.M. Strongin, *Electrochemical Detection of Glutathione Using Redox Indicators*, *Analytical Chemistry* **2006**, 78(21), 7577–7581. DOI: [10.1021/ac061451q](https://doi.org/10.1021/ac061451q)
5. S.S. Balamurugan, G.B. Bantchev, Y. Yang, and R.L. McCarley, *Highly Water-Soluble Thermally Responsive Poly(thiophene)-based Brushes*, *Angew. Chem., Int. Ed. Engl.* **2005**, 44, 4872–4876.

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## Synergistic Activities:

### Professional Activities:

- ACS Committee on Professional Training, 2008–present
- Director, Materials Initiatives, Center for Biomolecular Multi-Scale Systems, LSU
- LSU Faculty Fellow, 2008
- Director of Dreyfus Foundation Instructional Digital Video Program, 2001–present, <http://www.chem.lsu.edu/htdocs/people/rlmccarley/mccarley/dreyfus1.html>
- Co-Director (Co-PI), Louisiana State University Research Experience for Undergraduates (REU) Chemistry and Biochemistry Summer Program, 1995–2001

### Collaborations and Other Affiliations

#### Collaborators (within 48 months)

Prof. Larry Curtin, Youngstown State University  
Prof. Robert Strongin, LSU  
Prof. Steven A. Soper, LSU;

### Graduate and Postdoctoral Advisors

Prof. Royce Murray, UNC-Chapel Hill  
Prof. Allen Bard, UT-Austin

### Advisor and Post-Graduate Scholar Sponsor (last 5 years)

#### 24 Graduate students since 1992 (8 Current)

Jed Aucoin, Lockheed-Martin; Amy Morara, Pine Bluff Arsenal; Mariah McMasters, Owen Biosciences; Suying Wei, Lamar University; Henry P. Wiggins, Chemplex Ltd.; Rebecca M. Brauch, Chlorox; Jowell G. Bolivar, The Wright Group; Thy Nguyen (MS), Vietnam; Yuming Yang, CESI Chemical; Jennifer Macalindong, LSU; Warren Solfield, LSU; Elizabeta Mitran, LSU; Nicole Hollabaugh, LSU; Jeremiah Forsythe, LSU; Fabiana Mendoza, LSU; Will Silvers, LSU; Nuwan Balapitiya, LSU

#### 7 Postdoctoral Fellows (3 Current)

Braja Ghosh, LSU; Sreelatha Balamurugan, LSU; Subramanian Balamurugan, LSU; Grigor Bantchev, USDA; Winston Ong, Transform Pharmaceuticals; Guofang Chen, St. John's University; Eden Pacsial-Ong, Smiths Detection

- **Number of Dissertations Awarded: 15 PhDs**
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