

BIOGRAPHICAL SKETCH

Robin McCarley

Professor of Chemistry
Barbara Womack Alumni Professor
Louisiana State University

225-578-3239

tunnel@lsu.edu

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

Appointments:	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 = 95)

(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 Biomodular 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; Jerimiah Forsythe, LSU; Fabiana Mendoza, LSU; Will Silvers, LSU; Nuwan Balapitiya, LSU

6 Postdoctoral Fellows (2 Current)

Braja Ghosh, LSU; Sreelatha Subramanian, 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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