

## Joseph C. Sloop

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Assistant Dean & Professor of Chemistry  
School of Science and Technology  
Georgia Gwinnett College  
1000 University Center Lane  
Lawrenceville, GA 30043

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### EDUCATION

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*Ph.D., Organic Chemistry* May 2003  
North Carolina State University  
*Advisor:* Professor David A. Shultz

*M.S., Chemistry w/ Toxicology minor* Aug 1990  
North Carolina State University  
*Advisor:* Professor Carl L. Bumgardner

*B.S., Chemistry, ACS w/ special attainments* May 1983  
Davidson College  
*Advisor:* Professor Felix A. Carroll

### ACADEMIC RANK/TEACHING EXPERIENCE

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*Professor, GGC* Aug 2014-present  
*Courses taught at GGC:*  
PSCI 1102, Physical Science II; 2 rotations, enrollment: 30  
CH 2211, Organic Chemistry I (w/lab); 2 rotations, typical enrollment: 22  
STEC 4500, Undergraduate Research; 2 rotations, typical enrollment: 2  
CH4702, Integrated Lab II; 1 rotation, typical enrollment 10

*Associate Professor, GGC* Aug 2009-Jul 2014  
*Courses taught at GGC:*  
CH1152, General, Organic and Biological Chemistry II (w/lab); 1 rotation, enrollment: 19  
CH1211, General Chemistry I (w/lab); 3 rotations, typical enrollment: 22  
CH2211, Organic Chemistry I (w/lab); 7 rotations, typical enrollment: 17  
CH2212, Organic Chemistry II (w/lab); 7 rotations, typical enrollment: 15  
STEC 4500, Undergraduate Research; 10 rotations, typical enrollment: 2

*Associate Professor, USMA* Jun 2006-Jul 2009  
*Courses taught at USMA:*  
CH383, Organic Chemistry I (w/lab); 6 rotations, typical enrollment: 20  
CH384, Organic Chemistry II (w/lab); 6 rotations, typical enrollment: 20  
CH489, Independent Research I; 3 rotations, typical enrollment: 2  
CH490, Independent Research II; 3 rotations, typical enrollment: 2

*Assistant Professor, USMA* Aug 2003-May 2006  
May 1991-Jul 1993

*Courses taught at USMA:*

CH381, Organic Chemistry for Environmental Engineers (w/lab); 4 rotations, typical enrollment: 20

CH383, Organic Chemistry I (w/lab); 7 rotations, typical enrollment: 20

CH384, Organic Chemistry II (w/lab); 8 rotations, typical enrollment: 20

CH455, Advanced Organic Chemistry I (w/lab); 1 rotation, enrollment: 10

CH489, Independent Research I; 5 rotations, typical enrollment: 3

CH490, Independent Research II; 5 rotations, typical enrollment: 3

*Instructor, USMA*

Aug 1990-Apr 1991

*Courses taught at USMA:*

CH101, General Chemistry I (w/lab); 4 rotations, typical enrollment: 20

CH102, General Chemistry II (w/lab); 4 rotations, typical enrollment: 20

CH489, Independent Research I; 1 rotation, enrollment: 2

*Adjunct Professor, Drury College, MO (Fort Leonard Wood campus)*

Aug 1994-Aug 1995

*Courses taught at Drury College:*

CH212, Introductory Organic Chemistry; 2 rotations, typical enrollment: 40

CH385, Environmental Toxicology; 1 rotation, enrollment: 40

## **PROFESSIONAL CERTIFICATIONS/TRAINING**

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1. Master Teacher Program, GGC, 2013
2. Registered Consultant, Cheminsight.org, 2007-2012
3. Incident Command System Courses – ISO 100, 200, 700, 800 certified, FEMA Emergency Management Institute, 2004-2008
4. Senior Chemical Officer Leadership Course (WMD), Ft. Leonard Wood, 2000
5. Environmental Quality Officer Course, Ft. Campbell, 1999
6. Hazardous Waste Operations and Emergency Response Technician, 1999
7. Faculty Development Course, Command and General Staff College, Ft. Leavenworth, 1997
8. Live Chemical Agent Detection and Decontamination Course, U.S. Army Chemical School, Ft. McClellan, 1988
9. Radiation Safety Course, U.S. Army Chemical School, Ft. McClellan, 1988

## **RESEARCH FOCUS & EXPERIENCE**

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Georgia Gwinnett College

Focus: Synthesis & QSAR of fluorine-containing sulfonamides/carbonyl species/heterocycles

*Assistant Dean & Professor of Chemistry*

2014 - present

Georgia Gwinnett College

Focus: Synthesis & QSAR of fluorine-containing carbonyl species/heterocycles/sulfonamides

*Associate Professor of Chemistry*

2009 - present

*Chair, SST Undergraduate Research Committee*

2009 - 2011

United States Military Academy

Focus: Synthesis of fluorine-containing carbonyl species/heterocycles/cyclodextrins

*Associate Professor of Chemistry*

2006 - 2009

*Director of Undergraduate Research*

2006 - 2009

*Director of the Summer Individual Academic Development Program*

2006 - 2009

United States Military Academy  
 Focus: Synthesis of fluorine-containing carbonyl species/protected catechols/enamine derivatives  
*Assistant Professor of Chemistry* 2003 - 2006  
*Photonics Research Center Associate* 2003 - 2006

North Carolina State University  
 Focus: Synthesis of and LFER in metal complexes of semiquinone systems  
*Summer Post Doctoral Research Associate* 2007

United States Military Academy  
 Focus: Synthesis of fluorine-containing carbonyl species/kinetics & LFER of heterocycle synthesis  
*Assistant Professor of Chemistry* 1991 - 1993

United States Military Academy  
 Focus: Synthesis of fluorine-containing carbonyl species/heterocycles  
*Instructor of Chemistry* 1990 - 1991

## PUBLICATIONS

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1. Sloop, J. C.; Holder, C.; Henary, M. "Selective Incorporation of Fluorine in Pyrazoles," 2015, *Eur. J. Org. Chem.*, 2015, 16, 3405-3422.
2. Sloop, J. C.; Churley, M.\*; Guzman, A.\*; Moseley, S.\*; Stalker, S.\*; Weyand, J., Yi, J.\*. "Synthesis and Reactivity of Fluorinated Cyclic Ketones: Initial Findings," *American Journal of Organic Chemistry*, 2014, 1(1), 1-10.
3. Sloop, J.C., Anagho, L., Coppock, P., Giles, G., Park, S., Pennington, R., Pursell, D., Rudd, G., Tsoi, M.Y. "Conformational Analysis, Modeling, Stereochemistry and Optical Activity of Cyclohexane Derivatives," *Journal of Laboratory Chemistry Education*, 2013, 1(3), 39-44.
4. Sloop, J. "19-Fluorine NMR Chemical Shift Variability in Trifluoroacetyl Species," *Reports in Organic Chemistry*, 2013, 3, 1-12.
5. Sloop, J., Awong-Taylor, J., Mundie, T. "Raising Student Awareness of Research Opportunities at Georgia Gwinnett College," *CUR Quarterly on the Web*, 2012, 33(2), 3-7.
6. Sloop, J., Boyle, P., Fountain, A.W., Gomez, C.\*, Jackson, J., Pearman, W., Schmidt, R., Weyand, J.\* "Novel Fluorinated Indanone, Tetralone and Naphthone Derivatives: Synthesis and Unique Structural Features," *Appl. Sci. Special Edition: Organo-Fluorine Chemical Science*, 2012, 2, 61-99.
7. Sloop, J., Shultz, D., Coote, T., Shepler, B., Sullivan, U., Kampf, J., Boyle, P. "Synthesis of and Structure-Property Relationships in Zinc Complexes of Bis-Metaphenylene Semiquinone Biradical Species," *J. Phys. Org. Chem.*, 2012, 25(4), 314-321.
8. Sloop, J., Shultz, D., Beikmohammadi, M., Shepler, B. "Linear Free Energy Relationships in Semiquinone Species and Their Mn(II) and Cu(II) Complexes," *J. Phys. Org. Chem.*, 2012, 25(2), 101-109.
9. Sloop, J., Boyle, P., Fountain, A., Pearman, W., Swann, J.\*. "Electron deficient aryl  $\beta$ -diketones: synthesis and novel tautomeric preferences," *Eur. J. Org. Chem.*, 2011, 5, 936-941.
10. Paredes, J., Pennington, R., Pursell, D., Sloop, J., Tsoi, M. "Engaging Science Students with Handheld Technology and Applications by Revisiting the Thayer Method of Teaching and Learning," *Journal of Systemics, Cybernetics and Informatics*, 2011, 9(7), 46-50.
11. Pennington, R., Pursell, D., Sloop, J. "Engaging Science Students with Handheld Technology and Applications by Revisiting the Thayer Method of Teaching and Learning," *Georgia J. Sci.*, 2010, IV, 186-194.
12. Pennington, R., Pursell, D., Sloop, J. "Engaging Science Students with Wireless Technology and Applications by Revisiting the Thayer Method of Teaching and Learning," *Proceedings of the International Multi-Conference on Complexity, Informatics and Cybernetics*, 2010, 303-308.
13. Sloop, J., Jackson, J., Schmidt, R. "Microwave-Mediated Pyrazole Fluorinations Using Selectfluor<sup>®</sup>," *Heteroatom Chem.*, 2009, 20(6), 341-345.

14. Sloop, J. "Quinoline Formation: Examination of Kinetics and Mechanistic Pathways," *J. Phys. Org. Chem.*, 2009, 22 (2), 110-117.
15. Sloop, J.C., Pearman, W. F. "Nanostructures for Sensors," *Technical Report*, Edgewood Chemical Biological Command, 2009.
16. Armstrong, M., Comitz, R., Biaglow, A., LaChance, R., Sloop, J. "Interdisciplinary Learning for Chemical Engineering Students from Organic Chemistry: Synthesis Lab to Reactor Design to Separation," *J. Chem. Eng. Ed.*, 2008, 42 (4), 193-200.
17. Sloop, J., Lechner, B.\*, Washington, G., Bumgardner, C., Loehle, W., Creasy, W. "Pyrazole Formation: Examination of Kinetics and Mechanistic Pathways," *Int. J. Chem. Kinetics*, 2008, 40(7), 370-383.
18. Shultz, D., Sloop, J., Coote, T., Beikmohammadi-Marcus, M.\*, Kampf, J., Boyle, P. "Substituent Effects on Exchange Coupling: 5-Aryl-Substituted Semiquinones and Their Complexes with MnII and CuII," *Inorg. Chem.*, 2007, 46(1), 273-277.
19. Shultz, D., Sloop, J., Washington, G. "Design, Synthesis and Properties of Conformationally Fixed Semiquinone Monoradical Species," *J. Org. Chem.*, 2006, 71(24), 9104-9113.
20. Sloop, J., Bumgardner, C., Washington, G., Loehle, W., Sankar, S., Lewis, A.\*. "Keto-Enol and Enol-Enol Tautomerism in Trifluoromethyl- $\beta$ -Diketones," *J. Fluorine Chem.*, 2006, 127(6), 780-786.
21. Sloop, J., Bumgardner, C., Loehle, W.D. "Synthesis of Fluorinated Heterocycles," *J. Fluorine Chem.*, 2002, 118(1-2), 135-147.
22. Sloop, J. "Initial Entry Training Company METL Assessment," *Infantry*, 1996, Nov-Dec Issue, 44-45.
23. Sloop, J. "Microscale Synthesis of the Natural Products Carpanone and Piperine," *J. Chem. Ed.*, 1995, 72 (2), A25-27.
24. Bumgardner, C., Sloop, J. "Ring Fluorinated Pyrazoles," *J. Fluorine Chem.* 1992, 56, p. 141-146.
25. Sloop, J. "Synthesis of Fluorinated Pyrazoles and Isoxazoles. The Effect of 2-Fluoro and 2-Chloro Substituents on the Keto-Enol Equilibria of 1,3-Diketones," DOD Technical Report, *Defense Technical Information Center*, 1990.
26. Carroll, F., Sloop, J.\*, Green, D.\* "The Norboradiene Dicarboxylic Acid - Quadricyclene Dicarboxylic Acid Energy Storage System," *Solar Energy*, 1984, 33 (3/4), p. 377-379.

\*denotes undergraduate student

## BOOK/BOOK CHAPTERS AUTHORED

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1. Sloop, J., Boyle, P., Fountain, A.W., Gomez, C., Jackson, J., Pearman, W., Schmidt, R., Weyand, J. "Novel Fluorinated Indanone, Tetralone and Naphthone Derivatives: Synthesis and Unique Structural Features," in *Organo-Fluorine Science – Inventing the Fluorine Future*, (e-book) edited by Helmut M. Hügel, Applied Sciences, 2012, pp. 27-65.
2. Pursell, D., Sloop, J., Pennington, R., Paredes, J., Tsoi, M., Dekhane, S. "Enabling 21<sup>st</sup> Century Student Success in Undergraduate Organic Chemistry," in *Advances in Teaching Organic Chemistry*, ACS Books, Washington, DC, 2012.
3. Sloop, J.C., Pennington, R., Tsoi, M., Paredes, J., Pursell, D., Coppock, P., Giles, G. *Laboratory Text for Chem 2211K/2212K Organic Chemistry*, edited and compiled by Joseph C. Sloop, 2012.
4. Sloop, J. *Succeeding in Organic Chemistry: A Systematic Problem-Solving Approach to Mastering Structure, Function and Mechanism*, AuthorHouse Publishing Co., Bloomington, IN, 2010.
5. Gilbert, J., Martin, S., Tsoi, M., Pennington, R., Pursell, D., Sloop, J. *Laboratory Manual for Chem 2211K/2212K Organic Chemistry*, edited and compiled by M. Y. Tsoi, Cengage Learning, Ohio, 2010.
6. Sloop, J. "Selective Incorporation of Fluorine in Heterocyclic Molecules," in *Fluorine Chemistry Research Advances*, edited by Ira V. Gardiner, Nova Science Publishers, Inc., New York, 2007. **Invited to write the leading chapter by Nova Publishers.**

## INVITED LECTURES

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1. Sloop, J. "Introduction to Weapons of Mass Destruction," *Homeland Security and Terrorism Course*, GGC CJCR 4340, Lawrenceville, GA, 2013, 2014.
2. Sloop, J. "A Problem-Solving Scaffold for Teaching Synthesis to Organic Chemistry I Students," *Master Teacher Program*, GGC Center for Teaching Excellence, Lawrenceville, GA, 2013.
3. Tsoi, M.<sup>†</sup>, Sloop, J. "Use of Handheld Devices and Cell Phone Applications to Enhance Student Engagement in Organic Chemistry," *Technology Association of Georgia Meeting*, Atlanta, GA, 2012.
4. Sloop, J.<sup>†</sup>, Pennington, R.<sup>†</sup>, "Engaging Students in Science Courses with the Thayer Method of Teaching," *GGC New Faculty Orientation*, Lawrenceville, GA, 2010.
5. Sloop, J.<sup>†</sup> "Keto-Enol and Enol-Enol Tautomerism in Trifluoromethyl- $\beta$ -Diketones," *USMA DC&LS Faculty Seminar*, West Point, NY, 2006.
6. Sloop, J.<sup>†</sup> "Substituent Effects on Spin Density Distribution and Exchange Coupling in Semiquinone Complexes," *Davidson College Chemistry Colloquium Series*, Davidson, NC, 2003.
7. Sloop, J.<sup>†</sup> "The U.S. Army Chemical Demilitarization Program," *NCSU Graduate Chemistry Research Lecture Session*, Raleigh, NC, 2000.
8. Sloop, J.<sup>†</sup> "Decontamination of Chemical and Biological Warfare Agents," *Nuclear, Biological and Chemical Course*, Fort Campbell, KY, 1999.
9. Sloop, J.<sup>†</sup> "Neutralization of Chemical Warfare Agents," *Chemical Officer Professional Development Series*, Fort Campbell, KY, 1998.
10. Sloop, J.<sup>†</sup> "Techniques in the Preparation of Fluorinated Heterocycles," *Davidson College Chemistry Colloquium Series*, Davidson, NC, 1993.
11. Sloop, J.<sup>†</sup> "Preliminary Findings in the Preparation of Selectively Fluorinated Heterocycles," *USMA DC&LS Faculty Seminar*, West Point, NY, 1992.
12. Sloop, J.<sup>†</sup> "The Valence Bond Configuration Mixing Model," *NCSU Graduate Chemistry Colloquium Series*, Raleigh, NC, 1989.

<sup>†</sup>denotes presenter

## HONORS

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1. GGC Master Teacher Program, 2013
2. GGC Scholarly and Creative Activities Award, 2012
3. Co-recipient, Blackboard Catalyst Award, 2012
4. Biltmore Who's Who in North American Education, 2012
5. American Chemical Society Certificate of Appreciation, 2012
6. Co-recipient, TAG Excalibur Award, 2011
7. Marquis Who's Who in Science and Engineering, 2008
8. Phi Kappa Phi Scholastic Achievement Award, 2008
9. Gamma Sigma Epsilon National Chemistry Honor Society Inductee, 2006
10. USMA Junior Faculty Teaching Award, 1993
11. Phi Kappa Phi National Honor Society Inductee, 1989
12. Phi Lambda Upsilon Chemistry Honor Society Inductee, 1989

## PROFESSIONAL ORGANIZATIONS AND SERVICE

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### *Extramural*

1. Consulting Editor, *Reports in Organic Chemistry*, 2015
2. Editorial Board Member, *International Journal of Undergraduate Research and Creative Activities*, 2013-present
3. Editorial Board Member, *Journal of Laboratory Chemical Education*, 2013-present
4. USG Board of Regents Chemistry Academic Advisory Committee, 2013-present

5. Secretary, Georgia Academy of Science, 2012-present (member 2009-present)
6. Member, AAAS, 2012-present
7. Editor-in-Chief, *American Journal of Organic Chemistry*, 2012-present; Editorial Board Member, 2011
8. Member, I-Teach Chemistry forum, 2011-present
9. Member, ResearchGate forum, 2011-present
10. Member, Council on Undergraduate Research, 2010-2014
11. Member, National Science Teacher Association, 2010-2014
12. Panel Reviewer, *Nature*, 2010-2011
13. Member, Educause, 2009-present
14. Senior Evaluator, NYEMA Radiological Exercise, 2009
15. Proposal Reviewer, FY 2009 ECBC ILIR Program, 2008
16. Co-Chair, US Army Basic Chemical Science Research Review Panel, 2007
17. Proposal Reviewer, NSF, "Fluorescent Sensors and Conjugated Polymers," 2007
18. Program Reviewer, Defense Threat Reduction Agency, "Novel Methods for WMD Explosives Detection," 2006
19. Program Reviewer, US Department of Energy, "Magnetic Resonance Detection and Measurement of Nuclear Material," 2005
20. Plan Reviewer, ECBC, "Chemical/Biological Warfare Agent Decontamination Efficacy Test Plan," 2005
21. Panel Member, National Defense University, Communities of Practice: WMD, 2004-2006
22. Active member of the Fluorine and Organic Divisions of the American Chemical Society, 2003-present; member, Georgia Section, 2009-present
23. Reviewer, *Journal of Organic Chemistry*, *Journal of Fluorine Chemistry*, *Journal of Heterocyclic Chemistry*, *Journal of Molecular Spectroscopy* - 2003-present; *IMETI Proceedings* - 2004-2009; *CCCT Proceedings* - 2009-2011; *American Journal of Organic Chemistry*, *Reports in Organic Chemistry* - 2011-present; *Heterocyclic Communications*, *Journal of Laboratory Chemical Education* - 2013

#### *Intramural*

1. Course Coordinator, Chem 4702, 2015-present
2. Panel Member, CTE Seminar on Active Learning, New Faculty Orientation, 2013
3. Assistant Dean, SST, 2012-present
4. Course Coordinator, Chem 2211/2212, 2012-2014
5. Chair, GGC IEE6 Committee, 2011 (member 2009-2012)
6. Member, SST COPS Committee, 2012-2015
7. Member, SST P&C Committee, 2011-2013
8. Member, SST LRSC Committee, 2010-2015
9. Member, SST Faculty Workload Task Force, 2010-2011
10. Chair, SST Chemistry-Biochemistry Faculty Search Committee, 2010
11. Member, SST Chemistry Major Working Group, 2010-present
12. Member, SST Pre-Health Care Careers Task Force, 2010-2011
13. Member, SST Café Group D, 2010-2012
14. Course Coordinator, STEC 4500, 2009-2011
15. Chair, SST Undergraduate Research Committee, 2009-2011
16. Member, Biochemistry Track Goal Team, 2009-2010
17. Member, SST Chemistry Faculty Roundtable, 2009-present
18. Member, SST Organic Chemistry Faculty Working Group, 2009-present
19. Member, USMA Pandemic Influenza Working Group, 2008
20. Member, USMA Student Welfare/Class Climate Task Force, 2007
21. Member, USMA Senior Faculty Council, 2006-2009
22. Course Coordinator, USMA DCL&S, Chem 489/490, 2006-2009
23. Course Coordinator, USMA DCL&S, Chem 383/384, 1993, 2004, 2006-2007, 2008-2009
24. Member, USMA DCL&S, ACS Accreditation Committee, 2005
25. Member, USMA DCL&S, LRSC Committee, 2004-2009

26. Chemical, Biological, Radiological, Nuclear and Explosives Officer, USMA and West Point, 2004-2009
27. Member, USMA and West Point Emergency Management Team, 2004-2009
28. Course Coordinator, Drury College, Chem 212, 1994-1995
29. Course Coordinator, Drury College, Chem 385, 1995
30. Course Coordinator, USMA DCL&S, CH455, 1993
31. Course Coordinator, USMA DCL&S, Chem 381, 1991