

Sebastian van Delden, Ph.D.

Curriculum Vitae

CONTACT INFORMATION

University of South Carolina Upstate
 Division of Mathematics and Computer Science, 800 University Way, Spartanburg, SC 29303
 svandelden@uscupstate.edu, (864) 503-5292, <http://faculty.uscupstate.edu/svandelden>

EMPLOYMENT AT USC UPSTATE

Division of Mathematics and Computer Science:

Associate Professor of Computer Science	2009 - Present
Assistant Professor of Computer Science	2004 -2009

Office of Sponsored Awards and Research Support:

Director of Research (<i>for ALL academic units</i>)	2010 - Present
Director of Undergraduate Research (<i>for ALL academic units</i>)	2007 - 2010

EDUCATION

University of Central Florida, Orlando, FL

Doctor of Philosophy / Computer Science	2001-Dec 2003
Masters of Science / Computer Science	1999-2001
Bachelors of Science / Computer Science (cum laude)	1995-1999

SUMMARIES

RESEARCH FOCUS: Visual/voice guided industrial robotics

PEER REVIEWED ARTICLES: 27 first-authored journal or conference proceedings articles (2012 3x, 2011, 2010 4x, 2009, 2008 2x, 2007 2x, 2006 2x, 2005 2x, 2004 4x, 2003 3x, 2002 3x)

EXTERNAL GRANTS FUNDED & AWARDS: Equipment: \$137,000+; Grants: \$157,000+; Nominated for the 2011 South Carolina Governors Award; USC Upstate Teacher of the Year Award (2011); USC Upstate Researcher of the Year Award (2007); Vice Chancellor Leadership Award (2007).

TEACHING: 15 different courses at USC Upstate; 8 at UCF; introduced a robotics “Automation” degree track, 3 new courses, & major curriculum improvements; established robotics internship programs.

SERVICE: Peer Review Committees for: Math and Computer Science (Chair 2 years) and English Department; Student and Diversity Affairs Committee (Chair all 3 years); Faculty Senate (3 years); Faculty Grievance Committee; Honors Court Juror (2 hearings; Chaired 1 hearing) 11 Search Committees (numerous departments); in charge of the Stäubli Robotics Laboratory (10 robotic arms and other equipment); Reviewer for 3 conferences and 2 journals.

ADMINISTRATIVE: Coauthored and presented the proposal to establish an “Office of Sponsored Awards and Research Support” at USC Upstate (<http://www.uscupstate.edu/sars>, 2007); designed and implemented numerous new campus-wide programs (including a “Scholarly Start-up Package” for new tenure-track hires, a research assistant program, and a faculty time reallocation program to do research), achieving participation from all academic units; established an Undergraduate Research Journal (<http://www.uscupstate.edu/ResearchJournal>); established a faculty scholarship *Year In Review* publication – assessable online from <http://www.uscupstate.edu/sars>; secured financial support from private businesses; significantly expanded the Annual Research Symposium (<http://www.uscupstate.edu/Symposium>); established a USC Upstate Research Youtube channel: <http://www.youtube.com/USCUpstateResearch>; expanded research support personnel. Regular duties include: budget and website management, coordinating all internal funding opportunities, building scholarly partnerships and nurturing campus-wide research efforts.

JOB PERFORMANCE

All of my peer, annual administrative, and Director of Research performance reviews have been scanned and can be viewed here: <http://faculty.uscupstate.edu/svandelden/reviews.pdf>.
Summary:

PEER REVIEWS

- Completed in first, third, and penultimate years by a committee of five faculty
- Reviewed on teaching, research, service and overall performance
- **Received "Excellent" (the highest) scores for all categories for all reviews from all committee members**

ADMINISTRATIVE REVIEWS

- Completed by the Chair of the Division of Math and Computer Science each year
- Reviewed on teaching, research, and service
- Evaluated by two different Division Chairs during this time period
- **Received "Outstanding" (the highest) scores for all categories for all reviews**

DIRECTOR OF RESEARCH PERFORMANCE REVIEW

- Completed by the Senior Vice Chancellor for Academic Affairs
- Reviewed on performance of administrative duties and leadership
- **Received "Substantially Exceeds" (the highest) for all duties and overall performance**

SCHOLARSHIP

RESEARCH AGENDA:

After completing a Ph.D. dissertation in the syntactical area of natural language processing and publishing high quality papers on this work, I had a unique opportunity to gravitate into the field of industrial robotics, which intrigued me greatly. I have produced some pedagogical papers on the unique marriage of industrial robotics and computer science as well as some initial research papers on vision- and voice-guided industrial robotics. My research agenda has now come full circle as I am currently very interested and active in applying natural language processing and computer vision to rapid industrial robotic application development. This is an exciting and emerging field of applied computer science with substantial practical application.

PEER-REVIEWED, PUBLISHED ARTICLES (PEDAGOGY):

Sebastian van Delden. 2012 - Accepted. *A Circular Model for Framing the Undergraduate Research Experience*. **CUR Quarterly**. Published by the Council on Undergraduate Research.

Sebastian van Delden. 2010. *Getting Your Robotic Arms around Computing Curricula*. In the **Journal of Computers in Education**. Published by the American Society for Engineering Education. Vol 1 (4). Pp 91-101. October-December issue.

Sebastian van Delden. 2010. *Computer Science Meets Industrial Robotics: A Visual Servoing Project for a Computer Vision Course*. In the **Journal of Computing Sciences in Colleges**. vol 25(6). Pp

85-92. Select papers from the 15th Annual Northeast Meeting of the Consortium for Computing Sciences in Colleges. Hartford University. April 2010.

Sebastian van Delden. 2010. *Industrial Robotic Game Playing: An AI Course*. In the **Journal of Computing Sciences in Colleges**. vol 25(3). Pp 134-142. Select papers from the 25th Annual Eastern Meeting of the Consortium for Computing Sciences in Colleges. Villanova University. January 2010.

Sebastian van Delden and Wei Zhong. 2008. *Effective Integration of Autonomous Robots into an Introductory Computer Science Course: A Case Study*. **Journal of Computing Sciences in Colleges**. Select papers from the Sixth Meeting of the Consortium for Computing Science in Colleges. vol 23(4), Pp. 10-19, April 2008.

PEER-REVIEWED, PUBLISHED ARTICLES (RESEARCH):

Sebastian van Delden, Carlos Rosario, Gregory Hess, and Michael Umrysh. 2012 - Accepted. *Pick-and-Place Application Development using Voice and Visual Commands*. **Industrial Robot: An International Journal**. Emerald Publishers.

Sebastian van Delden and Andrew Whigham. 2012 - Accepted. *A Bluetooth-based Architecture for Android Communication with an Articulated Robot*. In Proceedings of the **International Conference on Collaboration Technologies and Systems - Collaborative Robotics and Human Robot Interaction**. Denver, Colorado. May 21-25, 2012.

Sebastian van Delden and Michael Umrysh. 2011. *Visual Detection of Objects in a Robotic Work Area using Hand Gestures*. In Proceedings of the **IEEE International Symposium on Robotics and Sensor Environments**, Montreal, Canada, Pp 237-243. September 17-18, 2011.

Sebastian van Delden and Nicole Tobias. 2010. *A Novel Approach to 3D Contour Recovery using Structured Light Mounted to a Robotic Manipulator*. In Proceedings of the **IASTED International Conference on Robotics and Applications**, Cambridge, MA, Pp 167-173, Nov 1-3, 2010.

Sebastian van Delden and Frank Hardy. 2009. *Robotic Eye-in-hand Calibration in an Uncalibrated Environment*. In the **Journal on Systemics, Cybernetics and Informatics**. vol 6(6). Pp 67-72.

Sebastian van Delden and Benjamin Overcash. 2008. *Towards Voice-Guided Robotic Manipulator Jogging*. In Proceedings of the **12th World Multiconference on Systemics, Cybernetics and Informatics**. vol 3. Pp 138-144. Orlando, Florida. July 2008.

Sebastian van Delden. 2007. *Problematic Syntactic Patterns*. **Language and Computers, Volume 60**. "Corpus Linguistics Beyond the Word: Corpus Research from Phrase to Discourse." Edited by Eileen Fitzpatrick. Rodopi Publishers. Pp 59-71.

Sebastian van Delden, Ricky Farr, and Seth Hensley. 2007. *An Automated Camera Orientation Recovery Algorithm for an Eye-in-Hand Robotic Manipulator*. In Proceedings of the **5th IEEE International Symposium on Robotic and Sensors Environments**. Pp 1-6. Ottawa, Canada. October 12-13, 2007.

- Sebastian van Delden. 2006. *Improving Inter-Level Communication in Cascaded Finite-State Partial Parser*. **Lecture Notes in Artificial Intelligence**. Selected Papers from the 5th International Workshop on Finite State Methods in NLP. Springer. 4002. Pp 259-270.
- Sebastian van Delden. 2006. *Constructing a Simple Visually-Guided Robotic Part-Grasping System with Off-the-Shelf Components*. In Proceedings of the **18th IEEE International Conference on Tools with Artificial Intelligence**. Pp 211-216. Washington, D.C. November 13-15, 2006.
- Sebastian van Delden. 2005. *Complement Identification Algorithms for Partial Parsers*. **International Transaction on Computer Science and Engineering**. vol 9(1). Pp 210-220. June 2005.
- Sebastian van Delden. 2005. *Simple but Useful Algorithms for Identifying Noun Phrase Complements of Embedded Clauses in a Partial Parse*. In Proceedings of the **10th International Conference on Applications of Natural Language to Information Systems**. Pp 357-361. Alicante, Spain.
- Sebastian van Delden and Fernando Gomez. 2004. *Cascaded Finite-State Partial Parsing: A Larger-First Approach*. **Current Issues in Linguistic Theory (CILT)**. Edited by N. Nicolov, K. Botcheva, G. Angelova, and R. Mitkov. vol 260, Pp 402-413. John Benjamin Publishers, Amsterdam.
- Sebastian van Delden, David Bracewell, and Fernando Gomez. 2004. *Supervised and Unsupervised Automatic Spelling Correction Algorithms*. In Proceedings of the **2004 IEEE International Conference on Information Reuse and Integration**. Las Vegas, Nevada. Pp 530-535. November 8-10, 2004.
- Sebastian van Delden and Fernando Gomez. 2004. *A Finite-State Comma Tagger*. **International Journal of Artificial Intelligence Tools**. vol 13(3). Pp 449-468. World Scientific Publishing.
- Sebastian van Delden and Fernando Gomez. 2004. *Retrieving NASA Problem Reports: A Case Study in Natural Language Information Retrieval*. **Journal of Data and Knowledge Engineering**. Vol 48(2). Pp 231-246. Elsevier Science.
- Sebastian van Delden and Fernando Gomez. 2003. *Extending a Finite State Approach for Parsing Commas in English to Dutch*. **Language and Computers: Studies in Practical Linguistics**. Edited by Charles F. Meyer and Nelleke Oostdijk. vol 27, Pp 25-38.
- Sebastian van Delden and Fernando Gomez. 2003. *A Larger-First Approach to Partial Parsing*. In Proceedings of the **2003 International Conference on Recent Advances in Natural Language Processing**. Pages 124-131. Borovets, Bulgaria, September 10-12, 2003.
- Sebastian van Delden. 2003. *Learning WordNet-Based Classification Rules*. In Proceedings of the **2003 AAAI Spring Symposium on Human Interaction with Autonomous Systems in Complex Environments**. Pp 203-208. ISBN 1-57735-181-9. Stanford University, Stanford, California, March 24-26, 2003.
- Sebastian van Delden. 2002. *A Hybrid Approach to Pre-Conjunct Identification*. In **Proceedings of the 2002 Language Engineering Conference**. Pp 72-77. University of Hyderabad, India. December 13-15, 2002.

Sebastian van Delden and Fernando Gomez. 2002. *Combining Finite State Automata and a Greedy Learning Algorithm to Determine the Syntactic Role of Commas*. In **Proceedings of the 14th IEEE International Conference on Tools with Artificial Intelligence**. Washington, D.C. Pp 293-301. November 4-6, 2002.

Sebastian van Delden and Fernando Gomez. 2002. *Retrieving NASA Problem Reports with Natural Language*. In **Proceedings of the 7th International Workshop on Applications of Natural Language to Information Systems**. Pp 150-159. Stockholm, Sweden. June 26-27, 2002.

NOTABLE PRESENTATIONS:

Led Round-Table discussions at the College of Arts and Sciences' **Evening of Great Conversations**. Fall 2011, Fall 2010, Spring 2007, Fall 2006, Spring 2006.

Presented at the **College of Arts and Sciences - Getting off to a Fast Start Series**. Fall 2011, Fall 2010, Spring 2009, Spring 2008, Fall 2004.

Fast Moving Technology Days Conference. Stäubli Corporation. Duncan, South Carolina. 2010, 2006. Booth and presentation.

Computer Simulation: Training 21st Century Soldiers for Battle. **USC Upstate Honors Program Fall 2007 Conversation Series**. November 15, 2007.

Towards the Partial Calibration of an Eye-in-Hand Robotic Manipulator. Presented at the **Third Annual USC Upstate Research Symposium**. April 6, 2007.

MindStorm Robots in the Classroom. Presented at the **Cool Technologies in the Classroom Workshop**. USC Upstate. February 16, 2007.

A Visually Guided Part Grasping System. Presented at the **2006 USC Upstate Research Symposium**. April 21, 2006.

Detecting Edges in Digital Images. Presented at the **Guy Jacobson Mathematics Colloquium** on February 24, 2005.

UNDERGRADUATE RESEARCH ASSISTANT PRESENTATIONS/POSTERS:

Michael Umrysh and Sebastian van Delden. 2011. Initial Steps Towards Using Hand Gestures to Control a Robotic Arm. Presented at the **Seventh Annual USC Upstate Research Symposium**. April 15, 2011. ******Best Paper Award for "Math and Computer Science"**.

Nicole Hodge and Sebastian van Delden. 2010. Contour Recovery using Structured Light mounted to a Robotic Manipulator. Poster at **Discovery Day 2010, USC Columbia**. April 23, 2010. ******Best Poster Award for "Computer Science and Engineering"**

Nicole Hodge, Robert Mahmoudishad, Mark Parrish, and Sebastian van Delden. 2009. A Novel Robotic Approach to Contour Recovery using Structured Light. Presented at the **Fifth Annual USC Upstate Research Symposium**. March 27, 2009.

Derrick Thompson, Jose Reyes, and Sebastian van Delden. Spring 2007. *Vision-Based Robots Playing Pong*. Presented at the **Third Annual USC Upstate Research Symposium**. April 6, 2007.

William Bittle, Sayed Shahabi, Ashley Bryant and Sebastian van Delden. *WOODBURNER: An Automated Robotic Character Etching System*. Poster at the **Second Annual USC Upstate Research Symposium**. April 21, 2006.

Jacob Landon, Stephen van Dahm, Sebastian van Delden, Ed Nagelhout. *Towards a Syntactically and Semantically Enhanced Corpus of Direct Mail Letters*. **First Annual USC Upstate Research Symposium**. University of South Carolina Upstate. Spartanburg, South Carolina. April 22, 2005.

Shea Menge, Sebastian van Delden, and Ed Nagelhout. *An Online Search Tool for a Philanthropic Discourse Corpus*. **First Annual USC Upstate Research Symposium**. University of South Carolina Upstate. Spartanburg, South Carolina. April 22, 2005.

SCHOLARLY SERVICE

- **Conference Paper Reviewer** (ongoing - about two dozen papers reviewed in total): the IEEE/RSJ International Conference on Intelligent Robots and Systems; the Annual Consortium for Computing Sciences in Colleges; the World Multi Conference on Systemics, Cybernetics, and Informatics; the 15th IEEE International Conference on Tools with Artificial Intelligence, and the International Conference on Information and Communication Technologies and Applications.
- **Journal Paper Reviewer** (ongoing - about a dozen papers reviewed in total) for the International Journal of Artificial Intelligence Tools; the International Journal of Computer Mathematics; the International Journal of Artificial Intelligence in Medicine.
- **Grant Reviewer** (ongoing - approx 85 proposals reviewed in total) for the *USC Columbia* Magellan Scholars Program; Health Initiative Grant Applications for College of Arts and Sciences (2008).
- **Miscellaneous:** Chaired Technical Sessions at: the IEEE International Symposium on Robotic and Sensor Environments, the 6th Annual Consortium for Computing Sciences in Colleges Mid-South Conference, 18th IEEE International Conference on Tools with Artificial Intelligence; Wrote book review of *Data Structures and Other Objects Using C++*. Third Edition. Written by Main, published by Addison Wesley, 2005.
- **Robotics Industry Association Member** (2010-Present). Membership sponsored by Stäubli.

FORMAL INDUSTRY TRAINING AND RESEARCH

- Vehicle-Configuration Expert-Systems Research Work, BMW's IT Research Center, 2007-2008.
- Cognex Insight Vision Systems Workshop: Standard and Advanced. Natick, Massachusetts. February 2010.
- Fanuc Operations and Programming course, Chicago, Illinois. 2010.
- V+ Training Program. Stäubli Corporation. Duncan, South Carolina. 2005.

INDUSTRY PARTNERSHIPS ESTABLISHED

Company	Financial Support	Advisory Partnership	Equipment Donation
Stäubli Robotics	√	√	√
SEW Eurodrive	√	√	√
Automation Engineering Corporation		√	√
BMW ITRC: IT Research / Vehicle Configuration	√		
Orthopaedic Research Foundation of the Carolinas	√		
Spartanburg Steel		√	
Spartanburg Regional Hospital (surgery/medication robots)	√	√	
Milliken & Company	√	√	
QS/1 (IT, Pharmaceutical, robotics)		√	
Spartanburg Bomb Squad (bomb inspection robot)		√	
J&J Industrial Services			√
Upstate Workforce Investment Board	√	√	

GRANT WRITING

EQUIPMENT: \$137,800 (funded)

Summary: Adept 550 4-dof robotic arm with extra motors and amplifiers, \$32,000, J&J Industrial Services Inc., 2010; Fanuc 6 dof robotic arm, \$32,000, SEW Eurodrive, 2010; Adept 550 robotic arm, \$25,000, J&J Industrial Services Inc., 2009; Automotive components, \$300, Dixie Too Auto Parts, 2008; RS20 4 dof robotic arm, \$23,500, Stäubli Corporation, 2007; Adept 550 robotic arm, \$25,000, J&J Industrial Services Inc., 2007; Several laptops donated to robotics lab, value not accessed, Automation Engineering Corporation.

RESEARCH:

\$2,500	(funded) Extending a Natural Human-Robot Interface to Three Dimensional Contour Following. South Carolina Research Foundation. January-July, 2012.
\$2,000	(funded) Financial Support of Undergraduate Robotics Research at USC Upstate. Upstate Workforce Investment Board. 2011.
\$223,747	(not funded) Research Experience for Undergraduates, National Science Foundation, 2011-2013.
\$30,000	(funded) Financial Support of Undergraduate Robotics Research at USC Upstate. SEW Eurodrive. 2010-2014.
\$14,530	(funded) Initial Exploration of New Construction and Inferencing Algorithms for BMW's Vehicle-Configuration Expert-System, BMW's IT Research Center. 2007-2008.
\$2,967	(funded) Robotic 3D Construction of Unknown Surfaces. South Carolina Research Foundation. 2008.
\$7000	(funded) <i>Robotics at USC Upstate</i> , Research and Productivity Scholarship (R&PS), Columbia, South Carolina. 2005.
\$6,100	(funded) <i>Linking a Syntactic Partial Parse to Semantic Verb Predicates</i> , Research and Productivity Scholarship (R&PS), Columbia, South Carolina. 2004-2005.

- \$501,469** (not funded) *Peeping with Peepers: Bringing the Natural World into the Classroom with Technology and Robotics*. U.S. Department of Education. (CO-PI). 2010.
- \$149,611** (not funded) *Automating a Computer Science Curriculum*, National Science Foundation (NSF) – Course, Curriculum, and Lab Improvement (CCLI) Program, 2006.
- \$10,448** (not funded) *Integration of Camera Space Manipulation and End Effector Design*, Oak Ridge Associated Universities Ralph E. Powe Junior Faculty Enhancement Awards. (CO-PI). 2005.

OTHER GRANTS:

- \$20,000 (est)** (funded) The Upstate Make IT Happen Camp. 2012, 2011, 2010. Sponsored by IT-ology.
- \$500,000** (not funded - decision suspended) Proposal to name the “JM Smith Foundation Mathematics and Computer Science Wing.” Funds to establish innovation fund, remodel tutoring labs, and update lab hardware/software. Coauthored and presented proposal with Bea Smith in University Advancement and Jerome Lewis.
- \$61,706** (funded) Private sponsorships and grants to support the annual research symposium, summer robotics camps, and annual research journal: \$8,000 est (2011), \$11,000 est (2011), \$7,000 est (2010), \$14,500 (2009); \$15,706 (2008), \$5,500 (2007).
- \$25,000** (funded) Established a Faculty Release Time Program for the newly created Office of Sponsored Awards and Research Support. Funded by USC Columbia. 2008.
- \$23,460** (funded) Established a Research Experience Program for USC Upstate students with the Orthopaedic Research Foundation of the Carolinas, 2008, 2009, 2010.
- \$15,000** (not funded) “Mom and Me Industrial Robotics Summer Camp” for 2010 and 2011. Microsoft Research and NCWIT.

INTERNAL USC UPSTATE GRANTS:

- \$925** Funds used to purchase cameras, rock crawler, and robotic arm kit for the “Peepers” robotics exploration project. (CO-PI), 2009.
- \$9,750** Robotics Lab IT Infrastructure upgrade, 2009.
- \$3,383** A Natural Language Approach to Manipulator Jogging, Research Incentive Award from the Research Advisory Council. Research Grant. 2007.
- Numerous internal Teaching and Productive Scholarship (TAPS) grants.

NOTABLE AWARDS AND HONORS

- **Nominated for the SC Governor’s 2011 Award for Excellence in Scientific Awareness.**
 - o 2011, Nominated by Dr. Neval Erturk, Chair of Biology Department at Converse College.
- **USC System Featured Scholar of the Month**
 - o February 2012, Featured on the USC main campus website.
- **Keynote Speaker at the 2011 SC Junior Academy of Science Fall Workshop**
 - o 2011, A workshop that stimulates high school kids' interests in math and science .
- **Bank of America Excellence in Teaching and Advising Award**
 - o 2011, Recognizes an individual who has distinguished himself/herself with teaching and advising activities during the preceding year.

- **USC Upstate Annual Award to Faculty for Scholarly and/or Creative Pursuits**
 - o 2007, Recognizes an individual who has distinguished himself/herself by scholarly or creative activities during the preceding year.
- **Vice Chancellor's Leadership Award**
 - o 2007, Recognizes an individual who has demonstrated exceptional leadership, dedication and service.
- **Student Mentored Research Awards**
 - o **Best Paper** Award in Math and Computer Science, 2011, at the Seventh Annual Upstate Research Symposium, Spartanburg, South Carolina, Michael Umrysh, research assistant.
 - o **Best Poster** Award in Computer Science and Engineering, 2010, at Discovery Day, Columbia, South Carolina, Nicole Tobias, research assistant.

TEACHING EXPERIENCE AND INNOVATION

AT UNIVERSITY OF SOUTH CAROLINA UPSTATE (15 DIFFERENT COURSES TOTAL, 2004-PRESENT):

SCSC 585 Introduction to Computer Vision, SCSC 580 Introduction to Artificial Intelligence, SCSC 530 Programming Language Structures, SCSC 509 Topics in Computer Science, SCSC 499 Directed Research, SCSC 450 E-business Web Application Development, SCSC 441 Experiential Learning (field internship), SCSC 399 Independent Study, SCSC 321 Advanced Data Structures, SCSC 314 Introduction to Robotics, SCSC 300 Computer Science II, SCSC 241 Advanced Algorithm Design, SCSC 200 Computer Science I, SCSC 150 Introduction to Computer Science, SCSC 141 Elementary Algorithms.

AT THE UNIVERSITY OF CENTRAL FLORIDA (8 COURSES, 2000-2003):

CAP6640 Natural Language Understanding (graduate level), CAP5636 Advanced Artificial Intelligence (graduate level), CAP4630 Introduction to Artificial Intelligence, COP3530 Computer Science III, CGS3175 Internet Applications, COT3100 Introduction to Discrete Structures, CGS2100 Fundamentals of Business Computer Science, CGS1060 Introduction to Computer Science (Teaching Assistant only).

AT THE SPARTANBURG DAY SCHOOL (MIDDLE SCHOOL ROBOTICS PROGRAM, 2011-2012):

Designed and taught a *year-long* robotics course for the 8th grade – two sections, thirty four students in total. This course included a combination of programming and mobile/industrial robotics theoretical information and hands-on activities.

INNOVATION:

- Established an “**Automation**” focus area in the Computer Information Systems degree program, which is a collaboration between the departments of: Computer Science, Business, and Engineering Technology Management.
- Introduced 3 new courses (2005) and had the leadership role in revamping the undergraduate CS and CIS degree programs (2004-2005).
- Established robotics internships with several businesses in the area. (2008-Present)
- Wrote and presented proposal to establish an Undergraduate Research Lab for the Division of Math and Computer Science. The lab was established in 2005 and has been used heavily by numerous students and faculty since that time.

ADMINISTRATIVE EXPERIENCE AS DIRECTOR OF RESEARCH

NOTABLE NEW INITIATIVES:

- Coauthored and presented the proposal which established the Office of Sponsored Awards and Research Support (2007).
- Achieved 100% participation of all campus departments in programs offered.
- Developed and implemented new internal funding programs, including: a “Scholarly Start-up Package” program for new tenure-track hires, a research/teaching assistant grant program, a faculty research release time program, and a Research Experience Program for USC Upstate students with the Steadman Hawkins Orthopaedic Research Foundation of the Carolinas.
- Introduced the **USC Upstate Undergraduate Research Journal**
 - Volume 1, Spring 2008; Volume 2, Fall 2009; Volume 3, Fall 2010; Volume 4, Fall 2011.
 - <http://www.uscupstate.edu/ResearchJournal> (also available in print).
- Introduced a **YouTube Research Channel**
 - Professionally filmed/edited short videos of undergraduate research
 - <http://www.youtube.com/USCUpstateResearch>
- Introduced the **Year In Review** annual publication
 - An annual overview of all faculty scholarly work campus-wide.
 - Available from <http://www.uscupstate.edu/sars> (also available in print)
- Significantly Expanded the **Annual Research Symposium**:
 - Substantially expanded to include numerous other colleges/universities, secured external monies, hosted the event at neutral non-academic research institutions, grouped talks into specialized sessions, included creative performances.
 - <http://www.uscupstate.edu/Symposium>.
- Lobby for and was able to established a new staff position, entitled **Research Associate**, who directly reports to the Director of Research.
- Developed student and faculty resources for supporting undergraduate research.
 - Online Faculty Mentor list, Guide to Undergraduate Research, etc.
- Re-established an Advisory Board: the Research Advisory Council.
- Secured external funding for Research Symposium, Journal, and other student research programs, including an EPSCOR/IDEA grant and private sponsors.
- Grew annual internal support budget substantially, which is now partially support by private businesses in the region.
- Introduced a “Lunch and Learn” series that offers events 3-4 times per year.

DAILY RESPONSIBILITIES INCLUDE:

- Coordinate university-wide research efforts and community partnership building; Organize internal grant review committees every semester; Attend orientation events and Expanded Academic Affairs meetings; Coordinate funded grant proposals; Manage and expand budget and website; Seek external funding to support programs.

- Coordinate all aspects of the annual symposium: creating a symposium website and submission system, review proposals, preview student presentations, food services, equipment/facility set-up, advertise, program schedule and printed program, volunteers, student awards, high school student attendees, external funding, etc.
- Coordinate all aspects of the Undergraduate Research Journal and Year In Review: create Editorial Board and website, work with University Communication Department to publish Journal, solicit/review/edit submissions, etc.

NOTABLE SERVICE

TO THE UNIVERSITY AND THE DEPARTMENT:

- **Faculty Governance:** Faculty Grievance Committee (2011-Present), Faculty Senate (2006-2009); Student Affairs (2005-2008, Chair all three years); Faculty Advisory (2007-2008); Served as Juror on Honors Court Hearings (3 hearings in total, Chaired 2 hearings).
- **Peer Review Committees:** (first voting, review committee in the Promotion and Tenure process) Division of Math and Computer Science (2009-2012, Chair 2010-2011, 2011-2012); Department of Language, Literature, and Composition (2009-2010, 2010-2011); Library (2010-2011).
- **Faculty Search Committees:** Division of Math and Computer Science (2010, 2006, Chair in 2005, 2004 2x); Division of Natural Science and Engineering (2009); Department of Language Literature and Composition (2010, 2009, 2008).
- **Executive Search Committees:** Senior Vice Chancellor of Academic Affairs (2008); Assistant Vice Chancellor for Student Success (2008).
- **USC Columbia Office of Undergraduate Research:** 2008-Present. Advisory Board Member and grant reviewer.
- **Miscellaneous:** Global Curriculum Committee (2010-); Teaching and Learning with Technology Advisory Group (2008-Present), Organizing Committee member for a Chapter of Alpha Sigma Lambda at USC Upstate (2005-2007); member of the Foundations of Excellence First Year Initiative Advisory Board (2007); Research Advisory Council member (2005-2007); member of the Student Success Team (2005-2006); advise approximately 20 computer science majors each semester; Computer Science Library Liaison (2004-2007); MCS Technology Committee (2004-2007).

TO THE COMMUNITY:

- **High/Middle School Robotics Talks and Demonstrations.** 2008-Present. Schools visited include: Carver Junior High Career day, Spartanburg Regional Childcare, Landrum Middle, Landrum High, D. R. Hill Middle, Homeschooled groups, Several Girl Scout Troops, Woodruff High, Woodruff Middle, Chapman High, Spartanburg Day School, Cleveland Elementary, Southside High, Montessori Academy, West View Elementary, Daniel Morgan Technology Center. Over 1500 students visited.

- **Robotics Summer Camps.** 2009-Present. Partnered with the Spartanburg Science Center, SEW Eurodrive, the Upstate Workforce Investment Board, and others to offer low-cost summer robotics camps targeting students who live under the poverty level.
- **Spartanburg Day School Robotics Program.** 2011-2012. Develop and implement a 8th grade robotics program. Also helped to secure a robotic arm donation to the Day School from Stäubli.
- **Boy Scouts Robotics Merit Badge.** 2011. Taught a three night robotics course for 12-16 year old boy scouts so that they achieve a Robotics Merit Badge.
- **IT-Ology Partner**
 - **Coordinator/Organizer, Make IT Happen Camp.** 2010, 2011, 2012. This camp is sponsored by IT-ology (the SC Consortium for Enterprise System Management). High schools kids get do programming and other activities on a laptop that they get to keep after the event. About 20-25 kids accepted each year.
 - **Palmetto Pillar Award Judge.** Reviewed 30+ applications from SC businesses.
- **North Spartanburg Rotary Club Member (2007-2010)**
 - Vocational Service Chair (2008-2010). The Rotary Club participates in a variety of civic engagement activities.