

# Lee Woodruff White

<http://leewhite.org> • [lee@leewhite.org](mailto:lee@leewhite.org)

EDUCATION	<b>University of Washington</b> • Seattle, WA Ph.D. Candidate, BioEngineering Department <b>Advisors:</b> Dr. Blake Hannaford, Dr. Thomas S. Lendvay, BioRobotics Laboratory <b>Research Areas:</b> Surgeon training and performance evaluation for laparoscopic and robotic surgery, enhanced surgical robotics, developing world medical training <b>Past Lab:</b> Neurobotics Lab, Dr. Yoky Matsuoka, Robotic prosthetics hands and haptics research <b>Coursework:</b> Advanced Dynamics, Neurobiology, Robotic Manipulation, Molecular Bioengineering, Cellular Bioengineering, Systems Bioengineering, Introduction to Technology Commercialization September 2008 to Present GPA: 4.0 (Research) 3.8 (Cumulative)
	<b>Tulane University</b> • New Orleans, LA Bachelor of Science in Engineering, Departmental Honors, <b>Areas of study:</b> Optical Neurostimulation Honors Thesis, Team Design Project, Medical Electronics Control Systems, Biofluid Mechanics, Mathematical modeling, Biomaterials, Cell & Tissue Engineering August 2004 to May 2008 GPA: 3.7 (Magna cum Laude)
	<b>Washington University</b> • St. Louis, MO Hurricane Katrina hiatus semester September 2005 to December 2005 GPA: 3.9
	<b>South Eugene High School</b> • Eugene, OR International Baccalaureate Diploma Recipient September 2000 to June 2004 GPA: 3.9
SOFTWARE SKILLS	<b>Proficiencies</b> • MATLAB, Visual C++, Mathematica, Assembly, LaTeX, Adobe InDesign, Powerpoint <b>Applications</b> • Solidworks, Audio/Video/Image editing, Microsoft Office, Printed Circuit Board Design
HARDWARE SKILLS	<b>Experience</b> • Mechanical Design, Data Acquisition Systems, Robotics, Mechanical-electrical systems <b>Fabrication</b> • Electronic circuit fabrication, Metal Work: Mill and Lathe, CNC, Steel welding (MIG, Stick), Metal Casting; Woodwork; Latex and polymer molding; Acrylics; Glassblowing
EMPLOYMENT	<b>Research Assistant</b> • <b>Teaching Assistant</b> • University of Washington September 2008 to Present <b>Prototype Design and Production Contractor</b> • Simulab Corporation, Seattle, WA October 2011 <b>Intellectual Property Litigation Analyst</b> • Blake Hannaford April 2011 to Jun 2011 <b>Research Intern</b> • Tulane University June 2008 Developed optical neurostimulator • Dr. M. Moore • Biomedical Engineering Department <b>Research Intern</b> • Oregon Health and Science University May to August 2007 Embryonic cardiac development biomechanics • Dr. S. Rugonyi • Biomedical Engineering Department
HONORS & AWARDS	[1] "Top 10 Abstract" at Engineering and Urology Society Meeting, May 2012 UW Community of Innovators Student Innovator: Research Award, Nominee, 2012 UW Center of Commercialization, UW INVENTS Award, Nominee, 2012 Ford Fellowship, BioEngineering Department Nominee, 2012 Invited Panelist, UW College of Engineering Scholar-Donor Luncheon, November 2011 UW GPSS Travel Award, Attended HYPER Summer School on Neurorehabilitation, Spain 2011 Kenney Fellowship 2011, University of Washington, College of Engineering [2] Awarded Best Poster of the AUA Moderated Poster Session MP48: Technology & Instruments Outstanding Teaching Assistant, 2010, University of Washington BioEngineering Department Departmental Honors Recipient, Biomedical Engineering Honors Thesis, 2008, Tulane University Tulane University Robotics Battle Olympiad Champion, 2005, 2008 Distinguished Scholar Award Recipient, 2004 to 2008, Tulane University

ACADEMIC EXTENSION      HYPER Summer School on Neurorehabilitation, La Alberça, Spain 2011  
 Summer School in Surgical Robotics, Montpellier, France 2011  
 Visiting Researcher, Human-Automated Systems Lab, Ayanna Howard, Georgia Tech, Summer 2011  
 North American Summer School in Surgical Robotics and Simulation, Seattle, WA 2010

ACTIVITIES                    **FIRST Robotics Program Mentor** ◦ 2007 to Present, New Orleans and Seattle, FRC Teams 1304, 3070  
**Glassblowing and sculpture** ◦ 2006 to Present  
**UW BioEngineering Department Class Representative** ◦ 2008 to 2009, Entering Class of 2008  
**Tulane Emergency Medical Service** ◦ 2006 to 2008, Emergency Medical Technician NREMT-B  
**Tulane American Society of Civil Engineers** ◦ 2004 to 2008, Steel Bridge Captain 2007-2008  
**American Cancer Society Youth Relay for Life** ◦ Chair, 2003 to 2004

SOCIETIES & ASSOCIATIONS      National Registry of Emergency Medical Technicians, NR-EMT Level B  
 UW & Tulane Biomedical Engineering Society;  
 International Order of the Engineer

INTERESTS                    CrossFit, Electronics, Travel, Glassblowing, Hiking, Cycling, Mentoring FIRST Robotics Competition

PUBLICATIONS              [3, 4, 5, 6, 7, 2, 8, 9, 10, 11, 12] [13, 14, 15, 16, 17, 1, 18]

PATENTS                      Full Applications: [19] Provisional Applications: [20, 21, 22] UW Records of Innovation [23, 24, 25]

[1]                              White LW, Kowalewski TM, Hannaford B, Lendvay TS. SurgTrak: Evolution of a Multi-Stream Surgical Performance Data Capture System for the da Vinci Surgical Robot. Engineering and Urology Society. 2012;1. Ranked 5th out of 86 submitted abstracts by reviewers.

[2]                              Tausch T, Kowalewski T, White LW, Brand T, Lendvay TS. Content and Construct Validation of Robotic Surgery Curriculum Using Electromagnetic Instrument Tracker. In: American Urological Association, Proceedings of the 2011 Meeting of the AUA; 2011. Awarded Best of the AUA Moderated Poster Session MP48: Technology & Instruments: Surgical Education and Skills Assessment at the annual meeting of the American Urological Association, Washington, DC, May 14–19, 2011.

[3]                              Franca E, Kethman W, Weaver W, White LW. Integrated Entertainment and Communication System. In: 25th Annual Houston Conference on Biomedical Engineering Research, Houston Society for Engineering in Medicine and Biology, Houston, Texas. Houston Society for Engineering; 2008. .

[4]                              White LW, Moore MJ. Development of a Multi-Scale Light Based Neurostimulator. In: Biomedical Engineering Undergraduate Research and Design Conference. Department of BioMedical Engineering Tulane University. Department of BioMedical Engineering Tulane University; 2008. Available from: [http://tulane.edu/sse/bme/research/upload/conference\\_2008.pdf](http://tulane.edu/sse/bme/research/upload/conference_2008.pdf).

[5]                              Huynh K, Stepp CE, White LW, Colgate JE, Matsuoka Y. Finding a Feature on a 3D Object Through Single-Digit Haptic Exploration. In: Haptics Symposium, 2010 IEEE. IEEE; 2010. p. 83–89.

[6]                              White L. Robotic cochlear implantation for hearing preservation. UW BioEngineering Qualifying Exam. 2010;1:30.

[7]                              Tausch T, Kowalewski T, White LW, Brand T, Lendvay TS. Content and Construct Validation of a Robotic Surgery Curriculum. American Urologic Association News. 2011;2011:25–26.

[8]                              Tausch T, Kowalewski T, White LW, Brand T, Lendvay TS. Trakstar Tool Tip Tracker Validation. In: 58th Annual James C. Kimbrough Urological Seminar for the Society of Government Service Urologists; 2011.

[9]                              White LW, Hannaford B, Lendvay TS. Operating Room Integrated Tracking of Robotic Surgery. University of Washington BioEngineering-Urology Summit. 2011;2011:12–13.

[10]                             White LW, Kowalewski T, Hannaford B, Lendvay TS. SurgTrak: Affordable Motion Tracking and Video Capture for the Da Vinci Surgical Robot. In: Society of American Gastrointestinal and Endoscopic Surgeons, Proceedings of the 2011 Meeting of the SAGES, San Antonio, Texas. vol. 1; 2011. p. 204. Abstract/Poster. Available from: <http://www.sages.org/2011/resource/posters.php?id=36030>.

- [11] Chen C, White LW, Comstock B, Kowalewski T, Lendvay TS. Crowd-Sourced Assessment of Technical Skill (C-SATS): Faculty Experts vs. Amazon.com Mechanical Turk Project™ vs. Facebook™. NextMed Medicine Meets Virtual Reality. 2012;20. Accepted for podium presentation.
- [12] Kowalewski T, White L, Lendvay TS, Hannaford B. How much force? A Possible Gap in Surgical Training. International Meeting on Simulation in Healthcare, IMSH. 2012;1. Accepted.
- [13] Kowalewski T, White L, Lendvay TS, Hannaford B. The Electronic Data Generation and Evaluation (EDGE) Platform. International Meeting on Simulation in Healthcare. 2012;1.
- [14] Lendvay TS, White LW. Surgical Simulation Devices. eMedicine. 2012;In Press.
- [15] Schroeder D, Kowalewski T, White L, Carlis J, Santos E, Sweet R, et al. Visualizing Surgical Training Databases: Exploratory Visualization, Data Modeling, and Formative Feedback for Improving Skill Acquisition. Computer Graphics and Animation. 2012;In press.
- [16] Tausch TJ, Kowalewski TM, White LW, McDonough PS, Brand TC, Lendvay TS. Content and Construct Validation of Robotic Surgery Curriculum Using an Electromagnetic Instrument Tracker. Journal of Urology. 2012;In Press.
- [17] White LW. Quantitative Objective Assessment of Preoperative Warm-up for Robotic Surgery. UW BioEngineering General Exam. 2012 May;1:50. General Exam.
- [18] White LW, Kowalewski TM, Hannaford B, Lendvay TS. SurgTrak: Synchronized Performance Data Capture for the da Vinci Surgical Robot. Hamlyn Symposium on Medical Robotics. 2012;1.
- [19] University of Washington, assignee. Motion and Video Capture for Tracking and Evaluating Robotic Surgery and Associated Systems and Methods. Application Number 13/434,585; 2012. Patent Pending.
- [20] Lee W White; Timothy Kowalewski; Blake Hannaford; Thomas S Lendvay, assignees. SurgTrak: Motion And Video Capture For Tracking And Evaluating Robotic Surgery. Provisional 61/556,110; 2011.
- [21] Lee W White; Timothy Kowalewski; Blake Hannaford; Thomas S Lendvay, assignees. SurgTrak: Motion And Video Capture For Tracking And Evaluating Robotic Surgery. Provisional 61/469,495; 2011. Provisional.
- [22] Blake Hannaford; Lee W White, assignees. Medical Procedure Simulator for Medical Training in Low-Resource Environments. Provisional 61/562,960; 2011.
- [23] Timothy Kowalewski; Blake Hannaford; Lee W White; Thomas S Lendvay, assignees. Surgenome: Web-enabled, computerized surgical skill evaluation, procedure tracking, analysis, and retrieval. UW ROI 45774; 2011.
- [24] Lee W White, assignee. Hand-held robotic surgery training instrument. UW ROI 45936; 2012.
- [25] Timothy Kowalewski; Lee W White; Carolyn Chen; Thomas S Lendvay, assignees. Crowd-Sourced Assessment of Technical Skill (C-SATS). UW ROI 46173; 2012.