

Philip H. Schroeder

CONTACT INFORMATION	151 Engineer's Way Systems and Information Engineering University of Virginia Charlottesville, VA 22904-4747	(434) 589-5935 phs5eg@virginia.edu orcid.org/0000-0002-9885-7787 http://philiphschroeder.com
EDUCATION	University of Virginia, Charlottesville, VA Human Biology Distinguished Majors Program, BS Class of 2018 GPA: 3.93 / 4.00 Thesis Focus: Prognostic modeling of trauma and sepsis.	
HONORS	Echols Scholar , UVa, Spring 2015 <ul style="list-style-type: none">“Predicated upon the Jeffersonian ideal of freedom of inquiry and development of critical thought” this award goes to those believed to be “the University's most intellectually curious, broad thinking, and self-motivated students and its most avid learners.”Exempt from area and competency requirements and provided priority class registration Robert Kent Gooch Scholarship , UVa, Spring 2017 <ul style="list-style-type: none">\$15,000 awarded to one who embodies, through commitment to academia and service, “the qualities of mind and character requisite for the selection of Rhodes Scholars” Kenneth L. and Lorraine M. Harkavy Scholarship , UVa, Spring 2017 <ul style="list-style-type: none">\$5,000 awarded to one science major who “demonstrates merit and achievement in the arts” UVa Delegate, 2018 ACC Leadership Symposium , Duke University, February 9-11, 2018 <ul style="list-style-type: none">Symposium theme: “Contentious Times: A Call for Courageous Leadership” - selected to represent UVa to discuss my efforts in the community during and following the Aug. 12th Charlottesville riots UVa Representative, 2018 ACC Meeting of the Minds , Boston College, April 6-8, 2018 <ul style="list-style-type: none">Selected to represent UVa to present my research with the Relative Mortality Analysis	
RESEARCH INTERESTS	Research assistant in the Dept of Systems and Information Engineering since August of 2015, working on a variety of projects within the health sciences - primary interests include health and biomedical informatics, prognostic modeling, sequence analysis, systems biology, and machine learning.	
GRANTS & FUNDING	\$5,000 - National Science Foundation Multi-Scale Systems Bioengineering REU \$1,000 - College Council Semester Scholars Award \$2,200 - Institute for Practical Ethics and Public Life Internship Award	
COMPUTER SKILLS	Languages: proficient with R, MATLAB, Java, SQL; familiar with Python, C#, C++, HTML, CSS Operating Systems: Linux, UNIX (with experience in shell scripting), Mac OSX, Mac OS, Windows 10 Algorithms: LDA, PCA, Regression Analysis (including regularization techniques), Bayesian Learning, k-NN, SVM, Neural Networks, k-means clustering, Decision Trees, Random Forest, AdaBoost.	
WET LAB SKILLS	Immunoassays (EIA, ELISA, RIA, FIA), immunohistochemistry, western blot analysis, nucleic acid purification and analysis, DNA cloning, PCR, gel electrophoresis, and experience with pluripotent stem cell culture.	
PAPERS & PRESENTATIONS	Relative Mortality Analysis of the “golden hour”: A comprehensive acuity stratification approach to address disagreement in current literature. Philip H. Schroeder, Nicholas J. Napoli, William F. Barnhardt, Madeline E. Kotoriy, Jeffrey S. Young. December, 2017. Manuscript submitted for publication to <i>Annals of Emergency Medicine</i> . Manuscript at: http://philiphschroeder.com/Ann.Emerg.Med_Manuscript.pdf <ul style="list-style-type: none">The UVa Relative Mortality Analysis is a novel approach, designed to provide greater accuracy and resolution in accounting for patient acuity than that achieved by current trauma metricsGoing forward, focused on evaluating larger datasets and different patient populations to improve the precision, and assess the robustness, of insights from this paper Predictive modeling of sepsis in adult ICU patients. Philip H. Schroeder, Roman Wang, Catherine Sun, Yasasvini Puligundla, Mawulolo Ameko, Christopher C. Moore, Laura E. Barnes. Started May, 2017. Oral presentation at 2017 Biomedical Engineering Society National Conference, Phoenix, AZ. Abstract at: http://philiphschroeder.com/BMES.Abstract.pdf <ul style="list-style-type: none">Collaborating with Dr. Christopher C. Moore and other physicians of the UVa Medical ICU	

PROJECTS IN
PROGRESS

IT-based approach to increase utility of Beers' and STOPP-START Criteria in prescribing geriatric patient medications. Mathew M. Kerwin, Philip H. Schroeder, Sean B. Sequeira. Started December, 2016. Project details at: http://philiphschroeder.com/Geriatic.Med_Project.Outline.pdf

- Building website that can communicate with UVa's EMR system to optimize the convenience, precision, and proficiency with which physicians can reference Beers' and STOPP-START Criteria

Effect of temporal perturbation of Wnt/ β -catenin pathway with IWP-2 on *Xenopus* morphological development. Nayla Labban, Melissa M. Le, Claire M. Romaine, Philip H. Schroeder, Natasha M. Smook, Raymond E. Keller. Started July, 2017.

Project details at: <http://philiphschroeder.com/7.html#Wnt.IWP2>

- Investigating deviations in progression of Wnt pathway, β -catenin behavior, and dorsalization patterns following introduction of IWP-2 at various *Xenopus laevis* developmental stages

Exploring psychosocial challenges in type-1 diabetes self-management during transition to college as a foundation for informed design of personalized technological aids. Philip H. Schroeder, Dylan A. Hazlett, Kelly E. McCain, Syeda Z. Narmeen, Taylor K. Puhl, Rupa S. Valdez. Started September, 2017. Preparing manuscript for submission to *Applied Clinical Informatics*.

Current manuscript at: http://philiphschroeder.com/Appl.Clin.Inform_Manuscript.pdf

- Conducting semi-structured interviews of U.S. students, ages 18-24, with type-1 diabetes to investigate psychosocial challenges of self-care and the potential for designing new devices

PARTICIPANT
OBSERVATION
STUDIES

The data-driven equilibrium shift in protocol development, execution, and assessment within the UVa Emergency Health System: Insights as a local provider, researcher, and instructor. Philip H. Schroeder. May - December, 2017. Submitted for publication to *Grounds: The Virginia Journal of Bioethics*.

- Evaluated the power and implications of the increasing dominance of data-driven decision-making and protocol development in emergency and critical care medicine
- Incorporated insights from summer work with Albemarle Emergency Communications Center and UVa Medical Communications Center, amid ongoing work as a Charlottesville Rescue Provider and Coordinator, UVa Hospital BLS Instructor, and Systems Engineering Research Assistant
- Funded with \$2,200 from Institute for Practical Ethics and Public Life Ethics Internship Award

The equilibrium of care: Is there a tradeoff between person-centered and data-centered care?

Philip H. Schroeder. August-December, 2017. Conducted as part of the UVa Internship in Clinical Ethics.

- Selected to rotate and work with Dr. Josh S. Barclay, MD, of UVa Palliative Care as an intern

UVa Bioethics Internship in Health Policy and Administration

- Selected as one of ten students, including applicants from the School of Law and nursing graduate programs, to intern with a sector of the UVa Health System administration to execute project on issues of ethics with institutional policies and operations

PROFESSIONAL
EXPERIENCE

Course Instructor, UVa Interdisciplinary Studies

Jan – May, 2018

Course syllabus at: http://philiphschroeder.com/Millennials.Pioneers.of.the.Zettabyte.Age_Syllabus.pdf

- Independently developed and will instruct, in the spring of 2018, a new two-credit UVa Interdisciplinary Studies course, exploring the implications of machine-learning systems increasingly replacing humans in executing subjective tasks, and the pragmatic challenges of addressing such issues in different sociocultural and professional contexts

Pre-Hospital Provider and Coordinator, Charlottesville-Albemarle Rescue Squad (C-ARS)

Pre-Probationary Member Coordinator, Membership Committee

June, 2017 – Present

- C-ARS serves all of Charlottesville and UVa, as one of the largest and busiest volunteer rescue agencies in VA, with each truck running an average of 5 calls per weekly 13.5hr shift
- Membership Committee ensures training requirements are met for each provider to maintain and advance status; makes all final decisions on termination of providers and selection of new providers
- Pre-Probationary Member Coordinator leads orientation for applicants, coordinates all training for incoming providers, and ensures training competencies are met prior to advancement at the agency

EMT, Active Medical

June, 2016 – Present

- Certified as an EMT and trained in Emergency Vehicle Operators Course Level 2 to serve as an Ambulance Driver, Ambulance Attendant-in Charge (AIC), and AIC Preceptor during weekly shifts

Basic Life Support Instructor, UVa Hospital Life Support Learning Center *June, 2017 – Present*

- Train and recertify doctors, nurses, rescue, and other local medical providers in Basic Life Support
- American Heart Association Certified Basic Life Support Instructor and Heartsaver CPR Instructor

Lead Intern, UVa Volunteers with International Students, Staff, & Scholars (VISAS)

Recruitment, Outreach, and Media Intern *Aug, 2017 – Present*

- VISAS is the largest multicultural volunteer program at UVa, consisting of nearly 500 members
- Selected to serve as the 2017-2018 Recruitment, Outreach, and Media Intern – notable achievements:
 - Executed the grant applications and presentations to secure funding for 4 fall and spring events
 - Initiated “Humans of VISAS” - interview and write narratives of volunteers and international participants who embody exceptional courage, grace, and compassion

Classroom Consultant Moderator *Sept, 2016 – Present*

- Organize and lead sessions for international TAs to practice presentations and to discuss social challenges with undergraduate Classroom Consultants, helping to advance English language skills, build comfort with cultural dynamics, and improve delivery of lectures in respective fields of study

Extern, Inova Trauma Center Acute Care Surgery, Fairfax, VA *June 5 – 16, 2017*

- Ten applicants from across the nation selected to serve in a two-week externship - participated in patient assessments, emergency resuscitation, and surgical procedures, working closely with trauma surgeons, nurses, social workers, and other members of the multidisciplinary trauma team

**VOLUNTEER
SERVICE**

Program Director, Adopt-A-Grandparent, UVa

Program Director *Aug, 2017 – Present*

- Selected to serve as a 2017-2018 Program Director - recruit, train, and manage 26 volunteers, and organize community events for volunteers and seniors at Albemarle Health and Rehab Center

Volunteer *Sept, 2016 – Present*

- Weekly visits to share time and build relationships with seniors at the center

Chair of Mentorship, Echols Council, UVa

Chair of Mentorship *June, 2017 – Present*

- Selected to serve as the 2017-2018 Chair of Mentorship for Echols Council – recruit and train Echols Peer Mentors to work with incoming Scholars, and strive to create new pathways for Scholars to connect with advisors across all disciplines

Public Relations Committee *Sept, 2016 – May, 2017*

- Promoted Council events, shared Scholars’ achievements, connected Scholars with opportunities

Executive Board Member, Global Literacy for Youth (GLY), UVa *Apr, 2017 – Present*

- GLY coordinates with local elementary schools to schedule weekly presentations, striving to improve students’ understanding and appreciation of cultures throughout the world
- Selected to serve as the 2017-2018 Education Officer - advise and oversee each of the seven independent programs that represent different regions of the world

Officer, Undergraduate Research Network, UVa *Feb, 2017 – Present*

- Selected to serve on the Technology and Advising Committee – maintain and promote the Undergraduate Novel Learning Experience And Scientific Hands-on (UNLEASH) program, a web-based system connecting undergraduate students with PIs

ESOL Tutor, Cavs in the Classroom, UVa *Sept, 2016 – May, 2017*

- Weekly visits to tutor Spanish-speaking second grade ESOL students at Woodbrook Elementary

Peer Leader, General Chemistry, UVa *Aug, 2015 – May, 2016*

- Tutored fellow undergraduates in CHEM 1410/1420, and helped develop and execute class lessons