

EECS, McCormick School of Engineering, Northwestern University, 2145 Sheridan Road, Tech Inst. Rm L359, Evanston, IL 60208 USA
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assistive & rehabilitation robotics **laboratory (argallab)** <http://smpp.northwestern.edu/research/argallab>

POSITIONS and EMPLOYMENT

Associate Professor *Sep. 2017 – present*
Departments of Computer Science (formerly EECS) and Mechanical Engineering, McCormick School of Engineering
Department of Physical Medicine & Rehabilitation (PMR), Feinberg School of Medicine
Northwestern University, Evanston IL, USA

Assistant Professor *Sep. 2011 – Aug. 2017*
Northwestern University, Evanston IL, USA

Faculty Research Scientist *Sep. 2011 – present*
Shirley Ryan AbilityLab (formerly the Rehabilitation Institute of Chicago), Chicago IL, USA
Founder and director, assistive & rehabilitation robotics **laboratory (argallab)**

Visiting Research Fellow *Dec. 2018 – Aug. 2019*
Wyss Center for Bio and Neuroengineering, Geneva, Switzerland

Postdoctoral Fellow *May 2009 – Jul. 2011*
Learning Algorithms & Systems Laboratory, *École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland*

Computational Biologist and Post-Baccalaureate IRTA Fellow *Aug. 2002 – Jul. 2004*
Laboratory of Brain and Cognition, NIMH, *National Institutes of Health, Bethesda MD, USA*

EDUCATION

Ph.D. in Robotics, Robotics Institute, *Carnegie Mellon University, Pittsburgh PA, USA, Mar. 2009*

Advisors : Brett Browning, Ph.D. and Manuela Veloso, Ph.D.

Thesis : Learning Mobile Robot Motion Control from Demonstration and Corrective Feedback

B.S. in Mathematical Sciences, College of Science, *Carnegie Mellon University, Pittsburgh PA, USA, May 2002*

Concentration : Computational & Applied Mathematics

Minors : Biological Sciences, Music

SELECTED AWARDS and HONORS

National Academy of Engineering, Frontiers of Engineering Symposium. Invited participant. (*Sep. 2019*)

40 under 40, Crain's Chicago Business. Named one of the 2016 **40 under 40** class. (*Dec. 2016*)

CAREER Award, National Science Foundation. Faculty Early CAREER Award recipient. (*Feb. 2016*)

Encyclopedia Article, World Book Encyclopedia entry for "Robotics". Invited author. (*2019-current*)

June and Donald Brewer Junior Professor Chair, Northwestern University. (*Sep. 2011*)

TEACHING

Machine Learning & Artificial Intelligence for Robotics (Northwestern University, *Fall 2019, Fall 2016, Fall 2014, Spring 2012-2013*). Instructor. Course design and development. (New addition to the curriculum, CS/ME 469.)

Introductory Robotics Laboratory (Northwestern University, *Fall 2014-2017, Winter 2013-2014*). Instructor. Course design and development. (New addition to the curriculum, CS/ME 301.)

SELECTED FUNDING

Brenna Argall (PI, lead), Sandro Mussa-Ivaldi (Co-I) and Elliot Roth (Co-I). National Institutes of Health: *R01: Human and Machine Learning for Customized Control of Assistive Robots*. 9/1/2018 – 5/31/2022, \$1,427,043.

Todd D. Murphey (PI, lead) and Brenna Argall (co-PI). National Science Foundation: *CPS: Medium: Information-based Control of Cyber-Physical Systems Operating in Uncertain Environments*. 9/15/2018 – 9/14/2021, \$896,030.

Brenna Argall (PI). National Science Foundation (Robust Intelligence): *CAREER: Robot Learning from Motor-Impaired Instructors and Task Partners*. 2/1/2016–1/31/2021, \$525,000.

Brenna Argall (PI). Office of Naval Research: *Dynamic Allocation of Autonomy for Limited-Bandwidth Human-Robot Teams Based on Measures of Trust in the Human*. 2/1/2016–1/31/2020, \$954,398.

Brenna Argall (PI) and Siddhartha Srinivasa (PI, lead). National Science Foundation: *CPS: Synergy: Collaborative Research: Learning Control Sharing Strategies for Assistive Cyber-Physical Systems*. 10/1/2015–9/30/2018, \$363,937.

Brenna Argall (PI, lead) and Siddhartha Srinivasa (PI). National Institutes of Health (NIBIB/NICHHD): *R01: SCH: A Formalism for Customizing and Training Intelligent Assistive Devices*. 9/1/2014–8/31/2017, \$301,941.

SELECTED PUBLICATIONS

A. Broad, I. Abraham, T. Murphey and B. Argall. Model-based Shared Control of Data-Driven Human-Machine Systems. *International Journal of Robotics Research*, 2020.

D. Gopinath and B. Argall. Active Intent Disambiguation under Shared Autonomy Robotics. *IEEE Transactions on Neural Systems and Rehabilitation*, 28(6).1497-1506, 2020.

M. Nejadi, M. Young and B. Argall. Interface Operation and Implications for Shared-Control Assistive Robots. In *Proceedings of the IEEE-RAS-EMBS International Conference on Rehabilitation Robotics (ICORR)*, Toronto, Canada, Jun. 2019.

B. D. Argall. Autonomy in Rehabilitation Robotics: An Intersection. *Annual Review of Control, Robotics, and Autonomous Systems*, 1, 441-463, 2018.

A. Erdogan and B. Argall. The Effect Robotic Wheelchair Control Paradigm and Interface on User Performance, Effort and Preference: An Experimental Assessment. *Robotics and Autonomous Systems*, 94, 282-297, 2017.

D. Gopinath, S. Jain and B. Argall. Human-in-the-Loop Customization of Shared Autonomy in Assistive Robotics. *IEEE Robotics and Automation Letters*, 2(1), 247-254, 2017.

B. Argall. Turning Assistive Machines into Assistive Robots. In *Proceedings of SPIE 9370, Quantum Sensing and Nanophotonic Devices XII*, San Francisco, California, USA, Feb. 2015. (Keynote paper)

B. D. Argall, S. Chernova, M. Veloso, and B. Browning. A Survey of Robot Learning from Demonstration. *Robotics and Autonomous Systems*, 57(5): 469-483, 2009.