Curriculum Vitae

Alen E. Golpashin

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EDUCATION

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

B.S. Aerospace Engineering — Aug 13 - May 16

M.S. Aerospace Engineering — Aug16 - May 18
Thesis Advisors: N. Sri Namachchivaya, Koki F. Ho

Ph.D. Aerospace Engineering — Aug 20 - In progress
Thesis Advisor: Bruce A. Conway

LOYOLA UNIVERITY CHICAGO

M.S. Mathematics — Aug 18 - Dec 19

PUBLICATIONS

- Golpashin A., Yeong H., Ho K., and Namachchivaya N., "Spacecraft Attitude Control: A Consideration of Thrust Uncertainty," *Journal of Guidance, Control, and Dynamics*, 2020.
- Golpashin A., Yeong H., Ho K., and Namachchivaya N., "Stochastic Attitude Control of Spacecraft under Thrust Uncertainty," *AIAA/AAS Astrodynamics Specialist Conference,* Stevenson, WA, Aug. 2017.
- Golpashin, A. E., "Hamilton-Jacobi-Bellman equation for stochastic optimal control: applications to spacecraft attitude control," Master's Thesis, Department of Aerospace Engineering, University of Illinois, Urbana, IL, 2018.
- Golpashin A., Bollmann C., "Detection of Volumetric Cyber Attacks using Kalman-Lévy Filtering" (under preparation)

PRESENTATIONS

- Patel M., Golpashin A., Hanley D., and Bretl T., "Optimized Rendezvous of a Quadrotor" Presented at the *Aerospace Engineering Undergraduate Research Poster Session,* Urbana, IL, May 2016.
- Golpashin A., "Stochastic Optimal Control in Spacecraft Attitude Control Applications" Presented at the *12th Annual Loyola Graduate School Interdisciplinary Research Symposium,* Chicago, IL, March 2019.

RESEARCH SUMMARY

Department of Aerospace Engineering — Urbana, IL
Graduate Researcher — Aug 20 - Present

Nonlinear Systems Group / Space Systems Optimization Laboratory — Urbana, IL
Graduate Researcher — May 16 - May 20

Center for Cyber Warfare (Naval Postgraduate School) — Monterey, Ca
Graduate Research Intern — May 21 - Aug 21

Bretl Research Group (Coordinated Science Laboratory-UIUC) — Urbana, IL
Undergraduate Research Assistant — Jan 15 - May 16

TEACHING AND MENTORING

Department of Mathematics and Statistics — Chicago, IL
Graduate Teaching Assistant

Courses

Math 263 – Multivariable Calculus (2 sections)	Aug 19 - Dec 19
Math 264 – Ordinary Differential Equations	Jan 19 - May19
Math 212 – Linear Algebra	Jan 19 - May19
Math 264 – Ordinary Differential Equations	Aug 18 - Dec 18
Math 212 – Linear Algebra	Aug 18 - Dec 18

Department of Aerospace Engineering — Urbana, IL
Graduate Teaching Assistant

Courses

AE 352 – Aerospace Dynamical Systems	Jan 18 - May18
AE 202 – Aerospace Flight Mechanics	Aug 17 - Dec 17
AE 352 – Aerospace Dynamical Systems	Jan 17 - May 17
AE 433 – Aerospace Propulsion	Aug 16 - Dec 16

Illinois Aerospace Institute (High School Summer Camp) Urbana, IL
Orbital Mechanics Instructor Summer 2018
Department of Aerospace Engineering / MUSE Program Urbana, IL
Graduate Mentor Apr 17 - Aug 17
Office of Minority Student Affairs Urbana, IL
Undergraduate (Math and Physics) Tutor Jan 14 - May 15
Mathematical Sciences Learning Center - University of Illinois at Chicago Chicago, IL
Undergraduate Tutor Aug 11 - May 13

WORK EXPERIENCE

HydraForce Inc., Innovation and Technology Center Vernon Hills, IL
Design Engineering Intern May 14 - Aug 14
HydraForce Inc., Headquarters Lincolnshire, IL
Manufacturing Engineering Intern May 13 - Aug 13
CITES Classroom & Conference Media Engineering Urbana, IL
Classroom Tech Support Jan 14 - Jan 15

SOFTWARE SUMMARY

Software: MATLAB, Wolfram Mathematica, C/C++, Pro-E (Creo), ANSYS Structural, LabVIEW, AutoCAD (Inventor)

RELEVANT COURSEWORK

Theoretical Courses: Real analysis I & II, Measure theory, Complex analysis, Abstract algebra I & II (group theory, ring theory, and introductory homological algebra), Abstract linear algebra, Dynamical systems and bifurcation theory, Discrete dynamical systems and chaos theory, Applied dynamical systems, Optimization (linear programming), Stochastic processes, Partial differential equations
Applied Courses: Systems dynamics & control, Spacecraft attitude dynamics and control, Intro to robotics, Optimal aerospace systems, Robust control, Distributed system control, Analog signal processing, Aeroelasticity, Geometric control theory, Stochastic control theory

UNIVERSITY SERVICE AND ACTIVITIES

Graduate Student Advisory Committee (GSAC) – Department of Aerospace Engineering Urbana, IL
Interdepartmental Subcommittee Chair Aug 17 - May 18
Illinois Robotics in Space (IRIS) Urbana, IL
Drive System Engineer Aug 15 - May 16