Andres J. Goza

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Academic Positions

Assistant Professor, Aerospace Engineering — *Urbana, IL*

University of Illinois at Urbana-Champaign — *January 2019 – present*

Faculty Affiliate, Computational Science & Engineering — *Urbana, IL*

University of Illinois at Urbana-Champaign — *August 2018 – Present*

Adjunct Assistant Professor, Aerospace Engineering — *Urbana, IL*

University of Illinois at Urbana-Champaign — *May 2018 – December 2018*

Postdoctoral Research Associate — *Princeton, NJ*

Princeton University — *October 2017 – December 2018*

Education

California Institute of Technology (Caltech) — *Pasadena, CA*

PhD in Mechanical Engineering — *October 2017*

MS in Mechanical Engineering — *June 2013*

University of Cambridge — *Cambridge, England, UK*

CD Broad Scholarship — *October 2011 - June 2012*

Rice University — *Houston, TX*

BS in Mechanical Engineering — *May 2011*

Minor in Computational and Applied Mathematics (CAAM)

Publications

Journal Publications

- A. Goza, T. Colonius, J. Sader, "Nonlinear simulations and global mode analysis of inverted flag flapping," *J. Fluid Mech. 2018.*
- A. Goza, T. Colonius, "Modal decomposition of fluid-structure interaction with application to flag flapping," *J. Fluids and Structures*. 2018.
- A. Goza, T. Colonius, "A strongly-coupled immersed-boundary formulation for thin elastic structures," *J. Computational Physics*. 2017.
- A. Goza, S. Liska, B. Morley, T. Colonius, "Accurate computation of surface stresses and forces with immersed boundary methods," *J. Computational Physics*. 2016.

Conference Publications

- A. Goza, T. Colonius, "A global mode analysis of flapping flags," Proceedings for the Tenth International Symposium on Turbulence and Shear Flow Phenomena (TSFP10). Chicago, Illinois. 2017.

Presentations

Conference Presentations

- A. Goza, D. Floryan, C. Rowley, "Connections between resonance and nonlinearity in swimming performance of a flexible heaving plate," 71st Annual Meeting of the APS Division of Fluid Dynamics. Atlanta, Georgia. 2017.
- A. Goza, L.P. Tosi, T. Colonius, "Nonlinear simulations and global stability analysis for fluid-structure interaction, with application to flag flapping," 13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics (WCCM 2018). New York, NY. 2018
- A. Goza, T. Colonius, "Global modes and nonlinear simulations of inverted flag flapping," 70th Annual Meeting of the APS Division of Fluid Dynamics. Denver, Colorado. 2017.
- A. Goza, T. Colonius, "A global mode analysis of flapping flags," Tenth International Symposium on Turbulence and Shear Flow Phenomena (TSFP10). Chicago, Illinois. 2017.
- A. Goza, T. Colonius, "An efficient strongly coupled immersed boundary method for deforming bodies," 69th Annual Meeting of the APS Division of Fluid Dynamics. Portland, Oregon. 2016.
- A. Goza, T. Colonius, "A novel immersed boundary method applied to the inverted flag problem," 68th Annual Meeting of the APS Division of Fluid Dynamics. Boston, Massachusetts. 2015.
- A. Goza, D. Garland, B.C. Houchens, "Physics and Mathematics Learning Outcomes of Underserved and Underrepresented DREAM Mentees at Three Urban High Schools." ASEE Annual Conference and Exposition. Louisville, Kentucky. 2010.

Invited Talks

- University of California, San Diego, January 2018.
- University of Illinois, Urbana-Champaign, January 2018.
- University of Washington. March 2018.

Honors & Awards

Everhart Lecture Series Speaker (Caltech, 1 of 3 university-wide)	*2017*
Outstanding Teaching Assistant Award (Caltech, 1 of 3 university-wide)	*2015*
NSF Graduate Research Fellowship	*2011 – 2016*
Betty and Gordon Moore Fellowship (Caltech)	*2011*
ABS Scholarship based on academics, publications, and service (Rice University, $5000)	*2010*
President's Honor Roll (Rice University)	*2008 – 2010*

Peer Review Experience

Journal of Computational Physics

Journal of Fluids & Structures

Physical Review Fluids