

Marc Canellas, Ph.D.

J.D. Candidate, 2021

New York University School of Law

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EDUCATION

J.D., New York University

(exp.) 2021

Awards:

- Jacobson Leadership Program Business and Law Scholar (2018)
- Cybersecurity Service Scholar (2018)

Ph.D., Aerospace Engineering, Georgia Tech

2017

Dissertation:

- "*Decision Making with Incomplete Information*," advised by Karen Feigh, Ph.D.

Activities:

- Graduate Student Government President, VP of Communications, and Senator (2013-2016)
- Sam Nunn Security Program Fellow (2014-2015)

Awards:

- Best Poster Award at Max Planck Institute for Human Development Summer Institute on Bounded Rationality (2016)
- Mitch Keller Lifetime Achievement Award (2016)
- Campus Life and Community at Tech Scholarship (2016)
- Colonel Leslie Callahan Memorial Fellowship (2015)
- National Science Foundation Graduate Research Fellowship (2013)
- National Defense Science and Engineering Graduate Fellowship (2013)
- Goizueta Foundation Fellowship (2012 & 2014)

B.S., Mechanical Engineering, University of Missouri

2012

Magna cum laude; Minors: Mathematics & Astronomy

Emphasis: Aerospace Engineering

Thesis:

- "*Development of Planetocentric Reference Frames to Model the Flyby Anomaly*," advised by Sergei Kopeikin, Ph.D.

Activities:

- Conference Founder, Engineering Connections between Politics and Science for the 21st Century (2011-2012)
- Engineering Ambassador, College of Engineering (2010-2012)
- Lead Mechanical Engineer, Mizzou "TigerGen II" Hydrogen Car Team (2008-2011)

Awards:

- University of Missouri Unsung Hero Award (2012)
- Endorsed by the University of Missouri for the Rhodes Scholarship, Marshall Scholarship, and Mitchell Scholarship (2012)
- Ronald E. McNair Scholar (2011-2012)

LAW, POLITICS, & POLICY EXPERIENCE

Legislative Fellow, Representative Derek Kilmer (WA-6)

2017-2018

Advisor for legislation, appropriations, and press relating to cybersecurity, aerospace, transportation, artificial intelligence and robotics, surveillance and privacy, science and technology, and STEM education.

Awards: Wilson Center Cybersecurity Lab Fellow (2018) and IEEE Congressional Science and Technology Fellowship (2017)

President, Georgia Tech Graduate Student Government 2015-2016

Implemented measures to stabilize consistent annual funding of \$3.5M for student organizations. Achieved 50% completion from 6,500 grad students for Georgia Tech's first-ever Graduate Student Experience Survey. President of 60-member Graduate Student Senate.

Awards: Georgia Tech Campus Services' Campus Life and Community at Tech Scholarship (2016) and Georgia Tech Graduate Student Government's Mitch Keller Lifetime Achievement Award (2016)

**Conference Founder,
Engineering Connections between Politics and Science
for the 21st Century 2011-2012**

Created a technology policy conference with over 600 attendees and 33 invited speakers, including former Sen. Bond (R-MO) and Rep. Holt (D-NJ). Negotiated \$13K of support.

Award: University of Missouri Unsung Hero Award (2012)

**TECHNOLOGY
RESEARCH &
DEVELOPMENT**

**Postdoctoral and Graduate Researcher,
Cognitive Engineering Center, Georgia Tech 2012-2017**

Designed decision support systems and modeled judgment and decision making processes of military command and control in degraded and denied information environments using computational, mathematical, and human subjects studies.

Awards: Best Poster Award at Max Planck Institute for Human Development Summer Institute on Bounded Rationality (2016), Colonel Leslie Callahan Memorial Fellowship (2015), National Science Foundation Graduate Research Fellowship (2013), National Defense Science and Engineering Graduate Fellowship (2013), Goizueta Foundation Fellowship (2012 & 2014)

**Lead Mechanical Engineer,
Mizzou "Tigergen II" Hydrogen Car Team 2008-2011**

Lead designer and builder of carbon fiber body and steering system for full-size, high-efficiency hydrogen car.

Awards: 1st place for "Perseverance in the Face of Adversity" (2010) & 1st place for Urban Concept Fuel Cell Division w/ 490 mpg-equivalent (2011) at Shell Eco-Marathon Americas, Houston, TX.

GRANTS

Proactive Decision Support through Information Modification 2016

3-year Research Grant, Command Decision Making Program, Code 34, Office of Naval Research (with Karen Feigh, Ph.D.)

WRITING

Law Publications

* [in prep] *A Love Letter from Cognitive Engineers to the Robot Lawyers* (with Matthew J. Miller, Yosef S. Razin, and Rachel A. Haga).

Law Conference Publications

1. *Framing Human-Automation Governance: A New Modus Operandi from Cognitive Engineering*
WeRobot 2017, New Haven, CT, USA (April 1, 2017) (with Matthew J. Miller, Yosef S. Razin, Rachel A. Haga, Dev Minotra, and Raunak Bhat-tacharyya).

Scientific Publications in Peer-Reviewed Journals

- * [in prep] *A General Linear Model of Judgment and Decision Making*
Marc C. Canellas and Karen M. Feigh, *Psychological Review*.
- * [in prep] *The Reality Gap: What makes distributions of incomplete information difficult for decision makers?*
Marc C. Canellas, William Sealy, and Karen M. Feigh, *Decision*.
- 4. *Heuristic Information Acquisition and Restriction for Decision Support*
Marc C. Canellas and Karen M. Feigh, *IEEE Transactions on Human-Machine Systems*, vol. 47, 2017, pp. 939-950.
- 3. *Toward Simple Representative Mathematical Models of Naturalistic Decision Making through Fast-and-Frugal Heuristics*
Marc C. Canellas and Karen M. Feigh, *Journal of Cognitive Engineering and Decision Making*, vol. 10, 2016, pp. 255-267.
- 2. *Lost in translation: Building a common language for regulating autonomous weapons*
Marc C. Canellas and Rachel A. Haga, *IEEE Technology and Society Magazine*, vol. 35, 2016, pp. 50-58.
- 1. *Accuracy and Effort of Decision-Making Strategies With Incomplete Information: Implications for Decision Support System Design*
Marc C. Canellas, Karen M. Feigh, and Zarrin K. Chua, *IEEE Transactions on Human-Machine Systems*, vol. 45, Dec. 2015, pp. 686-701.

Scientific Publications in Peer-Reviewed Conferences

- 3. *Toward Meaningful Human Control of Autonomous Weapons Systems through Function Allocation*
Marc C. Canellas and Rachel A. Haga, *IEEE International Symposium on Technology and Society (ISTAS 2015)*, 2015.
- 2. *Heuristic decision making with incomplete information: Conditions for ecological rationality*
Marc C. Canellas and Karen M. Feigh, *IEEE International Conference on Systems, Man and Cybernetics (SMC)*, 2014, pp. 1963-1970.
- 1. *Accuracy and effort of decision making strategies with incomplete information*
Marc C. Canellas, Karen M. Feigh, and Zarrin K. Chua, *IEEE International Inter-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA)*, 2014, pp. 7-13.

Reports

- 1. *Artificial Intelligence Research, Development and Regulation*
IEEE-USA Position Statement (February 10, 2017) (with Ad-Hoc Artificial Intelligence Policy Committee, IEEE-USA)
- 9. *Framing Human-Automation Governance: A New Modus Operandi from Cognitive Engineering*
WeRobot 2017, New Haven, CT, USA (April 1, 2017) (with Matthew J. Miller, Yosef S. Razin, Rachel A. Haga, Dev Minotra, and Raunak Bhat-tacharyya).

ACADEMIC PRESENTATIONS

8. *Mathematical Representations of Human Judgment and Decision Making in Military Contexts*
Military Operations Research Society Emerging Techniques Special Meeting (MORS METSM), Washington, D.C. (December 2016) (with Karen M. Feigh and Rachel A. Haga).
7. *A General Linear Model of Fast-and-Frugal Judgment and Decision Making*
Summer Institute on Bounded Rationality, Max Planck Institute for Human Development, Berlin, Germany (July 2016).
6. *Toward Meaningful Human Control of Autonomous Weapons Systems through Function Allocation*
IEEE International Symposium on Technology and Society (IEEE ISTAS 2015), Dublin, Ireland (November 2015) (with Rachel A. Haga).
5. *Heuristic Decision Making with Incomplete Information: Conditions for Ecological Rationality*
IEEE Systems, Man, and Cybernetics International Conference 2014 (IEEE SMC 2014), San Diego, CA (November 2015) (with Karen M. Feigh).
4. *Accuracy and Effort of Decision Making with Incomplete Information*
IEEE International Inter-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support (IEEE CogSIMA 2014), San Antonio, TX (March 2014) (with Karen M. Feigh and Zarrin K. Chua).
3. *Accuracy and Effort of Dynamic Decision Making with Incomplete Information*
Brown Bag Lunch Lecture Series, Georgia Tech School of Aerospace Engineering, Atlanta, GA (October 2013).
2. *Review and Development of Planetocentric Reference Frames to Model the Flyby Anomaly*
McNair Scholars Conference, Columbia, MO (April 2012) (with Sergei Kopeikin).
1. *At Wheel Stop: A Review of the U.S. Human Space Exploration Policy*
Review of the 2011 Washington Internships for Students of Engineering (WISE) Program, Washington, D.C., (August 2011).

INVITED TALKS

3. *The necessary and sufficient conditions for graduate school success*, 2016 FOCUS Program Dinner, Georgia Institute of Technology, Atlanta, GA (2016)
2. *Building your morals*, 2014 Show-Me Scholars Luncheon, University of Missouri, Columbia, MO (2014)
1. *Mastering the fellowships game*, MU Excels 2012, University of Missouri, Columbia, MO (2012)

PROFESSIONAL ASSOCIATION MEMBERSHIP

- Member, American Bar Association (2015-present)
- Member, Institute for Electrical and Electronics Engineers (2014-present)
- Member, Human Factors and Ergonomics Society (2017-2018)
- Member, Society for Judgment and Decision Making (2016-2018)
- Member, American Association for the Advancement of Science (2013-2018)

**PROFESSIONAL
ACTIVITIES**

- At-Large/Voting Member, Artificial Intelligence and Autonomous Systems Policy Committee, IEEE-USA (2018-present)
- Committee Member, Ad-Hoc Artificial Intelligence Policy Committee, IEEE-USA (2016-2018)
- Committee Member, Standard P7000 Model Process for Addressing Ethical Concerns During System Design, IEEE Standards Association (2016-2017)

SERVICE

- Panelist, Georgia Tech Focus Program (2013-2016)
- Alumni Mentor, University of Missouri Engineering Alumni Mentorship Program (2013-2015)
- Workshop Leader, GoSTEM Latino College and STEM Fair (2012-2015)
- Volunteer, Rainbow House Children's Emergency Shelter (2011-2012)
- Mentor, Minority Achievement Committee (MAC) Scholars Summer Academy (2010)
- Assistant, NSF GK-12 LEGO ROBOTICS Engineering Enrichment Program (2009)