

# Ian T. Ruginski

## Curriculum Vitae

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Dept. of Geography, University of Zürich  
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cv last updated: feb 2020

### Education

- 2019–2020 **Postdoctoral Fellow**, *University of Zürich, Switzerland.*  
Digital Society Initiative Fellow, Geographic Information Visualization and Analysis  
Dept. of Geography, PI: Dr. Sara Irina Fabrikant
- 2018–2019 **Postdoctoral Fellow**, *University of Utah, Salt Lake City, UT.*  
Depts. of Anthropology & Psychology, PI: Dr. Elizabeth Cashdan
- 2013–2018 **M.S., Ph.D, Psychology**, *University of Utah, Salt Lake City, UT.*  
Cognition and Neural Science, Advisors: Dr. Sarah Creem-Regehr & Dr. Jeanine Stefanucci
- 2009–2013 **B.A., Cognitive Science and Religious Studies**, *Vassar College, NY.*

### Research Interests

- areas Spatial cognition, navigation, visualization, HCI, emotion
- approaches Individual differences, dynamical systems, evolutionary, interdisciplinary
- methods Behavioral, physiological, emotion manipulation, virtual reality, questionnaire

### Funding, Fellowships, & Honors

- fall 2018 **Postdoctoral Scholar Travel Award**, *University of Utah, \$1000.*
- 2017-2018 **Departmental Teaching Commendation**, *University of Utah.*
- fall 2017 **Psychology Department Travel Award**, *University of Utah, \$1000.*
- summer 2017 **Summer Fellow for Data Science**, *Sorenson Impact Center, University of Utah.*
- 2016-2017 **Departmental Teaching Commendation**, *University of Utah.*
- spring 2017 **First Place, College of Social and Behavioral Sciences Student Research Day**, *University of Utah, \$250.*
- spring 2017 **Pilot Grant co-author**, *Army Research Lab and University of Utah, \$40,000.*
- 2014-2015 **Graduate School Travel Awards**, *University of Utah, \$1600.*
- spring 2014 **Letter of Recognition for Teaching Excellence**, *University of Utah.*
- fall 2014 **Clayton Scholars Fellowship**, *University of Utah, \$6,000.*
- fall 2012 **Albert W. Cretella, Jr. 1st-generation college student scholarship**, *Vassar College, \$60,000.*

## Publications

- 2019 Padilla, L.M., Castro, S., Quinan, S.P., **Ruginski, I.T.**, & Creem-Regehr, S.H. Toward Objective Evaluation of Working Memory in Visualizations: A Comparison of Pupillometry and Dual-Task Paradigm Measurements. *IEEE Transactions on Visualizations and Computer Graphics*, 26(1), 332-342.
- 2019 **Ruginski, I.T.**, Creem-Regehr, S.H., Stefanucci, J.K. & Cashdan, E. GPS use negatively affects environmental learning through spatial transformation abilities. *Journal of Environmental Psychology*, 64, 12-20.
- 2018 **Ruginski, I.T.**, Thomas, B.J., Geuss, M.N., & Stefanucci, J.K. Anxiety Influences the Perceptual-Motor Calibration of Visually-Guided Braking to Avoid Collisions. *Journal of Motor Behavior*, 51(3), 302-317. DOI: <https://doi.org/10.1080/00222895.2018.1474335>
- 2018 **Ruginski, I.T.**, Stefanucci, J.K., & Creem-Regehr, S.H. State Anxiety Influences Sex Differences in Spatial Learning. In *German Conference on Spatial Cognition*, pp. 244-257. Springer, Cham, 2018.
- 2017 Padilla, L.M., **Ruginski, I.T.**, & Creem-Regehr, S.H. Effects of Ensemble and Summary Displays on Interpretations of Geospatial Ensemble Data. *Cognitive Research: Principles and Implications*, 2(40).
- 2017 Liu, L., Boone, A.P., **Ruginski, I.T.**, Padilla, L.M., Hegarty, M., Creem-Regehr, S.H., Thompson, W.B., Yuskel, C., & House, D.H. Uncertainty Visualization by Representative Sampling from Prediction Ensembles. *IEEE Transactions on Visualization and Computer Graphics*, 23(9), 2165-2178
- 2016 **Ruginski, I.T.**, Boone, A.P., Padilla, L.P., Kramer, H.S., Hegarty, M., Thompson, W.B., House, D.H., & Creem-Regehr, S.H. Non-expert interpretations of hurricane forecast uncertainty visualizations. *Spatial Cognition and Computation*, 16(2). Special Issue on Visually-Supported Spatial Reasoning with Uncertainty, 154-172.
- 2015 Padilla, L.M., Hansen, G., **Ruginski, I.T.**, Kramer, H.S., Thompson, W.B., & Creem-Regehr, S.H. (2015). The influence of different graphical displays on non-expert decision making under uncertainty. *Journal of Experimental Psychology: Applied*, 21(1), 37-46.

## In Preparation

- submitted Cashdan, E., Gagnon, K.T., Stefanucci, J.K., **Ruginski, I.T.**, Butner, J., & Creem-Regehr, S.H. Why males and females navigate differently: Risk-taking, harm-avoidance, and sex differences in range size.
- in prep **Ruginski, I.T.**, Creem-Regehr, S.H., Davis, H.E., Barhorst, E., Stefanucci, J.K., Vashro, L., Sugiyama, L., & Cashdan, E. The MRT-X, a cross-culturally applicable mental rotation test: Six samples across Africa, South America, and the US throughout the lifespan.
- in prep **Ruginski, I.T.**, Creem-Regehr, S.H., Giudice, N., & Ishikawa, T. Geographic information, human-computer interaction, and navigation: Mobile spatial navigation aids from an interdisciplinary perspective. *Spatial Cognition and Computation*. Special Issue on Geographic Information, Human-Computer Interaction, and Navigation.

in prep Korporaal, M., **Ruginski, I.T.**, & Fabrikant, S.I. Effects of uncertainty visualization on decision making with map-based geospatial data under time pressure. *Frontiers in Computer Science: Human-Media Interaction*. Special Issue on Uncertainty Visualization.

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## Conference Presentations

### Talks

- 2020 **Ruginski, I.T.**, Cheng, B., Kapaj, A., Lanini-Maggi, S., & Fabrikant, S.I. (2020, March). How do we get there? Adaptive and effective design of mobile navigation assistance devices. Invited talk presented at University of Zurich Digital Society Initiative. Zürich, Switzerland.
- 2019 Cashdan, E., Crittenden, A., Davis, H.E., **Ruginski, I.T.**, Sugiyama, L., & Vashro, L. (2019, May). Sex Differences in Harm Avoidance among Hunter-gatherers and Forager-horticulturalists. Talk presented at Human Behavior and Evolution Society Annual Meeting. Boston, MA.
- 2019 Cashdan, E., Davis, H.E., **Ruginski, I.T.**, Sugiyama, L., Vashro, L., & Wood, B. (2019, March). Environmental Influences on Spatial Behavior and Spatial Reasoning in Humans: Cross-Cultural Comparisons from Traditional Societies. Talk presented at International Convention of Psychological Science. Paris, France.
- 2018 **Ruginski, I.T.**, Stefanucci, J.K., & Creem-Regehr, S.H. (2018, September). State Anxiety Influences Sex Differences in Spatial Learning. Talk presented at Spatial Cognition Annual Meeting. Tübingen, Germany.
- 2017 Padilla, L.M., **Ruginski, I.T.**, Creem-Regehr, S.H., Liu, L., & House, D.H. (2017, November). Exploring Decision Biases with Ensemble Display Visualizations. Talk presented at Object Perception, Attention, and Memory. Vancouver, B.C.
- 2017 **Ruginski, I.T.**, Barhorst-Cates, E., Cashdan, E.A., Stefanucci, J.K., & Creem-Regehr, S.H. (2017, April). Mobility for Spatial Cognition and Navigation: Developing and validating a self-report scale to characterize travel motivations. Annual Meeting of the Rocky Mountain Psychological Association. Salt Lake City, UT
- 2015 **Ruginski, I.T.**, Stefanucci, J.K., & Creem-Regehr, S.H. (2015, November). The effect of anxiety on gender differences in survey spatial learning. Annual Meeting of the Psychonomic Society. Chicago, IL.
- 2015 **Ruginski, I.T.**, Boone, A.P., Padilla, L.P., Heydari, N., Kramer, H., Hegarty, M., Thompson, W.B., House, D.H., & Creem-Regehr, S.H. (2015, April). Non-expert interpretations of hurricane forecast uncertainty visualizations. Annual Meeting of the Rocky Mountain Psychological Association. Boise, Idaho.

### Posters

- 2019 Kunz, A., **Ruginski, I.T.**, & Rand, K. (2019, April). GPS Reliance and its Effect on Working Memory and Spatial Ability. Poster presented at College of Social and Behavioral Sciences Student Research Day, University of Utah. Salt Lake City, UT.
- 2018 Padilla, L.M., Castro, S., **Ruginski, I.T.**, Quinan, S.P., & Creem-Regehr, S.H. (2018, October). Evaluating Working Memory Demands in Visualization Decision Making. Poster presented at Spatial Cognition Annual Meeting. Tübingen, Germany.

- 2018 Gill, D.M., **Ruginski, I.T.**, Thomas, B.J., & Stefanucci, J.K. Leader-follower Dynamics, Agency, and Anxiety in Joint Action Braking: A first-order dynamical systems model. Poster to be presented at Cognitive Science Society Annual Meeting. Madison, WI.
- 2018 Gill, D.M., **Ruginski, I.T.**, Butner, J., Geuss, M.N., Stefanucci, J.K., & Creem-Regehr, S.H. (2018, April). Investigating Insight Generation and Decision Making with Visualizations in Real and Virtual Environments. Poster presented at American Psychological Association's conference on Technology, Mind, & Society. Washington D.C.
- 2017 **Ruginski, I.T.**, Barhorst-Cates, E., Cashdan, E.A., Creem-Regehr, S.H., & Stefanucci, J.K. (2017, November). Mobility for Spatial Cognition and Navigation: Developing and validating a self-report scale to characterize travel patterns. Poster presented at Psychonomic Society Annual Meeting. Vancouver, B.C.
- 2017 Padilla, L.M., **Ruginski, I.T.**, Creem-Regehr, S.H., Liu, L., House, D.H., & Thompson, W.B. (2017, November). Exploring Decision Biases with Ensemble Display Visualizations. Poster presented at Psychonomic Society Annual Meeting. Vancouver, B.C.
- 2017 Raj, M., **Ruginski, I.T.**, Kirby, R.M., & Whitaker, R.T. (2017, September). Summarizing and Visualizing Graph Ensembles with Rank Statistics and Boxplots. Poster presented at 25th International Symposium on Graph Drawing and Network Visualization. Boston, MA
- 2017 Thomas, B.J., Geuss, M.N., **Ruginski, I.T.**, & Stefanucci, J.K. (2017, May). Braking Bad: Arousal influences the visual guidance of braking. Poster presented at Vision Sciences Society Annual Meeting. St. Petersburg, FL.
- 2017 Stefanucci, J.K., Creem-Regehr, S.H., Cashdan, E.A., Barhorst-Cates, E., Gagnon, K., **Ruginski, I.T.**, Padilla, L., & Vashro, L. (2017, March). Mobility contributes to sex differences in spatial cognition and navigation. Poster presented at International Convention of Psychological Science. Vienna, Austria.
- 2016 **Ruginski, I.T.**, Gill, D.M., Padilla, L.M., Stefanucci, J.K., & Cashdan, E. (2016, August). The effect of sex and parenthood on perceived distances to objects. Poster presented at Annual Meeting of the Psychonomic Society. Boston, MA.
- 2016 Padilla, L.M., **Ruginski, I.T.**, & Creem-Regehr, S. (2016, August). Interpretations of ensemble versus summary displays of uncertainty in hurricane forecasts: size and intensity judgments. Poster presented at Spatial Cognition. Philadelphia, PA.
- 2015 Geuss, M.G., **Ruginski, I.T.**, & Stefanucci, J.K. (2015, September). Anxiety alters visual guidance of braking over time. Poster presented at Driving Simulation Conference Europe. Tübingen, Germany.
- 2015 **Ruginski, I.T.**, Boone, A.P., Padilla, L.P., Hegarty, M., Thompson, W.B., House, D.H., & Creem-Regehr, S.H. (2015, July). Understanding the Cone of Uncertainty: Non-expert interpretations of hurricane forecast uncertainty visualizations. Poster presented at Annual Meeting of the Cognitive Science Society. Pasadena, CA.

- 2014 **Ruginski, I.T.**, Geuss, M.G., & Stefanucci, J.K. (2014, November). Braking bad: differences in the visual guidance of braking behavior when anxious. Poster presented at Annual Meeting of the Psychonomic Society. Long Beach, CA.

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## Additional Research Experience

- 2012 **Research Assistant**, *Brown University*, Providence, RI.  
Department of Cognitive, Linguistic, and Psychological Sciences  
Virtual Environment and Navigation Research Laboratory (VENLab)  
Principal Investigator: Dr. William Warren.

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## Teaching Experience

- spring 2020 **Primary Instructor**, *University of Zürich*, Department of Geography.  
GEO 199: Small Group Teaching
- fall 2017 **Teaching Assistant**, *University of Utah*, Department of Psychology.  
PSY 65150: Structural Equation Modeling  
Primary Instructor: Dr. Jonathan Butner
- summer **Statistical Consultant**, *University of Utah*, Department of Psychology.  
2017-spring Graduate Statistics Consultant  
2018 Primary Instructors: Dr. Jonathan Butner, Dr. Brian Baucom, Dr. Pascal Deboeck
- spring 2017 **Teaching Assistant**, *University of Utah*, Department of Psychology.  
PSY 6510: Graduate Quantitative Methods II  
Primary Instructor: Dr. Pascal Deboeck
- fall 2016 **Teaching Assistant**, *University of Utah*, Department of Psychology.  
PSY 6500: Graduate Quantitative Methods I  
Primary Instructor: Dr. Jonathan Zadra
- spring 2014 **Teaching Assistant**, *University of Utah*, Department of Psychology.  
PSY 3150: Sensation & Perception  
Primary Instructor: Dr. Jeanine Stefanucci
- spring 2014 **Research Assistant**, *University of Utah*, Departments of Management, Economics, Philosophy, & Psychology.  
2nd-gen Cognitive Science course development  
Principle Investigators: Dr. Bill Schulze & Dr. Russell McBride

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## Skills

statistics	MLM, SEM, Time-series	software	R, SPSS, basic Python, SQL
front end	HTML, CSS	general	Git, Markdown, LaTeX
virtual reality	Unity, Vizard, Oculus	stimuli	Qualtrics, E-Prime

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## Affiliations

### International Cartographic Association

Member, Commission on Cognitive Issues in Geographic Information Visualization

### American Psychological Association

Executive Board Student Rep., Division of Applied and Engineering Psychology (2015 to 2018)

## Psychonomic Society

Member

## Cognitive Science Society

Member

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## Service

- 2020 **Guest Editor.**  
Spatial Cognition & Computation, Special Issue on Geographic Information, Human-Computer Interaction, and Navigation
- 2015-present **Ad-hoc Reviewer.**  
Journal of Experimental Psychology: General, Psychological Research, IEEE: Transactions on Visualization and Computer Graphics, Journal of Experimental Psychology: Human Perception and Performance, Journal of Environmental Psychology, Weather, Climate, and Society
- 2014-2019 **Student Mentor**, *Academy for Math, Engineering, & Science*, Salt Lake City, UT.  
Acted as a mentor for Utah high school students in preparing psychology focused science projects. Mentee Vy Ho awarded \$500 STEM Action Center Student Grant and received first place at Local Charter High School Science Fair.
- 2015-2016 **Student Rep.**, *Professional Issues and Ethics Committee*, University of Utah.  
Nominated by student peers and acted as the Cognition and Neural Science area student representative. Relayed graduate student concerns related to professional issues anonymously to the CNS area head and chairs of the PIE committee.
- 2014-2015 **Committee Member**, *Diversity Committee*, University of Utah.  
Promoting the teaching and understanding of diversity, providing expertise for and promoting research that seeks to understand the meaning of diversity of particular phenomenon across cultural groups, served as a support system for minority and underrepresented students and faculty in the psychology department at the University of Utah.
- 2013 **Student Rep.**, *Psychology Student Advisory Committee*, University of Utah.  
Mentored undergraduates about the value of research in the field of psychology, the type of research specific to the VPSC lab, and how to become more closely involved in research as an undergraduate.
- 2012-2013 **Student Representative**, *Student Athletic Advisory Committee*, Vassar College.  
A committee of Vassar Athletes working with administration to make decisions about funding, events, and athlete/coaching needs in the Athletics Department
- 2011-2013 **Peer Advisor**, *Peer Advising Program*, Vassar College.  
Acted as an academic mentor for underclassmen in Cognitive Science, Psychology, and Religious Studies Majors at Vassar College.
- 2011-2013 **Student Member**, *Cognitive Science of Religion Research Group*, Vassar College.  
Helped develop new and innovative research ideas utilizing cognitive science and psychology to study religious beliefs and experiences.
- 2010-2011 **Student Fellow**, *Office of Residential Life*, Vassar College.  
Trained to provide social, academic, and personal guidance to a group of First-year students living together in a residential dormitory. Similar role to a resident assistant (RA) in a University setting.

2009-2013 **Team Captain**, *Men's Rugby Club*, Vassar College.  
Gained valuable time management, leadership, and teamwork skills. Helped lead team to #17 National Ranking in Men's Collegiate Division II Rugby. Appointed Team Captain for 2012-2013 seasons by coaches and teammates.

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## Advising

current **Main advisor**, *Fabian Kuster, Masters Thesis*, University of Zürich.  
current **Advisor & Committee Member**, *Bingjie Cheng, Dissertation*, University of Zürich.  
2018-2019 **Main advisor**, *Alexis Kunz, Undergraduate Honors Thesis*, University of Utah.

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## Press

- 2017 University of Utah, Interpreting hurricane forecast displays is difficult for general public. [Press release]. Retrieved from <https://unews.utah.edu/interpreting-hurricane-forecastdisplays-is-difficult-for-general-public/>
- 2017 Watts, A., Claim: general public can't read hurricane forecast tracks. Retrieved from <https://wattsupwiththat.com/2017/10/06/claim-general-public-cant-read-hurricane-forecast-tracks/>
- 2017 Lewandowsky, S., Preparing for Nate and Ophelia: how people process hurricane forecasts. Retrieved from <https://featuredcontent.psychonomic.org/preparing-for-nate-and-ophelia-howpeople-process-hurricane-forecasts/>
- 2017 Bartels, M., Hurricane Nate: no one knows how to read hurricane forecasts - here's why. Retrieved from <http://www.newsweek.com/hurricane-forecasts-can-be-confusing-hereswhy-680119>

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## References

**Dr. Sarah Creem-Regehr**, *University of Utah*, Department of Psychology.  
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**Dr. Jeanine Stefanucci**, *University of Utah*, Department of Psychology.  
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<https://visualizegeo.info/>

**Dr. Elizabeth Cashdan**, *University of Utah*, Department of Anthropology.  
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