S. Curtis McGinity, Curriculum Vitae

CONTACT

Management Science & Information Systems
Rutgers Business School
Rutgers, The State University of New Jersey
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CURRENT POSITIONS

Doctoral Candidate, Operations Research
RUTCOR, Rutgers University, Piscataway, NJ

Lecturer, at the rank of Instructor
MSIS, Rutgers Business School, New Brunswick, NJ

Research Assistant
CCICADA/DIMACS, Rutgers University, Piscataway, NJ

RESEARCH INTERESTS

Optimal learning;
Dynamic risk models, risk in sequential decision-making under uncertainty; statistical inference and machine learning; Appx. dynamic programming (ADP) for Bayesian belief states;
Applications in data analytics, experimental design, and *Health* (esp. Clinical trials, pharmacokinetics/dynamics, systems Biology, healthcare mgt., wellness and sport)

EDUCATION

Rutgers University, New Brunswick, NJ
RUTCOR, Rutgers Center for Operations Research

Ph.D. in Operations Research *Expected Summer 2016*
Advisor: Professor Andrzej Ruszczyński
Thesis: *Dynamic risk measures for optimal learning in stochastic optimization, with applications to optimal clinical trial design*
Supported by a RUTCOR Excellence Fellowship ('10-'13)

Tulane University, New Orleans, LA

B.S. in Mathematics, Physics & Economics, *summa cum laude*, *Aug. 2010*
with Minor in Philosophy and distinction in Mathematics and Physics
Advisor: Professor Emeritus Steven Rosencrans
Honor's Thesis: *Recovering Thermal Tensor Eigenvalues from Temperature Measurements in the 2D Anisotropic Heat Equation*
Tulane 34 Award (university-wide, "distinguishing leadership, service, and academic excellence")

ARTICLES IN PREPARATION

C. McGinity, D. Dentcheva, A. Ruszczyński,
Risk-Averse Optimal Learning for Clinical Trial Design, *(in preparation).*

C. McGinity, D. Dentcheva, A. Ruszczyński,
Risk-Averse Approximate Dynamic Programming for Optimal Learning with Logistic Likelihood Models, *(in preparation).*

J. Lee, C. McGinity, J. Kim,
Binomial moments and Boolean Bounding of Functions in Random Variables with Applications to Oncology Clinical Trials, *(in preparation).*

Peer-reviewed Publications

B. Nakamura, E. Boros, P. Kantor, C. McGinity, C. Nelson, M. Oster, B. Ricks, F. Roberts, W. Yao, P. Ball, C. Conrad, T. Rader, K. Hanson
Optimal US Coast Guard Boat Allocations with Sharing. *Proceedings of the 2015 Industrial and Systems Engineering Research Conference*, May, 2015
⋆ Recipient of ISERC 2015 *Best Paper Award* (Homeland Security Track)

C. McGinity, E. Boros, F. Roberts, P. Kantor, C. Nelson, B. Nakamura, B. Ricks, P. Ball, C. Conrad, K. Hanson, T. Rader
The ACCAM model: Simulating Aviation Mission Readiness for U.S. Coast Guard Stations. *Proceedings of the 2015 IEEE International Conference on Technologies for Homeland Security*, April, 2015

E. Boros, F. Roberts, J. Rubio, P. Kantor, C. McGinity, C. Nelson, B. Nakamura, B. Ricks, P. Ball, C. Conrad, K. Hanson, T. Rader
ACCAM Global Optimization Model for USCG Aviation Air Stations. *Proceedings of the 2014 Industrial and Systems Engineering Research Conference*, May, 2014

Teaching Experience

Rutgers University, New Brunswick, New Jersey
Business Analytics and Information Technology, MSIS, Rutgers Business School

Instructor
- Management Information Systems — *Fall 2014 - present*
  ⋆ *Most Outstanding Professor* Award in MSIS, Spring 2015
- Large-scale Business Data Analytics — *expected Spring 2015*

Teaching Assistant
- Operations Management — *Fall 2013 - Spring 2014*

Selected Professional Experience

Co-founder and Chief Data Scientist — *Oct. 2012 - Jan. 2014*
neXcar (now SheTaxis), New York City, NY
- iOS App for servicing black car rides in NYC
- Emphasis on data analytics and optimization of car service operations and user experience

Analytics Developer — *Sept. 2012 - Aug. 2013*
EndeavorUp, New York City, NY
"Endeavor is a online platform connecting students and employers with the perfect professional match."
- Early hire (4^{th} in company)
- Built dynamic survey and classification system
- Designed core functionalities; designed and developed data analytics for monetization

Operations Research Intern — *May 2011 - Aug. 2012*
U.S. Department of Defense, Washington, DC
- Developed novel algorithms for large graph analytics
- TS/SCI Clearance, full-scope (expired 2014)
- References available upon request

Engineering Intern — *May 2007 - Aug. 2007*
Halliburton, Lafayette, LA
- Co-authored database management software in MS Access to generate financial reports subject to user-input categories

Presentations

INFORMS Optimization Society Conference, March 2016, Princeton, NJ
Risk-averse Approximate Dynamic Programming for Optimal Learning

4^{th} Rutgers Applied Probability Conf., Analytic Methods in Health Care and Clinical Trials, October 2015, Piscataway, NJ
Risk-averse Optimal Learning for Clinical Trial Dose Escalation

ISMP 2015, Pittsburgh, PA
Methods for Risk-Averse Dynamic Programming in Clinical Trial Design

7^{th} Rutgers-Stevens Workshop on Optimization of Stochastic Systems, May 2015, Piscataway, NJ
Risk-averse optimal learning with applications in clinical trial design

IEEE Conference on Homeland Security Technologies, April 2015
1. The ACCAM Model: Simulating Aviation Mission Readiness for US Coast Guard Stations
2. Experimental Designs for Testing Metal Detectors at Large Sports Stadiums
3. Assessing Performance of Transition Centers with Queuing Theory (on behalf of J. Herrero)

INFORMS 2014, San Fransisco, CA
1. Risk-averse dynamic programming for clinical trial design
2. ACCAM: Simulating the Stochastic Effects of Aviation Readiness for the USCG

CCICADA Research Retreat, Rensselaer Polytechnic Institute, Troy, NY
ACCAM: Simulating the Stochastic Effects of Missions and Maintenance for the USCG

INFORMS 2013, Minneapolis, MN
Aviation Capability and Capacity Assignment Module for the USCG

INFORMS 2010, Austin, TX
Nuclear Shielding in Port-of-Entry Inspection

Awards, Honors & Scholarships

Best Paper Award, Industrial and Systems Engineering Research Conference	*June 2015*
Most Outstanding Professor Award in MSIS, Rutgers Business School	*Apr. 2015*
Dean's Fund Summer Research Award, Rutgers University	*June 2014 - Aug. 2014*
Excellence Fellowship, RUTCOR, Rutgers University	*Aug. 2010 - June 2012*
Tulane 34 Award, Tulane University	*Aug. 2010*
M. H. Rykoski Fellowship in Mathematics, Tulane University	*Aug. 2009 - May 2010*
Dean's Honor Scholarship, Tulane University	*Aug. 2006 - June 2009*
Newcomb-Tulane Dean's Grant, Tulane University	*Apr. 2009*
Barry M. Goldwater Scholarship, Tulane nominee	*Oct. 2008*

Professional Societies

INFORMS, MOS, SIAM

Technical Skills

Programming:
- AMPL, Mathematica, Matlab, Python, R, SQL; basic: C, Java; beginner: Julia

Optimization:
- CPLEX, Gurobi, Xpress MP

Tools & Web:
- Adobe Suite, Beamer, CSS, Evernote, Google Docs, HTML5, LaTeX, Lucidchart, MS Office, Slack, SPSS, Wordpress

Languages

English (native), French

Activities

Avid athlete *Aug. 1987 - present*

- Interested in training mobility, posture, strength, and speed
- Currently training for maximal standing jump (box jump);
  personal record: 4ft 9.8in (1.47m), 5cm from official world record: 5ft 0.in (1.52m)
- Also training in gymnastics, weightlifting, and climbing

Fitness Instructor & Personal Trainer, Rutgers Recreation *Sept. 2012 - present*

- Program and instruct high-intensity interval training (HIIT) classes (2-3 per wk.)
- Design workouts, practice performance leadership, and work with participants on physical and nutritional issues
- TRX suspension training certified

American Cancer Society *ongoing*

- Plan and organize fundraisers to give back to the support system of the ACS
- Establish sponsors, market events, recruit survivors, etc.

Varsity Football, NCAA Division I, Tulane University *Aug. 2006 - Aug. 2009*

References

- Andrzej Ruszczyński (rusz@business.rutgers.edu)
- Endre Boros (endre.boros@rutgers.edu)
- Fred Roberts (froberts@dimacs.rutgers.edu)
- Adi Ben-Israel (adi.benisrael@gmail.com)
- Michael Katehakis (mnk@rci.rutgers.edu)