Eva A. Enns

PhD Candidate
Department of Electrical Engineering
Stanford University

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Education

2012 *PhD, Electrical Engineering* (GPA: 4.0/4.0) — Stanford University
PhD minor, Management Science & Engineering
Dissertation: "Network Models and Infectious Disease Control: Analysis and Insights"
Advisor: Professor Margaret Brandeau

2008 *MS, Electrical Engineering* (GPA: 4.1/4.0) — Stanford University

2006 *BS, Electrical Engineering* (GPA: 5.0/5.0) — Massachusetts Institute of Technology

Awards and Honors

2010 Society for Medical Decision Making Best Short Course Award, 2010 Annual Meeting

2006 National Defense Science and Engineering Graduate Fellowship

2006 National Science Foundation Graduate Fellowship

2006 Stanford Graduate Fellowship (awarded to top 5% of incoming PhD students)

2006 Henry Ford II Award

2005 James E. Cunningham (1957) Memorial Scholar

2005 Tau Beta Pi Member

Research Interests

- Health policy modeling
- Disease transmission network structures and dynamics
- Optimization of policy decisions over networks

Research Experience

2008-present *Research Assistant, Health Policy Modeling Group,* — Stanford University
Develop mathematical models to guide health policy decisions. Past research projects include evaluating the impact of concurrent partnership reduction on the HIV epidemic in sub-Saharan Africa; developing optimal quarantining methods over networks under resource constraints; and evaluating the cost-effectiveness of a supervised consumption site for drug users in Canada.
Advisor: Professor Margaret Brandeau, Department of Management Science & Engineering

2006-2008 *Research Assistant, Magnetic Resonance Systems Research Laboratory,* — Stanford University
Investigated problems of trajectory design and novel image reconstruction methods in magnetic resonance imaging.
Advisor: Professor Dwight Nishimura, Department of Electrical Engineering

2005-2006 *Undergraduate Research Assistant, Laboratory for Electromagnetic and Electronic Systems,* MIT
Analyzed heart rate variability and its characteristics relevant to predicting patient health outcome in the intensive care unit.
Advisor: Professor George Verghese, Department of Electrical Engineering & Computer Science

Teaching Experience

2010-2011 Doctoral Research Seminar in Health Systems Modeling (Instructor), Stanford University

2010-2011 Analysis of Costs, Risks & Benefits of Healthcare (TA), Stanford Graduate School of Business

2010 Rethinking Global Health (TA), Stanford University

2010 Health Policy Modeling (TA), Stanford University

2008-2009 The Fourier Transform and its Applications (TA), Stanford University

2004-2005 Circuits and Electronics (LA), Massachusetts Institute of Technology

Refereed Publications

1. **Enns EA**, Brandeau ML. Inferring model parameters in network-based disease simulation. *Health Care Management Science*, 14(2), 2011.
2. **Enns EA**, Brandeau ML, Igeme T, Bendavid E. Assessing effectiveness and cost-effectiveness of concurrency reduction for HIV prevention. *International Journal of STD & AIDS (in press)*, 2011.
3. Smith-Spangler CM, Juusola JL, **Enns EA**, Owens DK, Garber AM. Population srategies to decrease sodium intake and the burden of cardiovascular disease. *Annals of Internal Medicine*, 8(152), 2010.

Working Papers

1. **Enns EA**, Mounzer JJ, Brandeau ML. Optimal link removal for epidemic mitigation: a two-way partitioning approach. *Under Review*, 2011.
2. **Enns EA**, Bayoumi A, Jairam JA, Zaric GS, et. al. Cost-effectiveness of a supervised consumption site in Toronto, Canada. *Working Paper*, 2011.

Conference Presentations

"Optimal Link Removal for Epidemic Control Over Networks"

- INFORMS Healthcare Conference, Montreal, 2011
- INFORMS Annual Meeting, Austin, 2010

"Sub-population Mixing Effects: Implications for a Toronto Safe Consumption Site"

- INFORMS Annual Meeting, Austin, 2010

"Inferring Model Parameters in Network-Based Disease Simulation"

- INFORMS Annual Meeting, Austin, 2010

"Simulating the Spread of HIV through a Dynamic Sexual Partnership Network"

- INFORMS Annual Meeting, San Diego, 2009

"Policy Analysis of Concurrency Reduction for HIV Prevention"

- INFORMS Annual Meeting, San Diego, 2009
- 31st Annual Meeting of the Society for Medical Decision Making, Hollywood, 2009 (poster)
- 18th International Conference on AIDS, Cancer and Public Health, St. Petersburg, Russia, 2009

Invited Talks

"Network Analysis for Infectious Disease Control," Engineering Systems Research Seminar Series, MIT, 2011

References

Professor Margaret Brandeau
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Stanford University
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Professor Brad Osgood
Department of Electrical Engineering
Stanford University
osgood@stanford.edu, (650) 723-4002

Professor Douglas Owens
Center for Health Policy
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Professor Eran Bendavid
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