Announcing the Final Examination of Carlos Kavetsky for the degree of Master of Science

Time & Location: July 7, 2017 at 1:30 PM in Partnership II 301
Title: An Integrative Framework for the Quantitative Application of Foreign Policy: 1967 Arab-Israeli Six-Day War: Testing Policy Choices And Predicting Outcomes

Political science uses international relations (IR) theory to explain state actor political behavior. Research suggests that this theoretical framework can inform a predictive model incorporating features of systems dynamics (SD) and agent based (AB) modeling. The Foreign Policy Simulation (ForPolâ€“Sim) herein applies Alexander Y. Lubyanskyâ€™s SD model for macro-political behavior to represent behaviors between real systems and mental models. ForPolâ€“Sim also incorporates an AB paradigm drawn from work by Claudio Cioffi-Revilla, Edward P. MacKerrow, David L. Rousseau, Joshua M. Epstein, and Robert Axtell. While verifying and validating the resulting SD/AB/IR holistic model requires an extensive comprehensive research agenda, the present work will articulate the components of the model and take a closer examination of the SD portion. The model also applies Vensim software within the SD approach, for the modeling of macro-political aggregate behavior. However, the deep analysis of the Vensim SD portion of ForPolâ€“Sim is developed and tested in NetLogo, using data from the 1967 Arabâ€“Israeli Six Day War as a pilot. Interactions within the model actualize aspects of Cioffiâ€“Revillaâ€™s Theory of Political Uncertainty (1998), which accounts for the uncertainty of political behavior and event causality. Following discussion of the results, the present work closes with consideration of future research directions.

Major: Modeling and Simulation

Educational Career:
Bachelor's of Psychology, BA, 1997, University of Puerto Rico
Master's of International Relations, MA, 2009, Webster University

Committee in Charge:
Patricia Bockelman Morrow, Chair, Institute of Simulation and Training
Rudolf Paul Wiegand, Co-Chair, IST Computer Science
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Approved for distribution by Patricia Bockelman Morrow, Committee Chair, on May 5, 2017.

The public is welcome to attend.