ALLISON OLDHAM LUEDTKE — Assistant Professor of Economics

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Citizenship: United States

POSITIONS:

Saint Michael's College, Assistant Professor of Economics — August 2018 – Present

EDUCATION:

Ph.D., The University of Virginia — May 2018
M.A. Economics, The University of Virginia — January 2015
B.A. Mathematics, *Summa Cum Laude, Phi Beta Kappa,* The College of William and Mary — May 2013

DISSERTATION:

Title: Endogenous Network Formation: Theory and Application
Main Advisor: Eric Young
Other Advisors: Peter Troyan, Maxim Engers

FIELDS OF INTEREST:

Network Economics, Mathematical Economics, and Macroeconomics

PUBLICATIONS AND WORKING PAPERS:

"Fortifying the Banks" — Working Paper
With Eric Young

In this paper we study the costs associated with government guarantees in a network model of banking. We characterize a minimal set of banks such that every bank has a neighbor - defined using directed edges - in this set; we call this set a fortification. The government is permitted to transfer resources only to elements of the fortification, similar to historical rules governing deposit insurance. We explore what features of the network lead to small or large fortifications, as well as more costly or less costly fortifications and find that networks that are highly connected but are not concentrated around a few popular lenders are the easiest to fortify successfully.

"Volatile Financial Networks: — Working Paper
How Small Changes in the Network of Interbank Lending Lead to Big Changes in Financial Stability"

Since 2008, economists have used the network of bank-to-bank lending to understand and prevent another financial crisis. In this paper, I analyze the effect a single loan in this network can have on increasing or decreasing financial stability. I find that the addition or removal of a single loan can lead to an increase of an order of magnitude in unpaid loans and bank collapses. Because networks are inherently discontinuous objects, missing a single link in this network can mean predicting economic stability when disaster is imminent and vice versa.

"Endogenous Network Formation: Theory and Application" — Under review at the Journal of Public Economic Theory

Economic networks have become a useful modeling tool. However, most of the current literature on economic networks takes the networks themselves as given. This paper presents a model of endogenous network formation which features a new definition of an equilibrium network. Individual economic agents choose to form relationships with one another, thereby forming the links of a network. I describe an application of this model to the context of firms choosing input suppliers, forming a production network and I analyze the outcome of a single firm losing its equilibrium input supplier. I show that when one of these firms loses its input supplier, aggregate output may actually increase. Simulations of the model indicate that this increase in output is more likely when (1) the firm that loses its supplier has fewer customers prior to losing its supplier and more customers after losing its supplier and (2) the production network as a whole is less interconnected prior to the input removal and more interconnected after the input removal. In the absence

of this endogenous network formation, the answers to some economic questions may not only be quantitatively incorrect but qualitatively incorrect.

"Optimal Open-Locating Dominating Sets in Infinite Triangular Grids" *Discrete Applied Mathematics (2015)*
As "Allison Oldham," with Rex Kincaid and Gexin Yu Vol. 193 p.139-144

An open-locating-dominating set (OLD-set) is a subset of vertices of a graph such that every vertex in the graph has at least one neighbor in the set and no two vertices in the graph have the same set of neighbors in the set. This is an analogue to the well-studied identifying code in the literature. In this paper, we prove that the optimal density of the OLD-set for the infinite triangular grid is 4/13.

"An Experimental Study of Jury Voting Behavior" *The Political Economy of Governance*
As "Allison Oldham," with Charles Holt, Katri Sieberg, and Lisa Anderson Editors: N. Schofield and G. Caballero

This chapter uses experimental analysis to test the Feddersen and Pesendorfer (American Political Science Review 92(1):23–35, 1998) theoretical results regarding the Condorcet jury theorem. Under the assumption that jurors will vote strategically (rather than sincerely based on private information), Feddersen and Pesendorfer derive the surprising conclusion that a unanimity rule makes the conviction of innocent defendants more likely, as compared with majority rule voting. Previous experimental work largely supported these theoretical predictions regarding strategic individual behavior, but failed to find support for the conclusions about the relative merits of unanimity and majority rule procedures in terms of group decisions. We extend this literature with an experiment in which the cost of convicting an innocent defendant is specified to be more severe than the cost of acquitting a guilty defendant. This payoff asymmetry results in a higher threshold of reasonable doubt than the 0.5 level used in earlier studies. We find very little evidence of the strategic voting predicted by theory (even for our asymmetric payoff structure) and no difference between the use of unanimity and majority rules. Overall, it was very difficult for the juries in our experiment to achieve a conviction, and no incorrect convictions occurred. Our experimental results suggest that the standard risk neutrality assumption can lead to misleading conclusions. We argue that a high cost associated with convicting the innocent can interact with risk aversion to produce an even higher threshold of reasonable doubt than would result from risk neutrality, which tends to neutralize the negative effects of strategic voting under an unanimity rule.

AWARDS AND FELLOWSHIPS:

Saint Michael's College

Saint Michael's College Faculty Development Grant	November 2018
Saint Michael's College Junior Faculty Summer Research Grant	December 2018

University of Virginia

The Jefferson Fellowship	February 2013
The Bankard Pre-Doctoral Fellowship	January 2017
Tomorrow's Professor Today Teaching Fellowship	July 2016
Economics Department Teaching Award	Fall 2014-Fall 2016

TEACHING EXPERIENCE:

Assistant Professor Saint Michael's College

EC 391, Introduction to Econometrics	Fall 2018, 2019
EC 311, Macroeconomic Theory	Fall 2018, 2019
EC 355, Money and Banking	Spring 2020
EC 327, Topics in Economics: Game Theory	Spring 2019
EC 101, Principles of Macroeconomics	Spring 2019, Fall 2019

Instructor University of Virginia
Econ 3020, Intermediate Macroeconomics Summer 2016

Teaching Assistant University of Virginia
Econ 5090, Mathematical Economics (Graduate Course) Fall 2015
Econ 2020, Principles of Macroeconomics Spring 2015, 2016, 2017
Econ 2010, Principles of Microeconomics Fall 2014, 2015, 2016

Teaching Assistant College of William and Mary
Math 214, Foundations of Mathematics Fall 2012
Econ 372, Econometrics Fall 2010 – Spring 2013

PRESENTATIONS:

89th Annual Southern Economic Association Conference, Ft. Lauderdale, FL November 2019
"Fortifying the Banks" (Planned)
2019 Liberal Arts Macroeconomics Conference, Macalester College August 2019
"Preparing Liberal Arts Undergraduates for Graduate School"
St. Michael's College Social Science Research Luncheon, Colchester, VT May 2019
"Fortifying the Banks"
45th Annual Eastern Economic Association Conference, New York, NY March 2019
"Endogenous Network Formation"
3rd Annual UVA Economics Research Colloquium, Charlottesville, VA May 2017
"Aggregate Output on Production Networks"
13th Annual Jefferson Fellows Symposium, Charlottesville, VA February 2015
Joint Mathematics Meeting Poster Session, Boston, MA January 2012

SERVICE TO THE SCHOOL:

Saint Michael's College
Library and Technology Committee August 2019 – Present
Co-Organizer, Social Science Research Luncheons October 2018 – Present
Economics Department Graduate School Coordinator October 2018 – Present

University of Virginia
Chief Organizer of the Economics Graduate Student Workshop August 2016 – May 2017
Assistant Organizer of the Economics Graduate Student Workshop August 2015 – May 2016
Raven Society Selections Co-Chair April 2017 – April 2018
Chief Organizer and Creator of the
Jefferson Fellows Women in Academia Reading Group August 2015 – August 2017
President of the Graduate Economics Club May 2016 – May 2017

SERVICE TO THE PROFESSION:

Steering Committee, Liberal Arts Macroeconomics Conference August 2019 – Present

SELECTED COURSEWORK:

Game Theory
Industrial Organization I, II
Cross Section Econometrics
Big Data Econometrics
Labor Economics I,II
Experimental Economics

REFERENCES:

Professor Eric Young
Phone: (434) 924 – 3811
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Professor Kenneth Elzinga
Phone: (434) 924 – 6752
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Professor Lee Coppock
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