

# Timothy O'Neill Dang

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## EDUCATION

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Ph.D. Economics, University of Arizona, 2009

Thesis: *Essays in Experimental Games*      Advisor: Martin Dufwenberg

M.A. Economics, University of Arizona, 2000

B.A. Interdisciplinary Studies (Economics, Math, Systems Engineering), University of Arizona, 1997

## RESEARCH INTERESTS

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I study behavioral economics and game theory, using experiments to refine theory for application to economic problems such as industrial organization and social choice.

## RESEARCH PAPERS

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"Competition and Lock-In in an Experimental Market with Network Effects" with Kyle J. Ackerman  
Experimentally studies competitiveness of markets with network effects under different assumptions of buyer behavior, separating individual lock-in from market-wide systemic lock-in.

"The Value of Mixing"

In one-shot and repeated versions of O'Neill's zero-sum game, experimentally studies whether game-players value randomness of mixed-strategy play, contrary to theoretical indifference between pure and mixed strategies.

"Gaming or Guessing: Mixing and Best-Responding in Matching Pennies"

By experimentally pairing game players with non-playing guessers, identifies random play motivated by unpredictability versus ambiguity aversion. Compares play patterns and predictability of players and guessers in a repeated matching pennies game, and a one-shot non-zero-sum asymmetric matching pennies game.

## PRESENTATIONS

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### Conferences

"Gaming vs. Guessing" Economic Science Association (ESA) Meeting, Tucson, November 2008

"Small Worlds, Big Fields: Where virtual worlds fit in a research program" ESA Meeting, Tucson, October 2007

"Network Effects and Lock-In: Experimental Evidence" ESA Meeting, Tucson, September 2006

"Dynamic Competition in a Market with Network Effects" ESA Meeting, Boston, June 2002

### University of Arizona Workshops

"Gaming or Guessing: Mixing and Best-Responding in Matching Pennies" March 2009

"The Meaning of Mixing" April 2008

"Competition in an Emerging Market with Network Effects", September 2005

"Performance Rights Organizations and Bundles of Uncorrelated Goods" January, 2002

"Economies in Online Role-Playing Games" March 2000

## TEACHING

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Teaching experience: Microeconomics for business, Intermediate macroeconomics, Industrial organization, Information economics and the internet, Economics of strategy (T.A.)

Other teaching interests: Game theory, Principles of economics, Behavioral economics, Experimental economics

## REFEREE

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*The Economics Bulletin*, 2002

## WORK EXPERIENCE

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Cybernomics, Inc. Tucson, AZ January 1999 - June 1999

PI on NSF SBIR project to study economies of online games (see GRANTS, below)

Kase and Company, Inc. Albuquerque, NM March 1998 - June 1998

Research Analyst: Research in commodities markets for corporate clients, primarily for risk management in the energy sector.

Contract programming from time to time

Contract programming services for various purposes, including data analysis, experimental economics, and web applications. Projects have included:

Bioinformatics: Sub-contracted spectrographic and other data analysis, programmed in Java and specialized Grams/AI system. 2004

Web applications: Web interface for public television ratings data, programmed in Perl. 1998

Data analysis: Basis for monte-carlo analysis of experimental economics data, programmed in C. 1998

Experimental economics: Program to study "menu costs" in a posted-offer market, programmed in C for DOS with graphics/networking libraries. 1995

## GRANTS

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NSF Grant #9860591, SBIR Phase I: Economy Design in Online Games, 1999

Studied the potential of massively multiplayer online role-playing games (MMOs) as platforms for economic research, and the of applying economic expertise to MMO design.

## PROGRAMMING

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Program in C, Java, Python, Perl, Stata, z-Tree

Some experience in SQL, Visual Basic, VBA, Lua, Mathematica, Matlab, SAS, Grams/AI