

Christos Nicolaides

Lecturer in Management Information Systems
Department of Business and Public Administration
University of Cyprus (UCY)

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RESEARCH INTERESTS

I am a physicist by training with strong interest in data analytics. I apply mathematical, statistical and computational tools to large-scale empirical and data driven research questions with applications in identification of social influence that is mediated, amplified, or directed by interactive technologies.

PROFESSIONAL EXPERIENCE

Dep of Business and Public Administration, University of Cyprus, Nicosia, Cyprus
Lecturer (eq. to tenure track Assistant Professor in US) May 2017 – present

Initiative on the Digital Economy, MIT Sloan School of Management, Cambridge, MA
Digital Fellow May 2017 – present

MIT Sloan School of Management, Cambridge, MA
James S. McDonnell Postdoctoral Fellow Sep 2014 – May 2017

MIT Civil and Environmental Engineering Department, Cambridge, MA
Postdoctoral Research Associate May 2014 – Aug 2014

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA
PhD in Civil and Environmental Engineering 2014
SM in Civil and Environmental Engineering 2011

Imperial College London, London, UK
MSc in Applied Mathematics (Distinction) 2009

Aristotle University, Thessaloniki, GR
BSc in Physics (Distinction – highest GPA in department’s history 9.88/10) 2008

HONORS AND AWARDS

Doctoral Thesis Achievement Award, The Circle of Hellenic Academics in Boston, 2016 – \$1,000
James S. McDonnell Foundation Postdoctoral Fellowship, 2014-2016 – \$200,000
George and Marie Vergottis MIT Fellowship, 2009-2010, 2011-2012, 2013-2014 –\$240,000
MIT Research Assistantship, 2010-2011, 2012-2013 –\$160,000
Graduate studies fellowship, Cyprus National Studentship Institution, 2009-2012 – \$37,000
Makarios/Theodore and Wally Lappas Award, 2010 – \$5,000
Panpaphian Association of America Award, 2009 – \$2,000
Master Degree fellowship, Cyprus National Studentship Institution, 2008-2009 – \$8,000
Fullbright Scholarship for Master Degree in US, 2008 (gratefully declined)
Award for the highest GPA in the Physics Department (9.88/10), University of Thessaloniki, 2008
Undergraduate Scholarship from the Greek National Studentship Institution, 2004-2008 – \$18,000

JOURNAL PUBLICATIONS

S. Aral* and C. Nicolaides*, Exercise contagion in s global social network, *Nature Communications* **8**, 14753, doi:10.1038/ncomms14753 (2017). *authors listed in alphabetical order.

Selected Press Coverage: New York Times; Los Angeles Times; NBC News; Nature; Science Magazine; Science News; New York Magazine; New York Daily News; Metro (UK); Vice; Daily Mail (UK); EL Pais (Spain); Scientific American; University of Cyprus News Office.

C. Nicolaides, R. Juanes, and L. Cueto-Felgueroso, Self-organization of network dynamics into local quantized states, *Nature Scientific Reports* **6**, 21360, doi:10.1038/srep21360 (2016).

C. Nicolaides, B. Jha, L. Cueto-Felgueroso, and R. Juanes. Interplay between viscous-fingering and permeability heterogeneity in the prediction of mixing in porous media flows, *Water Resources Research* **51**, doi:10.1002/2014WR015811 (2015).

C. Nicolaides, L. Cueto-Felgueroso, and R. Juanes. The price of anarchy in mobility-driven contagion dynamics, *Journal of the Royal Society Interface* **10**(87), 20130495 (2013).

Selected Press Coverage: MIT Homepage Spotlight; MIT News; NPR; Fox News; LiveScience
MIT press release: <http://web.mit.edu/newsoffice/2013/controlling-contagion-by-restricting-mobility-0730.html>

C. Nicolaides, L. Cueto-Felgueroso, M. C. González, and R. Juanes. A metric of influential spreading during contagion dynamics through the air transportation network, *PLoS ONE* **7**(7), e40961 (2012).

Selected Press Coverage: MIT Homepage Spotlight; MIT News; Science News; Nature Medicine; NPR; LA Times; Scientific American; Discovery Channel; The Atlantic; NY Daily News; USA Today; CNN; ABC News; Huffington Post; Time Magazine; CBS news; Fox News; Huffington Post; US News; The Guardian (US); Daily Mail (UK); Time Magazine; Wired Magazine; NASDAQ; Smart Planet; International Business Times. MIT press release: <http://web.mit.edu/newsoffice/2012/spread-of-disease-in-airports-0723.html>

C. Nicolaides, L. Cueto-Felgueroso, and R. Juanes. Anomalous Physical Transport in Complex Networks, *Physical Review E* **82**(5), 055101(R) (2010).

WORKING
PAPERS

Behavioral measures of habit: Evidence from exercise behavior (with Dean Eckles). To be submitted in 2017 to *Journal of Consumer Psychology*.

Changing Circumstances and Social Influence in a Global Health Behavior (with Dean Eckles and Sinan Aral). To be submitted in 2017 at an IS journal.

Social Influence in Multiscale Social Networks (with Paramveer Dhillon). To be submitted in 2017 at an IS Journal.

SELECTED
COVERAGE
OF MY RESEARCH

Running May Be Socially Contagious

Gretchen Reynolds

The New York Times, Apr 17, 2017

https://www.nytimes.com/2017/04/19/well/move/running-may-be-socially-contagious.html?_r=0

Exercise can be contagious, new social network analysis finds

by Amina Khan

Los Angeles Times, Apr 18, 2017

<http://www.latimes.com/science/sciencenow/la-sci-sn-exercise-contagious-friends-20170418-story.html>

Sharing Workout Results With Your Friends Pushes You to Exercise Even Harder

by Lisa Ryan

New York Magazine, Apr 18, 2017

<https://www.thecut.com/2017/04/workout-exercise-motivation-social-network-mit-study.html>

Running is contagious among those with the competitive bug

by Bethany Brookshire

Science News, May 26, 2017

<https://www.sciencenews.org/author/bethany-brookshire>

Controlling contagion by restricting mobility

by Denise Brehm

MIT News Office, Jul 30, 2013

<http://news.mit.edu/2013/controlling-contagion-by-restricting-mobility-0730>

New model of disease contagion ranks U.S. airports in terms of their spreading influence

by Denise Brehm

MIT News Office, Jul 23, 2012

<http://news.mit.edu/2012/spread-of-disease-in-airports-0723>

Researchers list top 10 airports for spreading disease

by the CNN Wire Staff

CNN, Jul 24, 2012

<http://www.cnn.com/2012/07/26/travel/airports-disease/index.html>

Top airports for spreading germs ID'd

by Rachel Ehrenberg

Science News, Jul 27, 2012

<https://www.sciencenews.org/article/top-airports-spreading-germs-idd>

REVIEWER FOR
SCIENTIFIC
JOURNALS

Management Science, Journal of the Royal Society Interface, Nature Scientific Reports, BMC Infectious Diseases, PLoS ONE

EDITORIAL
SERVICES

International Conference in Information Systems (ICIS 2017) Proceedings
Mediterranean Conference in Information Systems (MCIS 2017) Proceedings

INVITED TALKS

Is Exercise Contagious? Peer Effects in a Global Health Behavior.

Emerging Media Studies, Boston University, Boston, USA February 21, 2017; **Network Science Institute, Northeastern University**, Boston USA February 15, 2017; **IESE Business School, University of Navarra**, Barcelona, Spain January 31, 2017; **Rotterdam School of Management, Erasmus University**, Rotterdam, NL January 10, 2017; **UCL School of Management**, London, UK December 7, 2016; **IE Business School**, Madrid, Spain November 29, 2016; **Dept. of Management and Technology, EPFL**, Lausanne, Switzerland October 31, 2016; **Initiative of Digital Economy MIT**, Cambridge MA, October 12, 2016; **University of Cyprus Business School**, September 24, 2016, Nicosia, Cyprus; **MODUL Business School**, Vienna, Austria, August 09, 2016.

OTHER
CONFERENCE
CONTRIBUTIONS

C. Nicolaides, and S. Aral . Social Contagion in a Global Exercise Network. *Oral Presentation*, Workshop on Information Systems and Economics (WISE 2016), December 14-16, 2016, Dublin, Ireland (**Nominee for Best Paper Award**).

C. Nicolaides, D. Eckles and S. Aral. Changing Circumstances and the Disruption of Habits in Exercise *Invited Talk*, INFORMS Annual Meeting, November 13-16, 2016, Nashville TN, USA

C. Nicolaides, D. Eckles and S. Aral. Changing Circumstances and the Disruption of Habits in News Readership *Poster Presentation*, Conference on Digital Experimentation (CODE16), October 14-15, 2016, MIT, Cambridge MA, USA

C. Nicolaides, and S. Aral. Is Exercise Contagious? Peer Effects in a Global Health Behavior. *Invited Talk*, INFORMS Annual Meeting, November 1-3, 2015, Philadelphia PA, USA

C. Nicolaides, and S. Aral . Is Exercise Contagious? Evidence from a Global Natural Experiment. *Oral Presentation*, Conference on Digital Experimentation (CODE15), October 16-17, 2015, MIT, Cambridge MA, USA

C. Nicolaides, and S. Aral . Is Exercise Contagious? Evidence from a Global Natural Experiment. *Oral Presentation*, Workshop on Information Networks (WIN15), October 1-2, 2015, New York University, New York NY, USA

C. Nicolaides, R. Juanes and L. Cueto-Felgueroso. Self-organization of network dynamics into local quantized states. *Oral Presentation*, Conference on Complex Systems, September 23-27, 2015, Tempe AR, USA

C. Nicolaides, L. Cueto-Felgueroso, and R. Juanes. Interplay between viscous-fingering and permeability heterogeneity in the prediction of mixing in porous media flows. *Poster Presentation*, AGU Fall Meeting, December 8-13, 2013, San Francisco CA, USA

C. Nicolaides, L. Cueto-Felgueroso, and R. Juanes. Activator-inhibitor systems on heterogeneous ecological networks *Poster Presentation*, AGU Fall Meeting, December 2-7, 2012, San Francisco CA, USA

C. Nicolaides, L. Cueto-Felgueroso, and R. Juanes. Coupled contagion-policy spreading and the price of anarchy in networks *Oral Presentation*, NetSci2012, June 3-7, 2012, Chicago IL, USA

C. Nicolaides, P. K. Kang, L. Cueto-Felgueroso, M. Dentz, and R. Juanes. Scaling of reactive transport in fracture networks: a fermionic network approach *Oral Presentation*, CMWR2012, June 2012, Urbana IL, USA

C. Nicolaides, P. K. Kang, L. Cueto-Felgueroso, M. Dentz, and R. Juanes. Disease Spreading in Lattice Networks With Traffic Heterogeneity. *Poster Presentation*, AGU Fall Meeting, December 4-7, 2011, San Francisco CA, USA

C. Nicolaides, L. Cueto-Felgueroso, M. C. González, and R. Juanes. Spreading and Contact Dynamics in Metapopulation Networks: A Stochastic Agent Model of Disease Spreading in the Air Transportation Network. *Oral Presentation*, NetSci2011, June 4-8, 2011, Budapest, HU

C. Nicolaides, L. Cueto-Felgueroso, R. Juanes. Anomalous Transport in Complex Networks Under A Driving Force. *Poster Presentation*, AGU Fall Meeting, December 14-17, 2010, San Francisco CA, USA

C. Nicolaides, L. Cueto-Felgueroso, R. Juanes. Anomalous Physical Transport in Complex Networks. *Poster Presentation*, Gordon Conference on Flow and Transport in Permeable Media, July 14-17, 2010, ME, USA

C. Nicolaides, L. Cueto-Felgueroso, R. Juanes. Anomalous Physical Transport in Complex Networks. *Oral Presentation*, International Conference on Network Science (NetSci2010), May 10-14, 2010, Boston MA, USA

RESEARCH
EXPERIENCE

MIT Sloan School of Management, Cambridge, MA

Postdoctoral Fellow, Sinan Aral's Research Group

Sep 2014 – present

Big data; peer effects; social networks; causal inference; digital experimentation in social network.

Massachusetts Institute of Technology, Cambridge, MA

Research Assistant, Juanes Research Group

Sep 2009 – Jul 2014

Dynamical processes in complex networks; transport processes in mobility networks; transportation networks; cities; human mobility patterns; disease spreading; economic networks; big data processing and visualizations; social networks dynamics; network optimization; physics of multiphase flow in porous media with applications in oil and gas recovery.

Imperial College London, London, UK

Research Assistant, Papageorgiou Research Group

Aug 2008 – Jul 2009

Fluid Mechanics; fluid dynamics; film flows under magnetic and electric field

TEACHING
EXPERIENCE

University of Cyprus, Nicosia, Cyprus

Instructor

Fall 2017

Introduction in Operation Management

Develop and deliver lectures about optimization methods and data analytics to about 100 undergraduate students registered for the degree of Business and Public Administration at University of Cyprus.

Open University of Cyprus, Nicosia, Cyprus

Instructor

Fall 2017

Management Information Systems

Develop and deliver online lectures about Management Information Systems to 35 undergraduate students registered for the degree of Business Administration at the Open University of Cyprus.

Massachusetts Institute of Technology, Cambridge, MA

Teaching Assistant

Spring 2013

Lectured recitations, conducted office hours and graded weekly assignments for over 20 graduate students in the course, Computation Methods for Flow in Porous Media.

Instructors: Ruben Juanes, Luis Cueto-Felgueroso. Evaluation score: 6.7/7.

Teaching Assistant

Fall 2011

Lectured recitations, conducted office hours and graded weekly assignments for over 10 graduate students in the course, Computer Modeling: From Human Mobility to Transportation Networks.

Instructor: Marta C. González

CONSULTING
SERVICES

Exxon Mobil Corporation, Houston, TX

The Internet of Things in Oil and Gas Industry: Opportunities and Challenges. Feb 2013 – May 2013

MANAGEMENT/
ADMINISTRATIVE
SKILLS

Devise the Network Speed-Dating Application to map in real time research connections between participants of a conference or workshop. First launched in the Civil and Environmental Engineering Research Speed-Dating event on February 7, 2014. The application was featured at MIT News:

<http://web.mit.edu/newsoffice/2014/cee-research-speed-dating-identifies-new-synergies-among-faculty-and-students.html>

MEMBERSHIPS

Institute for Operations Research and the Management Sciences (INFORMS); Association for Information Systems (AIS); American Physical Society (APS), American Geophysical Union (AGU), MIT Energy Club, International Society of Network Science.

SKILLS

Programming Languages: MATLAB; Python; Java; Mathematica; C++

Statistical Tools: STATA, R

Data visualizations: Processing; Cytoscape; D3 Library in Javascript

Databases: MySQL; Oracle

Text Editing: L^AT_EX, MS Word

Operating Systems: Unix; Windows; iOS