Luis Guillermo Natera Orozco

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EDUCATION

Ph.D. Network Science, Central European University, Budapest, Hungary. 2021 (expected)
Dissertation: *Multilayer network analysis of sustainable, multimodal urban transport networks*
Advisor: Federico Battiston
Co-Advisor: Michael Szell (ITU Copenhagen)

M.A. Communication of Science and Culture, ITESO, Tlaquepaque, Mexico. 2015
Dissertation: *La construcción de comunidades en red sobre conocimiento urbano en el marco del crecimiento urbano: Los blogs de espacio público*
Advisor: Eduardo Quijano
Committee: Rossana Reguillo, Francisco Morfín

B.Arch. Architecture, ITESO, Tlaquepaque, Mexico. 2010

ACADEMIC AFFILIATIONS

2021 – Research fellow, Agglomeration and Social Networks Research Lab, ELKH Centre for Economic and Regional Studies, Budapest, Hungarian.

2020 – Research affiliate, Observatorio de Ciudades, ITESM, Zapopan, Mexico.

2017 – Ph.D. Candidate, Department of Network and Data Science, Central European University, Budapest, Hungary.

2016–17 Executive Coordinator Signa_Lab, Department of Sociocultural Studies, ITESO, Tlaquepaque. Mexico

2015 Visiting Student, Center for Civic Media, Media Lab, Massachusetts Institute of Technology, Cambridge, MA. USA

2008 Visiting Student, Universidad de Valparaíso, Valparaíso, Chile

RESEARCH AND TEACHING INTERESTS

Network science

Urban planning and mobility

Big data for social good

Data science and data visualization

PUBLICATIONS

Peer-Reviewed Journal Articles

2020   Natera Orozco, L. G., Battiston, F., Iñiguez, G., Szell, M. "Data-driven strategies for optimal bicycle network growth" *Royal Society Open Science*, 2020. 7: 201130. `https://doi.org/10.1098/rsos.201130`

2020   Natera Orozco, L.G., Battiston, F., Iñiguez, G., Szell, M. "Extracting the multimodal fingerprint of urban transportation networks" *Transport Findings*, 2020. `https://doi.org/10.32866/001c.13171`

Journal Article Manuscripts under Peer Review

2021   Natera Orozco, L. G., Alessandretti, L., Szell, M., Battiston, F. "Multimodal transportation and mobility in urban networks" Under review at *Transportation*

Peer-Reviewed Conference Proceedings

2019   Natera Orozco, L. G., Deritei, D., Vancso, A., Vasarhelyi, O. "Quantifying life quality as walkability on urban networks" In: Cherifi H., Gaito S., Mendes J., Moro E., Rocha L. (eds) *Complex Networks and Their Applications VIII. COMPLEX NETWORKS 2019. Studies in Computational Intelligence*, 2019, pp. 905–918.

2014   Natera Orozco, L. G. "Comunicación, ciudad e internet: flujos de información urbana en entornos digitales" VI Seminatio Internacional de Investigación en Urbanismo. Bogota, Colombia.

Peer-Reviewed Book Chapters

2019   Natera Orozco, L. G. "Un cambio de la comunicación gubernamental y política. De los medios de comunicación a las redes sociales." *Informe Anual Q Medios 2018*, edited by Bernal, G. Jalisco, Mexico: ITESO.

2018   Natera Orozco, L. G., Reguillo, R. "Comunicación y cambio social: participación política e internet en Jalisco" *Enciclopedia Jaliscience de la Comunicación.*, edited by Orozco, G., Reguillo, R. Jalisco, Mexico: Universidad de Guadalajara.

Reviews and Other Articles

2016   Natera Orozco, L. G., (as Signa_Lab) "Battle of the hashtags: Mapping the online conversation surrounding Mexico's gas price" *Global Voices.*

Manuscripts in Preparation and Development

2021   Tupikina, L., Natera Orozco, L. G., Battiston, F. "A comparative analysis of station and dockless bike share systems."

INVITED TALKS

2021   Bauhaus-Universität Weimar, Germany.

2021   URBANUM. Budapest, Hungary.

2021   Graph data science. Manning Publications. Online.

2020   Science, Technology and Innovation Council. Hidalgo, Mexico.

2020   Neo Urban Networks Workshop. Paris, France.

2020   PIP Ciudad Futuro. Guadalajara, Mexico.

2019   Data Science MeetUp. Timisoara, Romania.

2019   FabLab, West University of Timisoara. Timisoara, Romania.

2019   4D Cities, Multi-Actor Systems Department, TU Delft. Delft, Netherlands.

2019   Mobile and Social Computing Lab, Fondazione Bruno Kessler. Trento, Italy.

2019   ANET-Talks, ANET Lab, Hungarian Academy of Science. Budapest, Hungary.

2018   Signa_Lab, ITESO. Tlaquepaque, Mexico.

2015   Encuentro de Urbanismo Alternativo, Centro Cultural de España en México. Mexico City, Mexico.

2015   II Simposio de ciudades y territorios incluyentes "Derecho a la Ciudad", Universidad Autónoma de Yucatán. Merida, Mexico.

CONFERENCE ACTIVITY

Conference Presentations

Presenting author *italicized*, if other.

2019   Natera Orozco, L. G., Deritei, D., Vancso, A., Vasarhelyi, O. "Quantifying life quality as walkability on urban networks" VIII Conference in Complex Networks and their Applications. Lisbon, Portugal. December 12-14.

2019   Natera Orozco, L. G., Battiston, F., Iñiguez González, G., and Szell, M. "Multiplex urban fingerprints for bicycle infrastructure planning" Cycling Research Board Meeting. Delft, Netherlands. October 31-1 November.

2019   Natera Orozco, L. G., Battiston, F., Iñiguez González, G., and Szell, M. "Multiplex urban fingerprints for bicycle infrastructure planning" 2019 NetSci. Burlington, Vermont. May 27-31.

2018   Natera Orozco, L. G., Battiston, F., Szell, M. "Characterizing cities from their multiplex infrastructure patterns" SICC Workshop ComplexCity@PoliTo. Turin, Italy.

2013   Natera Orozco, L. G. "Quiosco Libre, reading network in the public space" Future of Places. Stockholm, Sweden.

Posters

2018   Natera, L. "Budapest. Multilayer urban network" State of the Map. Milan, Italy.

2017   Natera, L., Ábrego, V. "The evolution of twitter during the US elections" Data Stories. Budapest, Hungary.

GRANTS, AND AWARDS

Awards

2020   Award for Advanced Doctoral Students. Central European University

2019   Best lighting talk award. International Conference in Complex Networks and their Applications.

Grants and Fellowships

2020, 21   Write-up grant. Central European University

2019   Registration grant. International Conference in Complex Networks and their Applications

2019   Ph.D. conference travel grant. CEU Budapest Foundation

2019   Registration grant. NetSci

2018, 19   Travel grant. Department of Network and Data Science, Central European University

2017–20   Doctoral grant. Central European University.

2015   Academic Stay at MIT. Mexican National Council of Science and Technology

2013   Master Studies Grant. Mexican National Council of Science and Technology

TEACHING EXPERIENCE

European Consortium for Political Research

2021   Teaching Assistant, Python Programming for Social Scientists. Summer Virtual Methods School 2021

2021   Teaching Assistant, Python Programming for Social Scientists. Winter Virtual Methods School 2021

2020   Teaching Assistant, Python Programming for Social Scientists. Summer Virtual Methods School 2020

Central European University

2020   Teaching Assistant, Scientific Python

2019   Teaching Assistant, Statistical Methods in Network Science

ITESO

2019	Network Science (Summer 2019) Invited lecturer, co-taught with Diego Arredondo (ITESO)
2017	Network Science (Summer 2017) Co-taught with Emma Towlson (Northeastern University), Sean P. Cornelius (Northeastern University), and Ricardo Zavala (ITESO)
2015–17	Communication, Culture and Society (Spring 2016, 2017)
2015–16	Social Systems Theory (Fall 2015, 2016)

RESEARCH EXPERIENCE

2015–17	Researcher, Anillo Primavera. Principal Investigator: Sandra Valdes.
2016	Researcher, Online harassment of journalists and activists in Mexico, Jigsaw (formerly Google Ideas) and Global Voices. Principal Investigator: Ellery Biddle.
2012	Researcher, Public Transportation in Guadalajara. Principal Investigator: Mario Silva.

ACADEMIC VISITS

2015	Center for Civic Media, MIT Media Lab, Boston, USA, Jan - Jun
2012	Universidad de Valparaíso, Valparíso, Chile.

SERVICE

Journal Peer Review

Scientific Data

Service to Department

Ph.D. program representative, Central European University, DNDS, 2019-20

Co-organizer Data Stories visualization exhibition, Central European University, DNDS, 2018-19

PROFESSIONAL AFFILIATIONS

Network Science Society

Python Software Foundation

SICC Italian Society for Chaos and Complexity

PROFESSIONAL EXPERIENCE

2020–   Latin American Capital, Chief Data Scientist. Guadalajara, Mexico

2020–21 PIP Ciudad Futuro (collaboration with Google.org), Data Scientist Consultant. Guadalajara, Mexico.

2019–20 Latin American Capital, Senior Data Scientist Consultant. Guadalajara, Mexico

2019   Maven7US, Urban Data Scientist. Budapest, Hungary

2015–17 Mesura, Networks and Data Specialist. Guadalajara, Mexico

2014   Socialinks, Networks Consultant. Guadalajara, Mexico

2014   Institute for Mobility and Transportation of the State of Jalisco, Mobility Analyst. Zapopan, Mexico

2010–14 Colectivo Triciclo, Co-Founder / CEO. Guadalajara, Mexico

SKILLS AND METHODS

Statistical and Computational Methods

Network science methods

Programming, data wrangling and visualization: Python

Web: Django, HTML/Javascript, Wordpress, Jekyll

Network visualization: Gephi, Cytoscape, Matplotlib + NetworkX

Version control: Git + {GitHub, GitLab, BitBucket}

Other: LaTeX, Adobe CS, CAD, QGIS, Blender

Languages

Spanish   Native

English   Professional proficiency

Updated August 2021