

# Ryan J. Gallagher

NETWORK SCIENCE PH.D. STUDENT RESEARCHING ONLINE POLITICAL COMMUNICATION  
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## Education

### Northeastern University

PH.D. NETWORK SCIENCE

Advisor: Prof. Brooke Foucault Welles

Boston, MA

Sep. 2017 – May 2022 (Expected)

### University of Vermont

M.S. MATHEMATICS, *Outstanding Masters Thesis Honorable Mention*

Advisors: Prof. Christopher M. Danforth, Prof. Peter Sheridan Dodds

Graduate Certificate: Complex Systems

Burlington, VT

Aug. 2015 – May 2017

### University of Connecticut

B.A. MATHEMATICS, *Summa Cum Laude*

Minor: Statistics

Storrs, CT

Aug. 2011 – May 2015

## Experience

### Research Assistant

NETWORK SCIENCE INSTITUTE, NORTHEASTERN UNIVERSITY

Boston, MA

Aug. 2017 – PRESENT

### Core Data Science Intern

CORE DATA SCIENCE, FACEBOOK

Menlo Park, CA

Sep. 2019 – Nov. 2019

### Visiting Research Assistant

INFORMATION SCIENCES INSTITUTE, UNIVERSITY OF SOUTHERN CALIFORNIA

Los Angeles, CA

Jun. 2016/2017 – Aug. 2016/2017

### Research Assistant

VERMONT COMPLEX SYSTEMS CENTER, UNIVERSITY OF VERMONT

Burlington, VT

Aug. 2015 – Aug. 2017

## Publications

### PREPRINTS

#### Pandemics, Protests, and Publics: Demographic Activity and Engagement on Twitter in 2020

SARAH SHUGARS, ADINA GITOMER, STEFAN MCCABE, RYAN J. GALLAGHER, KENNETH JOSEPH, NIR GRINBERG, LARISSA DOROSHENKO, BROOKE FOUCAULT WELLES, DAVID LAZER. (2021). IN SUBMISSION TO *Journal of Quantitative Description: Digital Media*.

#### Sustained Amplification of COVID-19 Elites in the United States

RYAN J. GALLAGHER, LARISSA DOROSHENKO, SARAH SHUGARS, DAVID LAZER, BROOKE FOUCAULT WELLES. (2020). *arXiv preprint: 2009.07255*. IN SUBMISSION TO *Social Media + Society*.

### JOURNAL ARTICLES

#### A Clarified Typology of Core-Periphery Structure in Networks

RYAN J. GALLAGHER, JEAN-GABRIEL YOUNG, BROOKE FOUCAULT WELLES. (2021). *Science Advances*, 7:EABC9800.

#### Generalized Word Shift Graphs: A Method for Visualizing and Explaining Pairwise Comparisons Between Texts

RYAN J. GALLAGHER, MORGAN R. FRANK, LEWIS MITCHELL, AARON J. SCHWARTZ, ANDREW J. REAGAN, CHRISTOPHER M. DANFORTH, PETER SHERIDAN DODDS. (2021). *EPJ Data Science*, 10(4).

#### Who Says What with Whom: Using Bi-Spectral Clustering to Organize and Analyze Social Media Protest Networks

KENNETH JOSEPH, RYAN J. GALLAGHER, BROOKE FOUCAULT WELLES. (2020). *Computational Communication Research*, 2(2):153-174.

#### Reclaiming Stigmatized Narratives: The Networked Disclosure Landscape of #MeToo

RYAN J. GALLAGHER, ELIZABETH STOWELL, ANDREA G. PARKER, BROOKE FOUCAULT WELLES. (2019). *Proceedings of the ACM: Human-Computer Interaction (PACM: HCI)*, 3(CSCW). **BEST PAPER HONORABLE MENTION AWARD.** AND **FRANK PRIZE IN PUBLIC INTEREST COMMUNICATIONS FINALIST.**

## Divergent Discourse Between Protests and Counter-Protests: #BlackLivesMatter and #AllLivesMatter

RYAN J. GALLAGHER, ANDREW J. REAGAN, CHRISTOPHER M. DANFORTH, PETER SHREIDAN DODDS. (2018). *PLoS ONE*, 13(4):E0195644.

## Anchored Correlation Explanation: Topic Modeling with Minimal Domain Knowledge

RYAN J. GALLAGHER, KYLE REING, DAVID KALE, GREG VER STEEG. (2017). *Transactions of the Association for Computational Linguistics (TACL)*. 5:529–542.

## Research Funding

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### Measuring Affective Dynamics in Polarized Publics and Counterpublics

\$1,580

Co-PI, NORTHEASTERN UNIVERSITY LAB FOR TEXT, MAPS, AND NETWORKS SEEDLING GRANT

Nov. 2019

## Presentations

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### INVITED TALKS

#### The Network Structure of Amplification

Online

MICHIGAN INTERACTIVE AND SOCIAL COMPUTING GROUP, SCHOOL OF INFORMATION, UNIVERSITY OF MICHIGAN

Feb. 2020

#### The Network Structure of Amplification

Online

COMPUTER SCIENCE SEMINAR SERIES, COMPUTER SCIENCE DEPARTMENT, UNION COLLEGE

Feb. 2020

#### Word Shift: A General Method for Visualizing and Explaining Pairwise Comparisons Between Texts

Online

STORY TIME, COMPUTATIONAL STORY LAB, UNIVERSITY OF VERMONT

Jul. 2020

#### The Topic Topology of “Slacktivist” Networks

Indianapolis, IN

INFORMATION, SELF-ORGANIZING DYNAMICS AND SYNCHRONIZATION ON NETWORKS SATELLITE SYMPOSIUM, NETSCI 2017

Jun. 2017

### PANELS

#### Creating Open Source Software as Part of an Academic Career

Online

SUMMER INSTITUTE IN COMPUTATIONAL SOCIAL SCIENCE (SICSS) FESTIVAL

Jun. 2020

### CONTRIBUTED TALKS

#### Reclaiming Stigmatized Narratives: The Networked Disclosure Landscape of #MeToo

Online

INTERNATIONAL CONFERENCE ON COMPUTATIONAL SOCIAL SCIENCE (IC2S2) 2020, MIT

Jul. 2020

#### Diversity of Core-Periphery Structure in Real Networks

Online

THIRD NORTHEAST REGIONAL CONFERENCE ON COMPLEX SYSTEMS (NERCCS) 2020

Apr. 2020

#### Core-Periphery Decomposition of Online Social Protest Networks

Montreal, QC

SUNBELT 2019

Jun. 2019

#### The Networked Disclosure Landscape of #MeToo

Burlington, VT

NETSCI 2019, UNIVERSITY OF VERMONT

May 2019

#### Mischaracterization of Core-Periphery Structure in Complex Networks

Burlington, VT

NETSCI 2019, UNIVERSITY OF VERMONT

May 2019

#### Core-Periphery Decomposition of Networked Publics and Counterpublics

Washington D.C.

69TH ANNUAL INTERNATIONAL COMMUNICATION ASSOCIATION (ICA) CONFERENCE

May 2019

#### Word Shift: A General Method for Visualizing and Explaining Pairwise Comparisons Between Texts

Seattle, WA

TEXT AS DATA 2018, UNIVERSITY OF WASHINGTON

Sep. 2018

#### Anchored Correlation Explanation: Topic Modeling with Minimal Domain Knowledge

New Orleans, LA

NORTH AMERICAN CHAPTER OF THE ASSOCIATION FOR COMPUTATIONAL LINGUISTICS (NAACL) 2018

Jun. 2018

#### Anchored Correlation Explanation: Topic Modeling with Minimal Domain Knowledge

Princeton, NJ

TEXT AS DATA 2017, PRINCETON UNIVERSITY

Oct. 2017

## Honors & Awards

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### HONORS

2018	<b>Invited Participant</b> , Complex Networks Winter Workshop (CNWW)	Québec City, QC
2018	<b>Invited Participant</b> , Summer Institute in Computational Social Science (SICSS), Duke University	Durham, NC
2015	<b>Honorary Inductee</b> , Pi Mu Epsilon Mathematics Honor Society, University of Connecticut	Storrs, CT

## AWARDS

2021	<b>Frank Prize in Public Interest Communications</b> , Center for Public Interest Communications	Gainesville, FL
2019	<b>Best Paper Honorable Mention</b> , CSCW 2019, Association for Computing Machinery (ACM)	Austin, TX
2017	<b>Outstanding Masters Thesis Honorable Mention</b> , University of Vermont	Burlington, VT
2015	<b>Outstanding Presentation Award</b> , Mathematical Association of America, Joint Math Meeting 2015	San Antonio, TX

## SCHOLARSHIPS

2017	<b>Nam Sang Kil Scholarship in Mathematics</b> , Department of Mathematics, University of Vermont	Burlington, VT
2014	<b>Bernard Sippin '52 Scholarship</b> , Department of Mathematics, University of Connecticut	Storrs, CT
2014	<b>Orange Scholarship</b> , The Homer Fund, Home Depot	Storrs, CT

## Professional Service

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### CONFERENCES, INSTITUTES, AND WORKSHOPS

<b>Co-Organizer</b>	Washington, D.C.
NETWORKED JUSTICE SATELLITE SYMPOSIUM (PROPOSED), NETWORKS 2021	Dec. 2020 – PRESENT
<b>Co-Organizer</b>	Boston, MA
SUMMER INSTITUTE IN COMPUTATIONAL SOCIAL SCIENCE (SICSS) 2019 PARTNER SITE	Jun. 2018 – Dec. 2019
<b>Co-Chair</b>	Burlington, VT
SATELLITES, SCHOOLS, AND POSTERS, NETSCI 2019	Jun. 2018 – May 2019
<b>Co-Organizer</b>	Boston, MA
WOMEN'S, GENDER, AND SEXUALITY STUDIES (WGSS) SYMPOSIUM 2019: WOMEN AND RESILIENCE	Jun. 2018 – Mar. 2019
<b>Co-Organizer</b>	Boston, MA
CAUCUS FOR WOMEN IN NETWORK SCIENCE (WiNS), COMPLENET 2018	Jan. 2018 – Mar. 2018

### DEPARTMENTAL SERVICE

<b>President</b>	Boston, MA
NETWORK SCIENCE GRADUATE STUDENT ASSOCIATION, NORTHEASTERN UNIVERSITY	May 2019 – PRESENT
<b>Graduate Student Representative</b>	Boston, MA
ADMISSIONS COMMITTEE, NETWORK SCIENCE PHD PROGRAM, NORTHEASTERN UNIVERSITY	Jan. 2020 – Apr. 2020
<b>Vice President</b>	Boston, MA
NETWORK SCIENCE GRADUATE STUDENT ASSOCIATION, NORTHEASTERN UNIVERSITY	May 2018 – May 2019
<b>Organizer</b>	Boston, MA
NETWORK SCIENCE INSTITUTE JOURNAL CLUB, NORTHEASTERN UNIVERSITY	Jan. 2018 – Dec. 2018

### OPEN SOURCE SOFTWARE

<b>Core Developer</b>	Boston, MA
WORD SHIFTERATOR: PYTHON, GITHUB.COM/RyanJGallagher/shifterator	May 2018 – PRESENT
<b>Core Developer</b>	Los Angeles, CA
ANCHORED COREx TOPIC MODEL: PYTHON, GITHUB.COM/GREGVERSTEEG/COREx_TOPIC	Jun. 2017 – PRESENT

### PROFESSIONAL ORGANIZATIONS

NetSci	<b>Network Science Society</b>	2017 – PRESENT
ICA	<b>International Communication Association</b>	2018 – PRESENT
AoIR	<b>Association of Internet Researchers</b>	2020 – PRESENT
ACM	<b>Association for Computing Machinery</b>	2020 – PRESENT

## JOURNAL PEER REVIEW

NEW MEDIA & SOCIETY

MOBILIZATION

JOURNAL OF COMPLEX NETWORKS

SOCIAL MEDIA + SOCIETY

AMERICAN SOCIOLOGICAL REVIEW

PLoS ONE

TRANSACTIONS OF CHI (TOCHI)

SIGNS: JOURNAL OF WOMEN IN CULTURE AND SOCIETY

SOCIUS

## CONFERENCE PEER REVIEW

INTERNATIONAL COMMUNICATION ASSOCIATION (ICA)

ACM CONF. ON HUMAN FACTORS IN COMPUTING SYSTEMS (CHI)

ACM WEB SCIENCE CONFERENCE (WebSci)

INTERNATIONAL AAAI CONF. ON WEB AND SOCIAL MEDIA (ICWSM)

ACM CONF. ON COMPUTER-SUPPORTED COOPERATIVE WORK (CSCW)

## Teaching

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### INSTRUCTION

#### **Summer Institute in Computational Social Science Boston Partner Site**

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Summer 2019

Cambridge, MA

Jun. 2018

#### **MATH 19 Fundamentals of Calculus I**

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

Fall 2016

Burlington, VT

Aug. 2016 – Dec. 2016

#### **MATH 17 Applications of Finite Math**

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

Fall 2015, Spring 2016

Burlington, VT

Aug. 2015 – May 2015

### INVITED LECTURES

#### **Mesoscale Network Structure and Stochastic Block Models**

DNDS 6004 STRUCTURE AND DYNAMICS OF COMPLEX NETWORKS, CENTRAL EUROPEAN UNIVERSITY

Class of Dr. Federico Battiston, Spring 2021

Online

Jan. 2021

#### **Mesoscale Network Structure and Stochastic Block Models**

INFSCI 2125 NETWORK SCIENCE & ANALYSIS, UNIVERSITY OF PITTSBURGH

Class of Dr. Morgan Frank, Fall 2020

Online

Oct. 2020

#### **Research Ethics and Network Science**

NETWORK SCIENCE INSTITUTE GRADUATE STUDENT BOOTCAMP 2019, NORTHEASTERN UNIVERSITY

Organized by the Network Science Institute, Fall 2020

Boston, MA

Aug. 2020

#### **An Introduction to Natural Language Processing**

MATH 3710 INTRODUCTION TO MATHEMATICAL MODELING, UNIVERSITY OF CONNECTICUT

Class of Dr. Thomas Laetsch, Fall 2015

Storrs, CT

Dec. 2015

### TEACHING ASSISTANCE

#### **COMM 2105 Social Networks**

COMMUNICATION STUDIES DEPARTMENT, NORTHEASTERN UNIVERSITY

Class of Prof. Brooke Foucault Welles, Spring 2020

Northeastern, MA

Jan. 2020 – May 2020

#### **CSYS 300 Principles of Complex Systems**

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

Class of Prof. Peter Dodds, Fall 2016

Burlington, VT

Aug. 2016 – Dec. 2016