

REPORT DOCUMENTATION PAGE

Form Approved OMB NO. 0704-0188

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA, 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE (DD-MM-YYYY) 21-12-2017		2. REPORT TYPE Final Report		3. DATES COVERED (From - To) 26-Apr-2017 - 25-Apr-2018	
4. TITLE AND SUBTITLE Final Report: 1st Annual Workshop for the Society of Young Network Scientists (SYNS)			5a. CONTRACT NUMBER W911NF-17-1-0219		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHORS			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAMES AND ADDRESSES Northeastern University 360 Huntington Avenue 490 RP Boston, MA 02115 -5005				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS (ES) U.S. Army Research Office P.O. Box 12211 Research Triangle Park, NC 27709-2211				10. SPONSOR/MONITOR'S ACRONYM(S) ARO	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S) 70964-NS-CF.1	
12. DISTRIBUTION AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other documentation.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	15. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			UU
UU	UU	UU			19b. TELEPHONE NUMBER 617-373-6424

RPPR Final Report

as of 24-Jun-2021

Agency Code: 21XD

Proposal Number: 70964NSCF

Agreement Number: W911NF-17-1-0219

INVESTIGATOR(S):

Name: Kathryn A. Coronges
Email: k.coronges@northeastern.edu
Phone Number: 6173736424
Principal: Y

Organization: **Northeastern University**

Address: 360 Huntington Avenue, Boston, MA 021155005

Country: USA

DUNS Number: 001423631

EIN: 104167998

Report Date: 25-Dec-2017

Date Received: 21-Dec-2017

Final Report for Period Beginning 26-Apr-2017 and Ending 25-Apr-2018

Title: 1st Annual Workshop for the Society of Young Network Scientists (SYNS)

Begin Performance Period: 26-Apr-2017

End Performance Period: 25-Apr-2018

Report Term: 0-Other

Submitted By: Kathryn Coronges

Email: k.coronges@northeastern.edu

Phone: (617) 373-6424

Distribution Statement: 1-Approved for public release; distribution is unlimited.

STEM Degrees:

STEM Participants:

Major Goals: The objective of the proposed symposium is to, first and foremost, create a professional network of network scientists for graduate students of network science. Our aim is to solidify and strengthen students' identity as network scientists, and to equip them with cross-discipline professional contacts (including both established network scientists and fellow graduate students).

Secondary aims are to expose attendees to a common set of network-based theories, methods, and tools for understanding systems, whether they be social, biological, physical or technical.

Accomplishments: The workshop was evaluated with a follow-up survey which was completed by 93% (28 of 30) attendees. In summary, the workshop was successful in creating a forum for the exchange of information, community building, and establishing a set of faculty and NS expert advisors/mentors. Students expressed strong satisfaction with the event, with the greatest success being simply establishing relationships among the students. They also indicated that they gained a lot of insight from the small session on "one great idea" which gave them new perspectives and exposure to long term strategies for success in the field. The group established itself as the founding members of the Society for Young Network Scientists, which resulted in a mission statement document that students developed together during and finalized several weeks after the meeting. In summary, the conference award supported travel, lodging and registration for 21 graduate students at an average of \$855 per person. Support extended beyond the estimated 16 students in large part because the students organized shared housing to reduce lodging costs. This ultimately led to the greatest success of the conference by leading to strong ties formed among the participants.

Training Opportunities: Nothing to Report

Results Dissemination: Nothing to Report

Honors and Awards: Nothing to Report

Protocol Activity Status:

Technology Transfer: Nothing to Report

RPPR Final Report
as of 24-Jun-2021

Partners

,

I certify that the information in the report is complete and accurate:

Signature:

Signature Date:

Title: **1st Annual Consortium for the Society of Young Network Scientists (SYNS)**
PI: Kate Coronges, Northeastern University
Army Research Office # W911NF-17-1-0219
Conference Award, Social & Cognitive Networks Program, Network Science Division

Award Completion Report

I. Background

Network Science is a field of study that provides a powerful framework, including tools, methods and theories, for evaluating and modeling systems as sets of interdependent entities. Network science enables characterization and prediction of complex networked systems using a common lens, rooted in the insight that despite their diversity of behavior, the dynamics of different kinds of networks share many common organizing principles and can thus be studied with similar tools. Because of its diverse applications, students of network science are trained in many different disciplinary fields, including physics, computer science, biology, communication, psychology, cognitive and behavioral sciences, anthropology, epidemiology, and political science. Young researchers are based within departments where they are often the only network scientist in their graduate cohort, or even in their entire graduate department. Thus, while the field has truly begun to converge into a formalized discipline with major interdisciplinary threads, many students do not have a cohesive core community in their home departments.

As a first step toward building this needed and necessary community, we convened an interdisciplinary doctoral symposium focused on sharing information about and access to network science assets (software, metrics, texts, journal articles, advisors, conferences, workshops, and most importantly, people). The objective of the symposium was to, first and foremost, create a professional network of network scientists for graduate students of network science. Our aim was to solidify and strengthen students' identity as network scientists, and to equip them with cross-discipline professional contacts (including both established network scientists and fellow graduate students). Secondary aims were to expose attendees to a common set of network-based theories, methods, and tools for understanding systems, whether they be social, biological, physical or technical. Finally, the hope was that this inaugural event would motivate the formal formation of the Society of the Young Network Scientists.

II. Consortium Planning

Phase 1 - SYNS Committee. Preparations for the meeting began with the creation of a committee to serve as both the workshop planning team and to build the foundation of the student society. Thus, Phase 1 was the development of a Society of Young Network Scientists (SYNS) Committee, whose members were three NEU Network Science Phd students (Brennan Klein, Sarah Shugars, Leo Torres), two NEU faculty advisors (Kate Coronges and Brooke Foucault Welles) and a NEU post-doctoral fellow (Evelyn - Evangelia Panagakou).

Phase 2 – Website. We created the website announcing the workshop, introducing goals of the SYNS community and calling for participation (<https://www.networkscienceinstitute.org/syns>). The website was designed by our graphic designer, Nicole Samay, and the logo was created by our PhD student, Brennan Klein.

Symposium for the Society of Young Network Scientists

June 20, 2017 // Indianapolis, Indiana



Home About Program Venue Participants Invited Speakers Social Event Organizers Apply

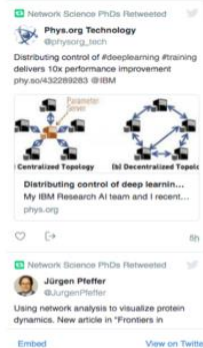
The 1st Symposium for the **Society of Young Network Scientists (SYNS)** is being organized by Network Science Institute at Northeastern University (NetSI) and Indiana University's Network Science Institute (IUNI) and is being held at NetSci 2017. One of the goals of the meeting is to initiate the Society of Young Network Scientists (SYNS). The meeting will provide the opportunity for students to discuss, explore and design the new society of like-(network science)-minded colleagues. By the end of the meeting, students will have made decisions about how the organization should be run, and identify who will carry out what roles. Our hope is that this meeting will recur annually for years to come, providing an important forum for building a cohesive and diverse community to ensure next generation of network scientists can build the essential collaborative community required for developing solutions for the major problems facing the 21st century workforce.

The goal for this meeting is to help young network science scholars gain both a common foundational training in network science (including approaches, languages, problems), as well as a theoretical and substantive foundation in a particular discipline. The symposium will be designed in a way to facilitate the exchange of information, build community, and establish a core set of faculty and NS advisors and mentors. Our target is to both expand the quality of the cohort, and to build the basis for future collaborations.

If you are a PhD student /young scientist working on network science, and you would like to help planning and organizing the symposium or to be part of SYNS, contact us at societysyns@gmail.com.

Follow us on twitter: @NetSciPhDs

Tweets by @NetSciPhDs



Phase 3 - Application Process. Applications for participation awards included a personal statement asking applicants to explain why they were drawn towards network science. We received 36 applications which the six of us evaluated and sorted. Three of the 18 funded slots were slotted for the 3 students who volunteered for the planning. Applicants from our home organization, the Network Science Institute at Northeastern University, were also funded to attend the conference, to increase the reach of our grant support. Thus, 8 of the applicants were removed from the pool, leaving 28 available slots.

Applicants were ranked by each of the 6 committee members based on the quality of the research statements. Additionally, we paid special attention to location, gender, race, and research area to ensure diversity among participants. Awards were ultimately offered to 21 students through competitive entry and review by the consortium committee. Awards covered travel, lodging, and registration for 19 students, and in 2 cases, students were offered registration and travel and/or lodging. Of the 30 participants, 28 pre-registered, 21 received ARO award support, 7 were supported by the Network Science Institute, and 2 attended with their own funding. Bios of all pre-registered attendees are provided in Appendix A.

III. Workshop Event

The workshop was successful in creating a forum for the exchange of information, community building, and establishing a set of faculty and NS expert advisors/mentors. The event had six components. The first activity was the NetSci school which was organized by the NetSci Society which included two sessions that covered basic Network science principles and tools. (This session was open to all the NetSci attendees).

The planned workshop event took place in day 2, which involved five separate sessions including student talks, speaker talks, and discussion-based activities. Thirty students were in attendance for most of the entire day (a few reported skipping the final professional pane).

Day 1: Monday, June 19th: NetSci School

A. Two 3-hour tutorials

- Open forum style lectures as part of the NetSci School, open to all NetSci participants, talk by *Alessandro Vespignani* (Northeastern University) and *Alex Arenas* (Universtat Rovira i Virgili).



Day 2: Tuesday, June 20th: SYNS Consortium

A. Lightning presentations 1 & 2:

- All students were given three minutes to present their work.

B. “One Great Idea” session

- Network scientists from across disciplines presented “one great idea” that changed how they analyze data, write papers, approach research broadly, and more. The goal of this session was to help students build a toolkit of research strategies.
- Speakers: *László Barabasi* (Northeastern University); *Federico Levi* (Nature Communications); *Peter Mucha* (University of North Carolina); *Brooke Foucault Welles* (Northeastern University).



C. “One Great Network” session

- We explored career paths and other outlets for which NS can be used to achieve broader societal impact outside of academic settings. We also reflected on the current

state of the field, where we think the field will go in the next 10 years, and the role of young network scientists in shaping that future.



- Moderators: *Kevin Chan* (Army Research Laboratory); *Catherine Cramer* (NY Hall of Science); *Hiroki Sayama* (SUNY Binghamton); *Stephen Uzzo* (NY Hall of Science).

D. Professional Development Panel

- Panel discussion was held with five network scientists, each with unique career paths and research trajectories. This was an informal dialogue, where students asked questions and discussed about their career choices, working with interdisciplinary teams, how to do good science and foster a productive and healthy research lab and a broader collaborative community.



- Panelists: *Danielle Bassett* (University Penn); *Vittoria Coliza* (Inserm, French National Institute for Health and Medical Research); *Roberta Sinatra* (Central European Univ); *Alex Vespignani* (Northeastern University).

E. Dinner Social

- All the students met for dinner and beverages to decompress after a long day and made plans to move forward as the Society for Young Network Scientists.

IV. Evaluation

The workshop was evaluated with a follow-up survey which was completed by 93% (28 of 30) attendees. In summary, the workshop was successful in creating a forum for the exchange of information, community building, and establishing a set of faculty and NS expert advisors/mentors. Students expressed strong satisfaction with the event, with the greatest success being simply establishing relationships among the students. They also indicated

that they gained a lot of insight from the small session on “one great idea” which gave them new perspectives and exposure to long term strategies for success in the field. The group established itself as the founding members of the Society for Young Network Scientists, which resulted in a mission statement document that students developed together during and finalized several weeks after the meeting. In summary, the conference award supported travel, lodging and registration for 21 graduate students at an average of \$855 per person. Support extended beyond the estimated 16 students in large part because the students organized shared housing to reduce lodging costs. This ultimately led to the greatest success of the conference by leading to strong ties formed among the participants.

In the survey, we found that approximately 24% of the students indicated that they would have likely not attended NETSCI’17 if it hadn’t been for the draw of the SYNS meeting, and only 50% said they would have been able to come without the funding support provided.

A. Lightening presentations. Students were quite satisfied with the Lightening talk session, with an average overall rating of 4.4/5. Several students commented that they would have liked the opportunity to hear more from each student – that the talks were too broad. For instance, one student commented:

- ❖ “It was very dense and the topics, fields, and presentation styles were very different. A week or so later, I feel I got more of an impression of folks' presentation style and general interests than specific content. I'd have enjoyed being put on the spot to attempt to describe my reason for coming and acclimate with the room in a 3 minute "public speaking" situation even though my involvement in NetSci is still pretty informal. Even so I think it was a good icebreaker and even as a “newbe” outsider it provided a great atmosphere to establish connections.”

B. “One Great Idea” session. This session included talks by 4 very different type of researchers who were asked to describe some important lessons or an “ah-ha” moment that changed the course of their career, or approach to their research. The talks were quite varied, with some in the form of advice, and others as a story of successes and failures in one’s career. This was the most liked session of the day, with 90% indicating that were very or extremely satisfied, and with average overall rating for the session at a 4.6/5. 73% said they actually took away a great idea that will help move them forward in their career, including the following anonymous quotes from the students:

- ❖ Frame your work, but be careful that the frame actually captures something real and meaningful
- ❖ Success and failures are part of this career
- ❖ Good ideas require time and sacrifice to gain momentum over time
- ❖ Always keep in mind the generalizability of your research (Brooke Foucault Welles)
- ❖ Do what makes you happy (Peter J. Mucha), and have perseverance (László Barabasi)
- ❖ Do what works for you. It's OK to balance (Peter J. Mucha)
- ❖ The "sudden" insights result from years of thinking in that headspace and being literate and fluent in the adjacent topics (László Barabasi)

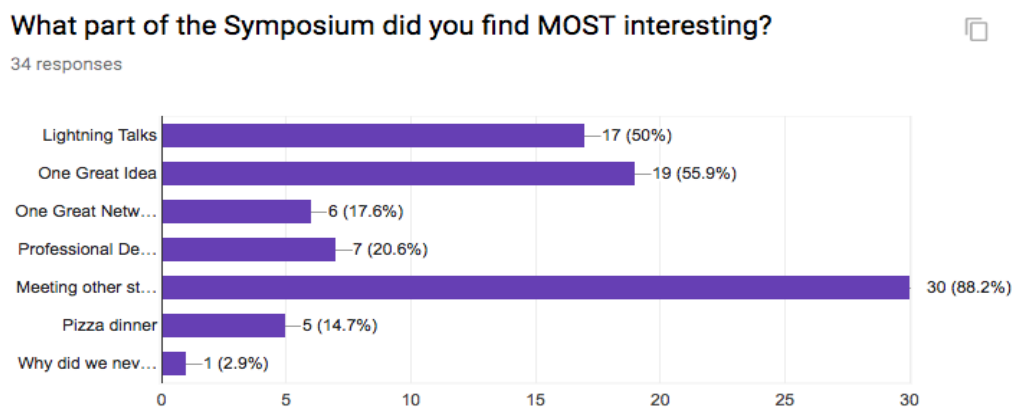
C. “One Great Network” session. This session included two small group activities. One activity aimed to have students identify commonalities and differences across their research areas and methodological approaches, and the second was to discuss how they

would communicate core principles of Network Science to a non-scientific member of the public. Students were least satisfied with this session, with only 58% being satisfied or very satisfied with the structure of the session, and 77% saying they were satisfied or very satisfied with the input from the facilitators. 58% said they felt they learned something about the scientific principles shared across network science, and 73% indicated that they gained communication skills during this session. Some representative student comments:

- ❖ My impression was my group struggled to find concrete commonalities outside of the obvious "we all think NetSci is useful." We landed on "we all must define our nodes and links." I wanted to discuss directly with everyone how, and with what tools, we were using networks to solve our specific problems but I felt that would disrupt the structure of the session. It seems we are all using NetSci to different purposes, and approaching it with different toolsets (from our respective fields), and I think recognizing the differences would have been an interesting exercise. I don't feel as though I learned much about shared scientific principles, other than that Python seems to be the coding language of choice (which is useful).
- ❖ Was more interesting as well as challenging than I had expected. It was fun.
- ❖ The session was very forced.

D. Professional Development Panel. This session included an informal, discussion based panel session with five researchers discussing their career track, and tackled questions of interdisciplinarity, gender, early career decisions, running a lab, and more. The average overall rating for this session was 4/5. The comments were largely very positive, so the lower rating may have been because it was so late in the day. Other criticisms were that the panel was from a narrow area of network science (this was true), and that it wasn't moderated well enough (a few people were taking most of the question time).

The overall impression was that students were satisfied with the event – with an average of 4.3/5 in satisfaction, and 94% said that they would come to another SYNS event. Apparently, the most interesting part of the event was giving students a forum to meet and interact with other students. The “One Great Idea” Session was the most interesting session, and the lightning talks were essential to providing context to the rest of the meeting.



There was an initial burst of communication within the first month of the event followed by sustained Twitter and Slack channel communications. In addition, there have been two newsletters, and plans to exchange visits across research programs. We intend to organize another session in the next year, which will be essential to carrying on this momentum.

V. Financial summary

The workshop was organized as a “satellite” session of the main NetSci 2017 conference. We received \$18,000 in support for the cost of airfare, lodging, and registration fees for participants. Students who were accepted into the PhD Student workshop registered at the student cost (subsidized by ARO, and coordinated with the conference) so they were able to attend the NetSci School on day 1 (June 19, 2017) and the workshop on day 2 (June 20) for \$250. We anticipated funding awards for 16 participants.

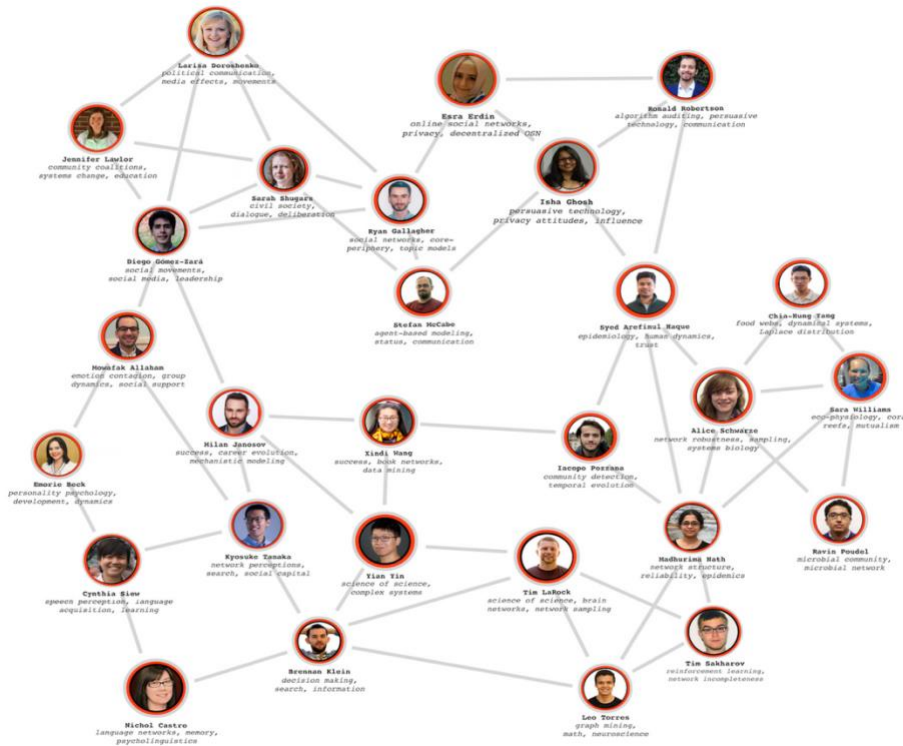
We were very satisfied that our final awards went to 21 students, 5 more than we anticipated. This was largely due to the efforts by the Northeastern University student participants who organized shared housing accommodations for all the attendees. In final, 21 received an average of \$855, which was \$270 less than budgeted per participant (\$1,125). The following shows the breakdowns for with the following breakdowns:

- Travel. We requested \$475 for travel for 16 students to get to the conference from around the U.S. for a total of \$7,600.
 - We were able to fund 19 students at an average of \$340 per student, totaling \$6,472. (*\$1125 less than budgeted, and for 3 additional students*).
- Lodging. We requested \$400 for lodging (estimated for four nights @\$100 per night) for a total lodging cost of \$6,400.
 - We funded 20 students at \$311 on average, for a total of \$6225 lodging costs (*\$175 less than budgeted, and for 4 students more than estimated*).
- Registration. We requested \$250 for conference registration, for a total of \$4,000.
 - We were able to cover registration fees for 21 students, for a total expense of \$2550 (*5 more than we anticipated*).

Final List of SYNS Participant Awards

No.	Name	Contact	Registration Number	Travel Cost	Housing Cost	Registration Cost	Total
1	Sara Williams	williams.sar@husky.neu.edu	202572	\$440.96	\$361.59	\$250.00	\$1,052.55
2	Esra Erdin	eerdin@cse.unr.edu	203034	\$600.00	\$200.00	\$250.00	\$1,050.00
3	Leo Torres	leo@leotrs.com	201801	\$426.60	\$361.59	\$250.00	\$1,038.19
4	Alice Schwarze	alice.schwarze@dtc.ox.ac.uk	194493	\$584.50	\$200.00	\$250.00	\$1,034.50
5	Iacopo Pozzana	iacopo@dcs.bbk.ac.uk	202648	\$414.57	\$292.81	\$250.00	\$957.38
6	Mowafak Allaham	mmallaham1@gmail.com	202475	\$300.00	\$400.00	\$250.00	\$950.00
7	Ravin Poudel	rp3448@ufl.edu	202478	\$475.00	\$200.00	\$250.00	\$925.00
8	Isha Ghosh	isha.ghosh@rutgers.edu	202358	\$464.40	\$200.00	\$250.00	\$914.40
9	Cynthia Siew	cynsiewsq@gmail.com	201846	\$240.00	\$400.00	\$250.00	\$890.00
10	Sarah Shugars	shugars.s@husky.neu.edu	202597	\$271.20	\$361.59	\$250.00	\$882.79
11	Yian Yin	yianyin@hotmail.com	202278	\$200.00	\$400.00	\$250.00	\$850.00
12	Larisa Doroshenko	doroshenko@wisc.edu	203020	\$365.00	\$200.00	\$250.00	\$815.00
13	Jennifer Lawlor	lawlorje@msu.edu	202564	\$350.60	\$200.00	\$250.00	\$800.60
14	Emorie Beck	edbeck@wustl.edu	202560	\$45.00	\$400.00	\$250.00	\$695.00
15	Diego Gómez-Zarà	dgomezara@u.northwestern.edu	202483	\$61.00	\$400.00	\$250.00	\$711.00
16	Madhurima Nath	mnath@vt.edu	202484	\$250.00	\$200.00	\$250.00	\$700.00
17	Tim Sakharov	sakharov.t@husky.neu.edu	201871	\$327.96	\$361.59	\$250.00	\$939.55
18	Syed Arefinul Haque	haque.s@husky.neu.edu	202520	\$327.96	\$361.59	\$250.00	\$939.55
19	Brennan Klein	brennanjamesklein@gmail.com	202471	\$327.96	\$361.59	\$250.00	\$939.55
20	Stefan McCabe	stefanmccabe@gmail.com	202981		\$361.59	\$250.00	\$611.59
21	Kyosuke Tanaka	kyosuketanaka2015@u.northwestern	202730			\$250.00	\$250.00
Total				\$6,472.71	\$6,223.94	\$5,250.00	\$17,946.65

Appendix A: Workshop Participants



SYNS Symposium at NetSci2017 Participants:

Social network of SYNS Symposium participants. Links between participants are based on common research interest.

SYNS 2017 Participants Bios

Mowafak Allaham



1st year, University of Illinois at Chicago

Main interests: social networks, emotion contagion, group dynamics

Mowafak Allaham received his BS in Computer Science in 2013 and his MA in Psychology from George Mason University in 2015 where he worked with Dr. Eva Wiese as a graduate research assistant at the Social Robotics Lab. Prior to joining the Empathy & Social Connection Lab as a PhD candidate, he worked with Dr. Bertram Malle and Dr. Joseph Austerweil at Brown University as a researcher to explore the cognitive representation of social norms. Currently, Mowafak is focusing on using different computational techniques drawn from graph theory and network science to understand the different properties of social networks from a psychological perspective.

Emorie Beck



1st year, Washington University at St. Louis

Main interests: personality psychology, development, dynamics, networks

Emorie D Beck (@EmorieBeck) is a Ph.D student in personality psychology at Washington University in St. Louis, where she just completed her first year. Emorie graduated from Brown University with honors in psychology in 2016. She studies the measurement and development of personality, both at the population and individual levels. She is interested in better understanding the mechanisms behind personality (e.g. patterns of affect, behaviors, and cognitions) that give rise to the stable patterns we call personality traits. Emorie is currently using network science to better understand temporal patterns in affect, behavior, and cognition across different people, times, and contexts. Moreover, she is interested in how we can use knowledge of such mechanisms to create interventions that allow people to volitionally change their personalities.

Nichol Castro

5th year, University of Kansas



Main interests: language networks, memory, psycholinguistics

I am currently a PhD candidate at the University of Kansas pursuing a Dual-title PhD in (Cognitive) Psychology and Gerontology with a Quantitative Minor. I received my MA in (Cognitive) Psychology in 2013 from the University of Kansas and my BA in Psychology with a Cognitive Science Minor in 2011 from the University of Colorado, Colorado Springs. I have an interdisciplinary background that includes psychology, gerontology, linguistics, neuroscience, philosophy, and speech-language pathology.

Larisa Doroshenko

5th year, University of Wisconsin Madison



Main interests: political communication, media effects, political behavior, online participation, social media, connective action, collective action, election campaigns, social movements, far-right parties, comparative analysis, computer-mediated content analysis, online experiments, survey studies, Ukraine, Twitter

My research interests focus on political communication, civic engagement, polarization, and public opinion. I am especially interested in democratic potential of new media and how the internet affects political participation. My dissertation projects explores digital mobilizing strategies of Ukrainian political parties during EuroMaidan revolution and following early elections, these parties' digital networks, as well as effectiveness of these strategies among citizens with regards to both online and offline participation.

Esra Erdin

5th year, University of Nevada, Reno



Main interests: online social networks, privacy, decentralized OSN

Esra Erdin is a PhD candidate at Computer Science and Engineering Department at the University of Nevada, Reno. She received her BS degree in Computer Engineering from Middle East Technical University and her MS degree in Computer Science and Engineering from University of Nevada, Reno. Her area of research is in computer networks, with a focus on social networks, network measurements, design of decentralized online social networks, device-to-device communication, and anonymous communication networks. For her Ph.D. dissertation, she focuses on understanding of social network dynamics and development of phone-to-phone decentralized social networks to address privacy concerns.

Ryan Gallagher

1st year, Northeastern University



Main interests: social networks, core-periphery, topic models, natural language processing

I am a young graduate researcher who has made the laborious, yet rewarding, transition from theoretical mathematics to computational social science. This transition started at the University of Connecticut and continued at the University of Vermont, where I received a Master's degree in applied mathematics and complex systems. In Fall 2017, I will be joining Northeastern University's Network Science PhD program. Broadly, my research focuses on quantifying the stories that emerge from sociotechnical systems. More specifically, I work to intertwine techniques from network science and natural language processing in order to study the interplay between language and social interactions. In studying both what people are talking about and how that relates to their social network, I hope to draw deeper insights into topics such as hashtag activism, collective identity, and mental health.

Isha Ghosh

1st year, Rutgers University



Main interests: persuasive technology, privacy attitudes, social influence

I am a first-year doctoral student at the School of Communication and Information, Rutgers University with research interests in analyzing the influence of online social networks on an individuals' information sharing habits. My work lies at the intersection of behavioral analytics and network science, I am very interested in studying the role of social influence on digital privacy attitudes and behaviors.

Diego Gómez-Zará



1st year, Northwestern University

Main interests: social networks, social movements, social media, leadership, data visualization

I'm interested in mathematical models that explain social behavior, communications, and networks. My goal is to set bridges between social sciences and computer science. I've been working on projects related to social movements, leadership, and journalism.

Syed Arefinul Haque



2nd year, Northeastern University

Main interests: epidemiology, human dynamics, trust

I am a second year PhD student in the Network Science PhD program at Northeastern University and working as a research assistant at the MOBS Lab. My research interest lies in the study of complex networks, human dynamics and computational social science.

Milán Janosov



1st year, Central European University

Main interests: success, career evolution, science, art, big data, mechanistic modelling

Being late from pub crawls with friends because of working on my science projects has been a great struggle to me since I have started visiting pubs. Starting with maths in high school, then physics and biophysics, after that complexity research and software development, I arrived to network science, data science and computational social science. I am always interested in new things focusing on the practical aspects. I also fancy quite different hobbies, like sculpting, going to the gym and constantly annoying my friends with my meal plans, or scuba diving.

Brennan Klein



2nd year, Northeastern University

Main interests: decision making, search, information

Brennan received his BA in Cognitive Science and Psychology from Swarthmore College in 2014, focusing on the relationship between perception, action, and cognition. Currently, in his work with Professor Chris Riedl, he is researching human decision making, complex problem solving, and group behavior. This primarily involves running online experiments with human participants, as well as simulations of human behavior through agent-based modeling.

Tim LaRock



1st year, Northeastern University

Main interests: science of science, brain networks, network sampling

I have previously studied information retrieval from Twitter, mining of wireless frequency spectrum data, load balancing in cellular networks and measures of group centrality in large networks. Currently, I work on developing machine learning algorithms for growing incomplete networks through adaptive node probing. I am interested in mining network data broadly, particularly thinking about higher order structures in networks with applications to global shipping networks, networks in the science of science as well as network neuroscience. Outside of my academic research, I also have interest in philosophy, politics and literature.

Jennifer Lawlor



5th year, Michigan State University

Main interests: community coalitions, systems change efforts, education, social networks, simulation modeling

I'm a 5th year PhD student in Michigan State University's ecological-community psychology program. As a researcher, I'm interested in network structures in community coalitions and their implications for things like efficient communication among members as well as the relationship between a node's position in a coalition network and their experience of efficacy related to their goals for the network. I also work with the Michigan School Program Information Project, examining the role of social networks in the research to practice gap. As a person, I enjoy running, playing the ukulele, and baking.

Stefan McCabe



1st year, Northeastern University

Main interests: social media, social networks, agent-based modeling, status, communication

Stefan received a BA in Government and International Politics and an MA in Computational Social Science from George Mason University. His prior research includes work on agent-based economics and optimizing agent-based models in high-performance computing environments. His research interests include political communication, social media, the intersection of network science and agent-based modeling, and natural language processing.

Madhurima Nath

4th year, Virginia Tech



Main interests: network reliability, epidemic modeling, network structure

My research areas include applying physics models and using computational methods to solve empirical problems of complex networks. The computational complexity of analyzing dynamics on such complex systems scales with system size and therefore modeling them using simpler networks with similar behavior is relevant for the analysis. In addition, I have also been studying the effects of the network topology of realistic socio - technical systems; I study the dynamics of diffusive processes on networks such as propagation of diseases by investigating how reliable a graph is. Using this method, it is possible to approximate and characterize the reliability of a network.

Ravin Poudel



4th year, University of Florida

Main interests: microbial community, microbial network

I am currently a 4th year graduate student in the Department of Plant Pathology, Institute for Sustainable Food Systems, and Emerging Pathogens Institute, at the University of Florida. As a researcher, I am interested in understanding the communication and social network of microbes. I build and apply network models to better understand the roles on microbes, as a community, in determining the host performances such as in disease or healthy states.

Iacopo Pozzana



1st year, Birkbeck, University of London

Main interests: community detection, meta-heuristics, temporal evolution

I got my Masters in Physics from the University of Pisa, Italy, last September, after which I moved to London to start a PhD at Birkbeck Computer Science. During the Master I worked on a new model of temporal activity-driven network, with a focus on its impact on dynamical processes. Now my research focuses on improving community detection methods by using information regarding the temporal structure of the network, with a particular applicative focus on online social networks.

Ronald Robertson



1st year, Northeastern University

Main interests: algorithm auditing, attitude and behavior change, persuasive technology, communication networks

I conduct research on how modern information and communication technologies can induce attitude and behavior change by leveraging our psychological heuristics and vulnerabilities. When I'm not conducting research I like surfing, crashing motorcycles, and playing guitar.

Tim Sakharov



Incoming PhD student, Northeastern University

Main interests: graph mining, machine learning

Tim is interested in the application of machine learning and data mining methods to network science. He is currently working on mitigating network incompleteness through intelligent node querying. He has a B.S. in Information Science from Northeastern University, and will be joining Northeastern's Network Science Institute as a Ph.D. student this Fall.

Alice Schwarze



3rd year, Oxford University

Main interests: network robustness, sampling, systems biology, systems pharmacology

I am a PhD student at the Mathematical Institute at Oxford University and the Oxford University Doctoral Training Centre for Systems Approaches to Biomedical Science. This year, I am also a visiting graduate researcher at UCLA. My work focuses on the structural robustness of protein-interaction networks. I am passionate about maths, natural sciences, travelling, and my ukulele.

Sarah Shugars



2nd year, Northeastern University

Main interests: civil society, dialogue, deliberation

Sarah received her BA in Physics from Clark University, where she graduated Cum Laude in 2009, and participated in Tisch College's Summer Institute of Civic Studies in 2013. An active member of the Somerville, MA community, Sarah serves as clerk of The Welcome Project board and on the board of the OPENAIR Circus. Sarah is interested in applying network science to questions of civil society and political deliberation.

Cynthia Siew



5th year, University of Kansas

Main interests: speech perception, spoken word recognition, visual word recognition, lexical processing, word learning, language acquisition, language evolution

I use behavioral and computational methods to investigate the cognitive processes and mechanisms that support lexical processing. In particular I apply the suite of tools offered by network science to study the structure of the mental lexicon and see how that affects the way we produce speech, understand language and learn new words. I am also interested in applying network science approaches to understand other areas of the psychological and cognitive sciences.

Kyosuke Tanaka



2nd year, Northwestern University

Main interests: network perceptions, network search, network activation, social capital, small-world phenomenon

My research interests lie in network thinking and cognition. I'm interested in understanding how individuals perceive, search and use their surrounded connections and connections of connections. To examine the research question, I use network experiments, agent-based modeling, and statistical analysis.

Leo Torres



1st year, Northeastern University

Main interests: graph mining, math, neuroscience

Leo is interested in the intersection of Network Science, Complexity Science, and Neuroscience. By using different approaches from Computer Science, like graph mining and machine learning, he is trying to uncover the underlying principles governing the interplay between structure and function of dynamical networks. Leo has a B.S in Mathematics from a top-rated Peruvian Mathematics department, and is a self-taught programmer, having attended the Recurse Center, a programmers retreat in NYC, to focus on algorithm design and high-quality code writing standards.

Xindi Wang



2nd year, Northeastern University

Main interests: success, book networks, data mining

I am a person likes a lot of things, especially music and books. My background was in Electronic Engineering and Computer Science. As a researcher, I'm mostly interested in the pattern behind success. My work focuses on data mining and analysis as well as modeling.

Sara Williams



2nd year, Northeastern University

Main interests: ecological networks, coral reefs, eco-physiology, mutualism

Sara is a PhD student and NSF Graduate Research Fellow in the Ecology, Evolution, and Marine Biology degree program. She earned her B.S. in physics with honors from the College of William and Mary in 2014. Sara's dissertation research involves using network science to study coral reefs. She is working on modeling how the coral-symbiont mutualism network responds to increasing temperatures due to global climate change.

Chia-Hung Yang



1st year, Northeastern University

Main interests: food webs, dynamics, complex systems, Laplace distribution

I obtained my bachelor's degree in physics at National Tsing Hua University, Taiwan and am currently a PhD student of Network Science at Northeastern University. I am interested in the dynamical behavior of complex systems and what are the underlying mechanisms. The ultimate goal is to "engineer" those complex systems for purposes based on our theoretical understandings. Among various subjects in complex systems, ecosystems remain mysterious despite its early debut, and the inherent networks specifying interactions between species caught my attention. I study how food web structures form from a general natural selection perspective and whether they coincide with popular models. I also work on a project exploring the genetic mechanism of wide-observed Laplace-distributed growth rates in reality.

Yian Yin

1st year, Northwestern University

Main interests: computational social science, complex systems, science of science



I am a first-year PhD student of Industrial Engineering & Management Sciences (IEMS) at McCormick School of Engineering, Northwestern University, with affiliations at Northwestern Institute on Complex Systems (NICO). My research interest lies in the boundary of data mining, complex systems and computational social science, with a focus on understanding successes and failures in individual career from large-scale datasets. I am also interested in applying network science models to understand the temporal evolution of science and technology.