

**Network Analysis of Online  
Behavior  
Conference, 2018**

The conference goal is to launch new collaborative research bringing together American and Chinese scholars in big data analyses informed by deeper understanding of the social science mechanisms by which social networks display and affect behavior.

The conference is supported by School of Social Sciences Tsinghua University and Center for Social Network Research, Tsinghua University.

# Characteristics of OnLine Networks

Saturday, November 3, 2018

9:00-9:15	Taoxiong Liu, Welcome Speech Tsinghua University
9:15-10:15	James A. Evans, "Social Limits to Understanding" University of Chicago
10:15-10:25	Tea break
10:25-10:50	DR. Fu Xiaoming, "Estimating SES from mobility data" University of Göttingen
10:50-11:15	Jar-Der Luo, "Predicting Chinese Guanxi: Guess, Who are Your Intimate Friends?" Tsinghua University
11:15-11:40	Tao Zhou, "Computational Socioeconomics" University of Electronic Science and Technology of China
11:40-13:30	Lunch
13:30-13:55	Yunsong Chen, "Mapping public concerns about class immobility in China" Nanjing University
13:55-14:20	Zhiyuan Liu, "Deep Learning and Computational Social Sciences" Tsinghua University
14:20-14:45	Tianguang Meng, "Bridging Digital Divide: Online Participation and Government Responsiveness in China" Tsinghua University
14:45-15:10	Yu-Sung Su, Addressing the Non-Representative Issue of the Big Data Tsinghua University
15:10-15:20	Tea break
15:20-17:00	Free Talk( Jar-Der Luo, DR. Fu Xiaoming, Tianguang Meng, Yu-Sung Su, Zhiyuan Liu)

开放讨论：参会者可根据下列备选题目，任选其一发言5分钟（非论文自述，语言为中文）

题目包括：

- 1、社会科学研究的范式转型会是什么？
- 2、我们如何定义Social Computing？
- 3、社科新范式主要表现在由理论驱动的社会科学正在向由数据驱动的社会科学转型？会由因果机制的分析转向系统动态的模拟吗？
- 4、非结构电子印迹数据如何与结构化数据库结合？会从「小数据验证逻辑」转向「大数据发现逻辑」吗？

# This is the address of the conference venue.

The Third conference room, Jin Chun Yuan Hotel

清华大学近春园宾馆第三会议室

Jin Chun Yuan Hotel is up here, close to The Hospital of Tsinghua University, Tel: +8610-62784008



## School of Social Sciences Tsinghua University 清华大学社会科学学院

1911年清华学堂（1912年改称清华学校）建立之初，便开设多门政治学、经济学课程。1925年清华学校设立大学部。1926年成立的17个学系就包括社会学系、政治学系、经济学系和教育心理学系。1928年清华学校改名国立清华大学，设文、理、法三个学院共15个学系，其中社会学系、心理学系分别归入文学院和理学院，政治学系和经济学系隶属法学院。

清华大学社会科学的发展秉承“中西融会、文理会通”的学术传统，倡导运用现代科学的思想 and 研究方法探讨政治、经济和社会现象，坚持学习借鉴国际社会科学的先进经验和国际学术标准，注重研究中国现实问题，以“民族在学术上之独立发展，而完成建设新中国之使命为宗旨”，在治学 and 人才培养方面取得了世所公认的杰出成就。

一大批学术造诣深厚、社会影响广泛的杰出学者和社会活动家曾在清华社会科学各学系执教或学习，如费孝通、陈岱孙、张奚若、潘光旦、钱端升、萧公权、王铁崖、王亚南、陈达、朱君毅、伍启元、赵元任、戴世光、萧蓬、吴景超、李景汉、陈体强、唐钺等。以他们为代表的清华社会科学师生不但引领科学研究风气之先，而且学以致用，成为中国现代政治、经济和社会建设的一代英才。

1952年全国高等教育院系调整，清华大学成为多科性工业大学。社会科学相关学系和师生并入其他院校或学术机构。20世纪80年代之后，清华大学逐步向综合性大学方向发展，相继复建社会科学学科。1984年清华大学成立社会科学系，1993年成立人文社会科学学院，下设哲学与社会学系、中国语言文学系、历史系、思想文化研究所、科学技术与社会研究所、经济学研究所、教育研究所和艺术教育中心。1997年人文社会科学学院成立国际关系学系。2000年复建社会学系和政治学系。2008年复建心理学系。2012年，在清华新百年的起始之年，清华大学在原人文社会科学学院基础上，分别成立人文学院和社会科学学院。社会科学学院下设政治学系、国际关系学系、社会学系、心理学系、经济学研究所、科学技术与社会研究所，旨在瞄准国际学术前沿和国家战略需求，再创清华大学社会科学新的辉煌。

社会科学学院的主干学科是：政治学、社会学、经济学、心理学，目前有5个博士学位授予权的一级学科：政治学、社会学、理论经济学、体育学、哲学。4个本科专业：社会科学实验班（含国际政治学、社会学、经济学专业方向）、心理学专业；4个博士后流动站：政治学、社会学、理论经济学、哲学；3个北京市重点学科：国际关系、社会学、科学技术与社会。《国际关系分析》、《马克思主义政治经济学原理》、《邓小平理论与“三个代表”重要思想概论》课程被评为国家级本科精品课。

学院现有教职工83人，其中教授45人，副教授25人，讲师11人，职员2人，在站博士后67人。目前在读学生总数862人，其中本科生358人，硕士研究生281人，博士研究生223人（含留学生151人、港澳台学生13人）。

学院下设4系（政治学系、国际关系学系、社会学系、心理学系）2所（经济学研究所、科学技术与社会研究所），还设有近20个跨学科非实体研究机构。

## ABOUT THE CENTER 中心简介

The Tsinghua Center for Social Network Research was founded on Jan. 1st 2013. As a Tsinghua University research center, its purpose is to develop a platform for cooperation among physicists, computer scientists, and social, behavioral and epidemiology researchers, so that they can explore a set of interdisciplinary methodological approaches for studying complex social networks in big data.

Big data brings a lot of opportunities and challenges for interdisciplinary research: Various domains of knowledge have developed and accumulated a large body of hypotheses, models and empirical findings on the structure, dynamic processes, and consequences of social networks.

In order to arrive at a consensus we first need to create a methodological framework that takes data mining as its starting point. The object of research is online big data, which has the untapped potential to yield findings about new social phenomena. The next step is interpreting these findings through various qualitative and survey studies, which will further help us reveal grounded truth to verify theoretical hypotheses. The final step is building a model that encompasses the co-evolution of human actions and network structure based on the operative theories. With a model built on this solid foundation, researchers trained with interdisciplinary methods have the required information to predict new facts from their results.

Running in parallel to our research are real-world surveys that often generate new facts that conflict with our interpretation of the results of data mining. In this kind of scenario, we must return to our data and begin an iterative process of data mining, theory development and dynamic model building; until we can reconcile the two sets of results.

The goal of TCSNR is to develop a series of programs for training students with different research backgrounds, and mesh their different areas of expertise into a methodologically and substantively integrated whole. From this interdisciplinary training method we can expect new results and considerable progress in social network research.

清华大学社会网络研究中心（简称TCSNR），成立于2013年1月1日。作为清华大学研究中心，其目的是建立平台去推进物理学、计算机科学、和社会科学研究者之间的合作，这样的合作有利于他们探索跨学科方法。

为了有效整合数据挖掘、理论建构与动态复杂系统的预测，我们首先需要创建一个以数据挖掘为出发点的方法论框架。以在线大数据为挖掘对象，可以发现新社会现象，然后通过各种定性和调查研究，解释这些发现，这将进一步帮助我们揭示社会实际情况，并验证理论假说。最后，基于被验证的理论可以建立包括人类行动和网络结构的共同演化模型。跨学科的方法利用在此坚实的理论基础上建立的动态网络模型，从而预测社会系统非线性演化的轨迹。研究在数据挖掘、理论建构与动态复杂系统的预测一轮又一轮进行，使我们能对非线性发展的社会系统中涌现的新生社会现象有所解释与预测。

TCSNR的目标是推进一系列项目，用以培养不同研究背景的学生，让他们不同的专业领域在方法上和实质上交流、整合并相互印证发明。依靠这样的跨学科培训学生以及联合研究的方法，我们可以期待大数据领域的新发现以及社会网络研究方面的大进展。

## Taoxiong Liu

Professor of economics

Director, Institute of economics

Executive director, Center for  
strategy and policy

Executive director, Institute for  
innovation and development

Tsinghua University



Taoxiong Liu is Secretary of CPC Committee, School of social sciences; Director, Institute of economics; Doctoral supervisor; Professor of economics; Executive director, Center for strategy and policy; Executive director, Institute for innovation and development.

Liu's research interests include economic growth theory, macroeconomics, politics and economics, national defense economics. Liu's research is funded by the National Social Science Fund of China, the Ministry of education of Humanities and Social Science project and so on. He has published 3 books and more than 20 papers.

刘涛雄，清华大学社会科学学院党委书记，经济学研究所所长；经济学教授，博士生导师。

清华大学战略与政策研究中心执行主任，清华大学创新发展研究院执行院长。

研究领域:经济增长理论、宏观经济学、政治与经济、国防经济学

研究概况:曾承担国家社科基金，教育人文社科规划项目等多项课题。发表专合著3部，论文20余篇。

# Yunsong Chen

Professor of Sociology  
Nanjing University  
Deputy Chief of Xuanwu District  
Government Nanjing



Yunsong Chen is a Professor of Sociology at Nanjing University; the Deputy Chief of Xuanwu District Government in Nanjing. Supported by the Clarendon Scholarship, he earned his D.Phil. in Sociology at Nuffield College, the University of Oxford in 2012. He has broad research interests within the fields of social networks and social relations. To date, his research includes empirically assessing the counterfactual causal effects of social networks in labor markets under different institutional contexts, using ‘big data’ to identify the long-term relationship between macro-level social- economic indicators and cultural phenomena, and subjective wellbeing and social status in China. His recent and forthcoming articles appear in leading English-language journals including *Social Networks*, *Social Science Research*, and *British Journal of Sociology*, as well as top Chinese journals including *Social Science in China*, *Journal of Chinese Sociology* and *Chinese Journal of Sociology*. In 2015 he was awarded various honors including the Distinguished Scholarly Publication Award by the Lu Xueyi Sociology Development Foundation, and the Fei Hsiao-Tung Scholarship for Distinguished Teachers.

His newer research agenda extends his earlier research to broader fields with novel data from historical and contemporary China. He is organizing a project gleaning data from historical records to visualize social networks among ten thousand Chinese poets in the Tang and Song Dynasties to assess whether social networks affected their career and literary success. Aside from social network analysis, some of his current projects make use of information extracted from enormous volumes of digitized data (e.g., Google Books N-gram corpus, New York Times corpus, Google, Baidu, Sina-Microblog, to name a few) to conduct sociological analysis. For example, he analyzes the relationship between stock market and online emotions in China, the connection between suicide in written media and suicide rate in the U.S., and the international visibility of thousands of cities in the world city system.

陈云松，牛津大学博士，现任南京大学-约翰斯·霍普金斯大学中美文化研究中心（Hopkins Nanjing Center）主任、社会学系教授，博士生导师。主要研究领域为人文社科大数据、社会网络和社会治理。近年来，先后以第一和通讯作者身份在《中国社会科学》、《社会学研究》、《人民日报》理论版等国内权威报刊和*British Journal of Sociology*、*Social Networks*和*Social Science Research*等国际重要学术刊物发表学术论文多篇。

## James A. Evans

Professor; Director, Knowledge Lab ; Faculty Director, Masters Program in Computational Social Sciences;  
Department of Sociology  
University of Chicago



James Evans' work explores the sources, structure, dynamics and consequences of modern knowledge. Evans is particularly interested in the relation of markets to science and knowledge more broadly, and how evolutionary and generative models inform our understanding of collective representations, experiences and certainty. He has studied how industry collaboration shapes the ethos, secrecy and organization of academic science; the web of individuals and institutions that produce innovations; and markets for ideas and their creators. Evans has also examined the impact of the Internet on knowledge in society. His work uses natural language processing, the analysis of social and semantic networks, statistical modeling, and field-based observation and interviews. Evans' research is funded by the National Science Foundation, the National Institutes of Health, the Mellon and Templeton Foundations and has been published in *Science*, *PNAS*, *American Journal of Sociology*, *American Sociological Review*, *Annual Review of Sociology*, *Social Studies of Science*, *Administrative Science Quarterly* and other journals. His work has been featured in *Nature*, *the Economist*, *Atlantic Monthly*, *Wired*, *NPR*, *BBC*, *El Pais*, *CNN* and many other outlets.

James Evans的著作探讨了现代知识的来源、体系、动力和重要性。Evans特别偏好对科学与知识的关系的研究，以及演化和生成模型如何告知我们对于集体表征、经验和确定性的认识。他研究了行业合作如何塑造学术科学的规范、保密性和组织；个人网络与制度网络为创意及其创造者生产新的观念和需求。Evans还对互联网对于社会知识的影响进行了研究。他的工作采用自然语言处理、社会和语义网络分析、统计建模以及实地观察和访谈等方法。

埃文斯的研究获得了美国国家科学基金会、国家卫生研究院、梅隆大学和坦普尔顿基金会资助，并发表于 *Science*, *PNAS*, *American Journal of Sociology*, *American Sociological Review*, *Annual Review of Sociology*, *Social Studies of Science*, *Administrative Science Quarterly* 等顶级期刊。他的著作被刊登在 *Nature*, *the Economist*, *Atlantic Monthly*, *Wired*, *NPR*, *BBC*, *El Pais*, *CNN* 和许多其他媒体上。



# Xiaoming Fu

Professor

Institute of Computer Science

University of Göttingen



Prof Xiaoming Fu received his Ph.D. (2000) degree in Computer Science from Tsinghua University, then worked as a member of scientific staff at the Telecommunications Networks (TKN) group, Technical University Berlin until joining the faculty at the University of Goettingen in 2002, where he has been a full professor since 2007. During 2010-2012 he served as Vice Chair of the Technical Committee on Computer Communications (TCCC), IEEE Communications Society (ComSoc), and during 2011-2013 as Chair of the Internet Technical Committee of the IEEE ComSoc and Internet Society (ISOC). He is a member of Academia Europea, an IEEE senior member and an IEEE distinguished lecturer, a member of ACM, and a Fellow of IET. He was/is coordinator of several EU projects including GreenICN, MobileCloud, CleanSky and ICN2020, and won several best paper awards.

傅晓明2000年获得清华大学计算机系统结构专业博士学位。同年底担任德国柏林工业大学研究员。2002年起任教德国哥廷根大学，创建计算机网络研究实验室，兼任数学与计算机科学学院学术院长、国际办公室主任等职。33岁时，成为哥廷根大学建校270年历史上的第一位华人终身教授（时为全校最年轻的教授），也是德国历史上由中国博士获聘终身教授职位的第一人。

傅晓明的主要研究领域包括互联网、移动计算、云计算、大数据及社会网络。他曾担任IEEE ICNP 2013、ACM ICN 2016等国际学术会议总主席，是中国教育部、清华大学计算机系长江学者讲座教授，美国UCLA富布莱特学者讲座教授，欧洲科学院(Academia Europea)院士、英国工程技术学会(IET)会士、国际电气与电子工程师学会（IEEE）高级会员、IEEE杰出讲演人、美国计算机学会（ACM）及德国计算机学会（GI）会员。他是Green ICN、Mobile Cloud、Clean Sky及ICN 2020等多个欧盟大型科研项目的总负责人、首席科学家。

## Jarder Luo

Professor of Sociology Dept.,  
Tsinghua University  
Chairman of Tsinghua Social Network  
Research Center



Luo, Jar-Der is a professor of Sociology Dept., Tsinghua University in Beijing, president of Chinese Network for Social Network Studies, and chairman of Tsinghua Social Network Research Center. He earned his Ph.D degree in Sociology Dept. of State U. of New York at Stony Brook. He researches numerous topics in social network studies, including social capital, trust, social network analysis in big data, self-organization process and Chinese indigenous management researches, such as guanxi and guanxi circle.

Luo Jar-Der, with a group of voluntary network theorists, organized Chinese Network for Social Network Studies (in brief, CNSNS) in 2005. Its purposes aim at promoting Network Theories and Social Network Analysis in China and developing network theories suited for Chinese management. Chinese always describe themselves as a “Ren-Ching society”, that is, roughly saying, a society built upon social ties (guanxi) and favor exchanges (Ren-Ching-jiau-huan).

Luo Jar-Der organized Community Revitalization Research Center in Tsinghua U., which aims at doing experiments in communities and establishing a model for sustainable revitalization in urban and rural areas that emphasizes sustainability of the local ecology, economy, and social systems. We will endeavor to implement a revitalization model combining private-public partnership and sustainable concepts into practice, incorporating scientific planning, balanced development, step-by-step implementation and self-reliance of local community into our plan.

罗家德，清华大学社会学系教授、博导，清华大学社会网络研究中心主任，清华大学社会科学学院信义社区营造研究中心主任，中国社会学会社会网暨社会资本研究专业委员会创会主席。在学术领域着重于社会网理论研究，大数据中的社会网分析，自组织过程研究，并将中国社会的“关系”与“圈子”等特质置于中国本土化管理研究之中。著有《中国商道》、《中国人的信任游戏》、《社会网分析讲义》、《复杂》等书。同时还组织了社区营造研究中心在灾区乡村以及北京大栅栏地区从事可持续性发展的社区实验，并举办相关培训，著有《灾区重建纪事》以及《云村重建纪事》等学术论著。

# Yu-Sung Su

Associate Professor  
Department of political science  
Tsinghua University



Dr. Yu-Sung Su is an associate professor of political science department and the director of the Institute of Quantitative Research Methods at Tsinghua University. His research interests involve Comparative Democratization, Political Economy and Political Methodology (Causal Inference, Bayesian Methods, Multilevel Modeling and Game Theory). He published his works in journals such as Annals of Applied Statistics, Journal of Statistical Software, Econometrika, Research Policy, Social Science Quarterly, Global Environmental Change, etc. He also maintains several R packages such as arm, mi, R2jags.

苏毓淞，清华大学政治学系副教授，2009年毕业于美国纽约市立大学，获政治学博士，2010年哥伦比亚大学博士后出站后，入职清华大学政治学系。主要研究领域：政治学方法论（贝叶斯方法、因果推论、缺失值插补、多层次回归分析、数据可视化）、比较政治学。在定量方法研究上有丰硕的成果，开发的R软件包广为国内外学术界使用。

# Tao Zhou

Professor  
School of Computer Science and  
Engineering,  
University of Electronic Science  
and Technology of China



## ● Experience

2005: Special Class for Gifted Young, University of Science and Technology of China, Bachelor Degree Majoring Physics

2010: Department of Physics, University of Fribourg, Switzerland, PhD Majoring Physics

2010 – Present: Director of the Web Sciences Center, Director of the Big Data Research Center, Full Professor in the University of Electronic Science and Technology of China

## ● Brief Research Statement

His main research interests include the data mining, network science and collective dynamics. He has published many research articles in prestigious journals (e.g., Physics Reports, PNAS, Nature Communication), which received >20000 citations from the Google Scholar (H-index=68). His works have been reported by several academic medias as Nature News, PNAS News, MIT Technology Review, PhysOrg.com, My Science, TG Daily, Dutch Science Magazine, Chinese Science News, etc. See following the Publications and Citations:

<http://scholar.google.com.hk/citations?user=MXgWgmEAAAAJ&hl=zh-CN>.

## ● Selected Awards

1. First Prize on Natural Science Progress for “Structure and Dynamics of Networks”, issued by the Education Minister of China, 2009
2. Chorafas Prize for Young Scientist (2010)
3. The 12<sup>th</sup> National Award for Young Scientist, 2012
4. 10 National Annual Characters (Science and Technology Innovation) in 2015.

## ● Industrial Practice

He has found three well-known high-tech companies majoring big data and artificial intelligence, namely Union Big Data, BBD and Youe Data. These three companies have in total >2000 employees, with >100000000RMB profit in 2017.

周涛，电子科技大学教授，主要从事统计物理与复杂性方面的研究。在 **Physics Reports**、**PNAS**、**Nature Communications** 等国际 **SCI** 期刊发表 300 余篇学术论文，引用 20000 余次，H 指数为 68。2009 年获教育部自然科学一等奖，2011 年获第十二届中国青年科技奖，2014 年起历年入选 **Elesvier** 最具国际影响力中国科学家名单（物理天文类）。2015 年当选第十二届中华全国青联常务委员，并担任科学技术界别工作委员会副主任。2015 年当选全国十大科技创新人物。2017 年获全国创新争先奖。2018 年起任四川省政协常委。

## Zhiyuan Liu

Associate professor of the Department of  
Computer Science and Technology,  
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Zhiyuan Liu is an associate professor at the Department of Computer Science and Technology, Tsinghua University. He received his Ph.D. degree in Computer Science from Tsinghua in 2011. His research interests include representation learning, knowledge graphs and social computation, and has published more than 60 papers in top-tier conferences and journals of AI and NLP including ACL, IJCAI and AAI, cited by more than 3000 according to Google Scholar. He is the recipient of the Excellent Doctoral Dissertation of Tsinghua University, the Excellent Doctoral Dissertation of CAAI (Chinese Association for Artificial Intelligence).

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