

# Northwestern | Kellogg

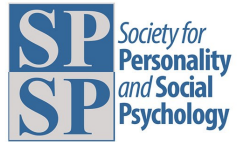
The Northwestern Institute on Complex Systems (NICO) and the Kellogg School of Management are honored to sponsor the 2019 Summer Psychology Forum: Big Data in Personality and Social Psychology

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## **BIG DATA** in Personality and Social Psychology

August 2-4, 2019  
St. Louis, Missouri

SPSP Summer Psychology Forum



### SCHEDULE

Friday, August 2		Saturday, August 3		Sunday, August 4	
3:00 pm	Registration Gateway Foyer	8:30 am	Registration Gateway Foyer	8:30 am	Registration Gateway Foyer
5:00 pm	Welcome Reception Archview <i>*Sponsored by Snap, Inc.</i>	8:30 am	<b>Keynote:</b> Maarten Bos <i>Snap Inc.</i> Gateway 3 & 4	8:30 am	Workshops B Gateways 2, 3 & 4
6:30 pm	<b>Keynote:</b> Jeff Hancock <i>Stanford University</i> Gateway 3 & 4	10:00 am	Break   Gateway Foyer	9:30 am	Coffee Available Gateway Foyer
		10:30 am	Data Blitz Gateway 3 & 4	10:30 am	<b>Keynote:</b> Jamie Pennebaker <i>Univ. of Texas-Austin</i> Gateway 3 & 4
		Noon	Lunch   Archview		
		1:30 pm	Workshops A Gateways 2, 3 & 4		
		3:30 pm	Break   Gateway Foyer		
		4:00 pm	<b>Keynote:</b> Gabriella Harari <i>Stanford University</i> Gateway 3 & 4		
		5:30 pm	Reception Poster Session Archview <i>*Sponsored by Columbia Data Science Institute</i>		

**Collaboration Space:**  
Gateway 1 is open all weekend for you to use for networking. Grab a table and a colleague to discuss your next collaboration!"

### Sponsors

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 COLUMBIA UNIVERSITY  
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Snap, Inc.



WiFi (Saturday/Sunday)

Network: Hilton Meeting Password: 1776





# Keynote Speakers



## Ethics and Big Data: Hands On Guides for Conducting Ethical Big Data Research

**Jeff Hancock, *Stanford Univ.***

One of the main challenges in conducting big data research is applying well-established ethical guidelines to novel contexts. In this presentation we'll review some of the main issues and some practical principles to help guide ethics by design in big data research.

*Friday, 6:30 pm, Gateway 3 & 4*



## Mobile Sensing for Theory Development and Assessment in Social and Personality Psychology

**Gabriella Harari, *Stanford Univ.***

Social and personality researchers have long been interested in understanding and assessing how behavior is expressed in daily life. However, until recently, the intensive longitudinal assessment of behaviors has been practically challenging (for researchers) and burdensome



## Behavioral Science with Big(ger) Data at a Corporate Research Laboratory

**Maarten Bos, *Snap Inc.***

Corporate research labs aim to push the scientific and technological forefront of innovation outside traditional academia. Snap Inc. combines academia and industry by hiring academic researchers and doing application-driven research. In this talk I will give examples of research projects from my corporate research experience. My goal is to showcase

the value of – and hurdles for – working both with and within corporate research labs, and how some of these values and hurdles are different from working in traditional academia.

*Saturday, 8:30am, Gateway 3 & 4*



## Words, Words, Words: Clues to Personality, Groups, and Civilizations

**Jamie Pennebaker, *Univ. of Texas-Austin***

The words we use provide valuable information about the ways we think and behave. This talk provides an overview of approaches to the analysis of text to better understand basic social and personality processes. Of particular relevance will be a summary of work that attempts to unwrap real world group processes as they occur

by focusing on social media platforms such as Reddit. To appreciate the power of words in a big data environment, you must harness your basic social and personality ways of thinking, mix it with a basic understanding of big data methodology, and never lose sight of your own and others' ways of speaking and writing in everyday life. *Sunday, 10:30am, Gateway 3 & 4*

## Workshops A

Sunday, 8:30 am



## Using Machine Learning to Enable New Forms of Psychology Research (R Workshop)

**Poruz Khambatta, *Stanford Univ.***

In the early days of computing, programmers manually taught computers to perform tasks. With the advent of machine learning, computers can now learn on their own and teach us a few things in the process. This

workshop will provide an introduction to machine learning for psychologists. We will begin by discussing the unique value machine learning can provide to the field of psychology. We will then explore key topics (e.g., overfitting, cross-validation, etc.) through the use of hands-on demonstrations. We will also try out leading machine learning approaches, including regularized regression and random forest, on a real-world data set. Exercises will be conducted in the R programming language. **Location: Gateway 3 & 4**



## Where It's At – A Hands-on Workshop on Geographic Analysis for Psychologists

**Tobias Ebert, *Mannheim Centre for European Social Research, Univ. of Mannheim*** and **Friedrich M. Götz, *Univ. of Cambridge***

This workshop is designed to offer an accessible, hands-on introduction to methods and applications of spatial analyses in psychology. Herein, we cover the following contents: (1) how to geographically aggregate individual-level data (2) simple and flexible approaches of mapping psychological variables (3) how to create spatial-weight matrices and use them to assess geographical clustering (4) methodological challenges when regressing spatial data and a brief introduction into spatial econometrics. **Location: Gateway2**

## Data Blitz

### [1] Extreme Weather Salience: Effects on Environmental Action

Combining 3 national datasets, we examined if regional U.S. Google searches for weather predict climate change opinion. Areas of the U.S. where a greater proportion of people searched for Wildfire or Drought were areas where a greater percentage believed that climate change is happening and that scientists agree; Wildfire and Drought search were inversely related to support for CO2 regulation. **Michelle Shteyn<sup>1</sup>, David Sherman<sup>1</sup>, Matto Mildenerberger<sup>1</sup>, Eric Knowles<sup>2</sup>**  
<sup>1</sup>*Univ. of Calif. Santa Barbara*, <sup>2</sup>*NYU*

### [2] Does Where We Live Define What We Buy? Using Big Data to Study the Effects of Regional Social Norms on Spending Behavior

Recently, personality has been identified as a powerful predictor of one of the most crucial daily life behaviors: spending. Adding social ecology to the equation, we use big data from the BBC lab dataset and a money management app to test whether regional personality (based on N = 588,014) affects individual spending behavior (N > 2,000,000 purchase decisions) above and beyond individual personality. **Friedrich M. Götz<sup>1</sup>, Tobias Ebert<sup>2</sup>, Sandra Müller<sup>3</sup>, Joe J. Gladstone<sup>4</sup>, Sandra C. Matz<sup>1</sup>**  
<sup>1</sup>*Univ. of Cambridge*, <sup>2</sup>*Univ. of Mannheim*, <sup>3</sup>*Columbia Univ.*, <sup>4</sup>*Univ. College London*

### [3] Consequential Consensus: A Decade of Discourse About Hot-Button Topics on Reddit

Seeing policies as matters of non-negotiable values increases the perceived intractability of debates, while focus on concrete consequences aids conflict resolution. We use a topic model of Reddit posts from 2006 to 2017 to show a shift away from discussing non-negotiable values towards discussion of consequences coincided with increased public support for same-sex marriage. **Babak Hemmatian<sup>1</sup>**  
<sup>1</sup>*Brown Univ.*

### [4] The Roles We Play: Uncovering Community Structure in Online Gaming Communities

Games are becoming central to many people's lives, but is it making them socially maladjusted? In this study, we look at people's cognitive, social, and emotional worlds with respect to game centrality and find that though highly active gamers may have a reputation for being antisocial and aggressive, the people who participate the most in online gaming communities emerge as community leaders. **Mohini Tellakat<sup>1</sup>, James Pennebaker<sup>1</sup>**  
<sup>1</sup>*Univ. of Texas at Austin*

### [5] Privacy in the Age of Psychological Targeting

Psychological targeting, i.e. extracting psychological profiles from individuals' digital footprints in order to influence their behavior through psychologically-informed interventions, challenges traditional conceptualizations of privacy and informed consent. We discuss these challenges, argue that it is time to rethink privacy, and describe potential solutions like context-specific regulation. **Ruth Elisabeth Appel<sup>1</sup>, Sandra C. Matz<sup>2</sup>, Michal Kosinski<sup>3</sup>**  
<sup>1</sup>*Sciences Po, Paris*, <sup>2</sup>*Columbia Univ.*, <sup>3</sup>*Stanford Univ.*

### [6] This is Not a Drill: Anxiety on Twitter Following the 2018 Hawaii False Missile Alert

What are the psychological consequences of exposure to a false alarm of a dangerous, large-scale threat? We harnessed 1.2 million tweets from 14,830 Hawaii residents to examine anxiety expression on Twitter following the false ballistic missile alert in early 2018. Findings suggest that anxiety resulting from the false alarm persisted for many people well after the threat was dispelled. **Nickolas Jones<sup>1</sup>, Roxane Silver<sup>2</sup>**  
<sup>1</sup>*Princeton Univ.*, <sup>2</sup>*Univ. of Cali, Irvine*

### [7] Appearing Human: The Landscape of Humanlike Robots and Its Influence on Mind Perception

The psychological impact of robots' appearance requires systematic research. We created the world's largest image collection of anthropomorphic robots, identified a three-dimensional structure to robots' humanlike appearance from 16 features, created a taxonomy of humanlike appearance using hierarchical cluster analysis, and revealed how different dimensions elicit distinct mind attributions. **Xuan Zhao<sup>1</sup>, Elizabeth Phillips<sup>2</sup>, Bertram F. Malle<sup>3</sup>**  
<sup>1</sup>*Univ. of Chicago*, <sup>2</sup>*U.S. Air Force*, <sup>3</sup>*Brown Univ.*

### [8] Regional Variation in Courage and Entrepreneurship: The Contrasting Role of Courage for the Emergence and Survival of Start-Ups in the U.S.

Introducing a new large-scale psychological data set (N > 1, 2 Mio.), we provide the first map of regional variation in the trait courage. Across 283 US metropolitan regions, high courage was positively linked to regional entrepreneurial activity, but negatively linked to start-up survival. Accordingly, regional courage may contribute to a pattern of enterprising but also risky economic behaviour. **Tobias Ebert<sup>1</sup>, Friedrich M. Götz<sup>2</sup>, Martin Obschonka<sup>3</sup>, Leor Zmigrod<sup>2</sup>, P. Jason Rentfrow<sup>2</sup>**  
<sup>1</sup>*Univ. of Mannheim*, <sup>2</sup>*Univ. of Cambridge*, <sup>3</sup>*Queensland Univ. of Technology*

### [9] Associations Between Personality and Social Spaces: Combing Large Scale Personality Surveys With Google Street View and Yelp Data

People move to places that satisfy and reinforce their needs. To investigate the relationship of personality differences to the rate of local amenities, large scale personality surveys were combined with Google Street View and Yelp data. We investigate links like the one between people who are more open and their likeliness to live in areas with higher density of coffee shops. **Andrés Gvirtz<sup>1</sup>, Jason Rentfrow<sup>1</sup>**  
<sup>1</sup>*Univ. of Cambridge*

### [10] Improving Personality Prediction from Digital Footprints Using Item-Level Predictive Modeling

Using the myPersonality database, we demonstrate that personality trait prediction from digital footprint data can be improved when individual scale items are predicted prior to trait score construction. These models outperform predictive models that target trait scores outright for all five of the Big Five traits. **Andrew Hall<sup>1</sup>, Sandra Matz<sup>2</sup>**  
<sup>1</sup>*Northwestern Univ.*, <sup>2</sup>*Columbia Business School*

### [11] A Quantitative Investigation of Gender Stereotypes in Children's Linguistic Environments and Language Production

We use word embeddings derived from over 17 million tokens to probe the prevalence of gender stereotypes in child-directed speech, children's books, children's TV shows, and child-produced speech. We found evidence of concordance between child-directed and child-produced text, suggesting that biases in language may serve as one crucial input to the early emergence of gender stereotypes. **Benedek Kurdi<sup>1</sup>, Tessa Charlesworth<sup>1</sup>, Victor Yang<sup>1</sup>**  
<sup>1</sup>*Harvard Univ.*

### [12] Observing Sexual Misconduct via Twitter Hashtags

#MeToo, #WhyIDidntReport, and #HimToo are hashtags used to discuss sexual misconduct. We analyzed how their use changed over time from their onset, during the Kavanaugh hearings, and after the Kavanaugh hearings. Descriptive statistics will be presented on how these hashtags were used over time, if survivors felt the need to dismantle stereotypes about their attack, and other relevant information. **Anna George<sup>1</sup>, Lydia Marvin<sup>1</sup>, Kimberly Schneider<sup>1</sup>**  
<sup>1</sup>*Illinois State Univ.*



## Entry-Level Text Analysis Workshop

**Kate Blackburn, *The Univ. of Texas at Austin***

This workshop will use text analysis on big data sets within a variety of contexts to study the language people use in their stories and social interactions. To follow along in the workshop, people should be familiar with entry-level text analysis and basic statics. If possible, people should bring a laptop with them to

the workshop. **Location: Gateway 2**



## A Dynamic Model of Speech for the Social Sciences

**Christopher Lucas, *Washington Univ. in St. Louis***  
We introduce a generative model of the sound and flow of speech, the model of audio and speech structure (MASS), enabling empirical tests of long-standing theoretical predictions about communication. Our approach models speech as a stochastic process shaped by fixed and time-varying covariates, as well as the history of the speech or conversation itself. We also introduce a fast, easy-to-use R package, "speech", for preprocessing speech audio and for doing inference on MASS. **Location: Gateway 3 & 4**

### WiFi (Saturday/Sunday)



**Network: Hilton Meetings**

**Password: 1776**

## Poster Presentations

[P-01] The Luck Celebration Hypothesis  
**Luxi Shen<sup>1</sup>, Mantian Hu<sup>1</sup>**  
<sup>1</sup>*Chinese Univ. of Hong Kong*

[P-02] Women's Suicide Rate is Associated with Explicit Gender-Career Bias in the United States  
**Congjiao Jiang<sup>1</sup>, Kate Ratliff<sup>1</sup>**  
<sup>1</sup>*Univ. of Florida*

[P-03] Culture Moderates the Effect of Income Inequality on Worker Engagement  
**Chen Li<sup>1</sup>, Miron Zuckerman<sup>1</sup>**  
<sup>1</sup>*University of Rochester*

[P-04] Can Money Buy You Happiness? Using Big Data to Test Country-Level Moderators of the Link Between Social Class and Well-Being.  
**Jana Berkessel<sup>1</sup>, Jochen E. Gebauer<sup>1</sup>, Mohsen Joshanloo<sup>2</sup>, Wiebke Bleidorn<sup>3</sup>, Peter J. Rentfrow<sup>4</sup>, Samuel D. Gosling<sup>5</sup>**  
<sup>1</sup>*Univ. of Mannheim*, <sup>2</sup>*Keimyung Univ.*, <sup>3</sup>*Univ. of California Davis*, <sup>4</sup>*Univ. of Cambridge*, <sup>5</sup>*Univ. of Texas at Austin*

[P-05] How Cultural Orientation Affects Consumers' Reaction to Service Failure: Using Big Data to Investigate Cultural Differences in Service Reviews  
**Jie(Doreen) Shen<sup>1</sup>, Jimmy Wong<sup>2</sup>, Sharon Shavitt<sup>1</sup>, Bin Feng<sup>1</sup>**  
<sup>1</sup>*Univ. of Illinois at Urbana-Champaign*, <sup>2</sup>*Singapore Univ. of Social Science*

[P-06] The Greater the Hierarchy, the Less Prone to Coupons  
**Nadia Danienta<sup>1</sup>, Minkyung Koo<sup>1</sup>, Ashok Lalwani<sup>2</sup>**  
<sup>1</sup>*Univ. of Illinois at Urbana-Champaign*, <sup>2</sup>*Indiana Univ. Bloomington*

[P-07] Using Social Network Diversity to Predict Daily Engagement with Other-Race Social Partners  
**Katlin Bentley<sup>1</sup>, Tammy English<sup>1</sup>**  
<sup>1</sup>*Washington Univ. in St. Louis*

[P-08] Information Processing and Patient Decision Making: A Big Data Approach to Treatment Choice in Prostate Cancer Patients  
**Iona Fridman<sup>1</sup>, Vignesh Kumaresan<sup>1</sup>, Prajwal Vijendra<sup>1</sup>, Angela Fagerlin<sup>2</sup>, Peter Ubel<sup>1</sup>, Marc Ryser<sup>1</sup>**  
<sup>1</sup>*Duke Univ.*, <sup>2</sup>*The Univ. of Utah*

[P-09] Modeling Loneliness Using Passive Sensing  
**Alexander Danvers<sup>1</sup>, Matthias Mehl<sup>1</sup>**  
<sup>1</sup>*Univ. of Arizona*

[P-10] Audience tuning on Wikipedia  
**Jort de Vreeze<sup>1</sup>, Aileen Oeberst<sup>2</sup>, Leibniz-Institut für Wissensmedien<sup>2</sup>, FernUniversität Hagen**

[P-11] #WhyIDidntReport: What Twitter, Networks, and Machine Learning Say About Reporting Sexual Violence  
**Brian Eiler<sup>1</sup>, Laura Noll<sup>1</sup>**  
<sup>1</sup>*Northern Arizona Univ.*

[P-12] Social Media's Enduring Effect on Adolescent Life Satisfaction  
**Sze Yuh Nina Wang<sup>1</sup>, Yoel Inbar<sup>1</sup>**  
<sup>1</sup>*Univ. of Toronto*

[P-13] Establishing a Linguistic Measure of Threat  
**Virginia Choi<sup>1</sup>, Snehash Shrestha<sup>1</sup>**  
<sup>1</sup>*Univ. of Maryland*

[P-14] What Is Really Meritocratic Ideology? The Need for a Theoretical Consensus for a Better Statistical Application  
**Berenice Saidah<sup>1</sup>, Eva Louvet<sup>1</sup>, Bruno Chauvin<sup>1</sup>**  
<sup>1</sup>*Univ. of Strasbourg*

[P-15] So You Think You're Funny: Narcissism, but Not Objective Humor Ability, Is Associated With Self-Reported Humor Ability  
**Andreea Sutu<sup>1</sup>, Rodica Damian<sup>1</sup>**  
<sup>1</sup>*Univ. of Houston*

[P-16] The Big Five as Revealed in Thin Slices  
**Summer Harvey<sup>1</sup>, Judith Hall<sup>1</sup>, Kirsten Johnson<sup>1</sup>**  
<sup>1</sup>*Northeastern Univ.*

[P-17] Liberal and Conservative Emoji Usage During the Ford-Kavanaugh Hearing  
**Tollie Schultz<sup>1</sup>, April Taylor<sup>1</sup>, Caleb Robinson<sup>1</sup>, Thomas Holtgraves<sup>1</sup>**  
<sup>1</sup>*Ball State Univ.*

[P-18] Consequences of Inter-Minority Rejection for Group Identification and Well-Being  
**Thomas Ball<sup>1</sup>, Ludwin Molina<sup>1</sup>, Nyla Branscombe<sup>1</sup>, Barrett Scroggs<sup>2</sup>**  
<sup>1</sup>*Univ. of Kansas*, <sup>2</sup>*Penn. State Univ. Mont Alto*

[P-19] Do Linguistic Patterns in Tweets Shape Intergroup Helping?  
**Mehmet Onur Yaşa<sup>1</sup>, Zeynep Cemelcilar<sup>1</sup>, Lemi Baruh<sup>1</sup>**  
<sup>1</sup>*Koç Univ.*

[P-20] Does Power Reduce Perspective-Taking? Examining Social Context Effects with Topic Modeling  
**Min Zhang<sup>1</sup>, Pamela Smith<sup>1</sup>**

<sup>1</sup> *Univ. of California, San Diego*

[P-21] Broadcast Yourself: Exploring Responses to Self-Disclosure on Youtube  
**Patrick Doyle<sup>1</sup>, Keith Campbell<sup>1</sup>**  
<sup>1</sup>*Univ. of Georgia*

[P-22] Grandiose Narcissists Enjoy Particularly High Self-Esteem in Certain Contexts: Mapping Across the U.S. How Sociocultural Contexts Moderate the Link Between Grandiose Narcissism and Self-Esteem  
**Andreas Nehrlich<sup>1</sup>, Tobias Ebert<sup>2</sup>, Friedrich Götz<sup>2</sup>, Jochen Gebauer<sup>2</sup>, Peter J. Rentfrow<sup>3</sup>**  
<sup>1</sup>*Univ. of Koblenz-Landau*, <sup>2</sup>*Univ. of Mannheim, Univ. of Cambridge*

[P-23] Health Outcome and Racial Discrimination: Evidence Based on Twitter with Stances Toward #BlackLivesMatter  
**Hyun Joon Park<sup>1</sup>, Sara Francisco<sup>1</sup>, M. Rosemary Pang<sup>1</sup>, Lulu Peng<sup>1</sup>, Guangqing Chi<sup>1</sup>**  
<sup>1</sup>*Pennsylvania State Univ.*

[P-24] Who's A Maverick and Who's a Pariah? Assessing the Relationship Between Political Extremity and Legislative Behavior  
**Jacob Appleby<sup>1</sup>, Laurie O'Brien<sup>1</sup>, Danica Kulibert<sup>1</sup>**  
<sup>1</sup>*Tulane Univ.*

[P-25] Text Indicators of Work Burnout  
**John Jameson<sup>1</sup>**  
<sup>1</sup>*Hong Kong University of Science and Technology*