# Twitting *#PoliticalCrises*:

# Social Media, Big Data, and the Politics of Conflict

GVPT459H

T-Th 12:30-1:45

Fall 2017

TYD 1114

Professor: @Ernesto Calvo

Office Hours: Wed 12:15-1:15PM

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First, it was the Arab Spring. Soon after, *#BlackLivesMatter*, *#Ferguson*, *#Ayotzinapa*, and *#Nisman*. In the last five years, political conflict has migrated from the streets and into the blogosphere. As social media grows in importance, so does the time and resources that are invested by political parties, political entrepreneurs, social organizations, and lobbyist. The management of politics, and conflict, requires today the dissemination of political narratives among a growing virtual constituency that acquires information through social networks rather than through printed media or in their local communities.

As the importance of social media grows, so do the technical demands that are required to capture data, process information, and reach sensible political conclusions. This seminar, at the intersection of politics, computer science, and social network analysis, seeks to provide students with the technical skills to work with social media data as well as the knowledge to interpret relevant information.

The proposed GVPT seminar, will teach students how to download tweets, create workable datasets, plot social networks, detect communities of users, and identify relevant political discourses. The goal is to ensure that students will be able to both run their own big data analyses, understand the political messages that are being produced by different communities of users, as well as the larger context in which conflict and politics are communicated in society.
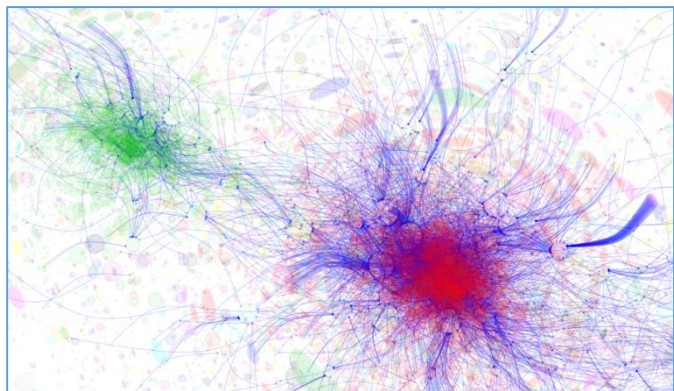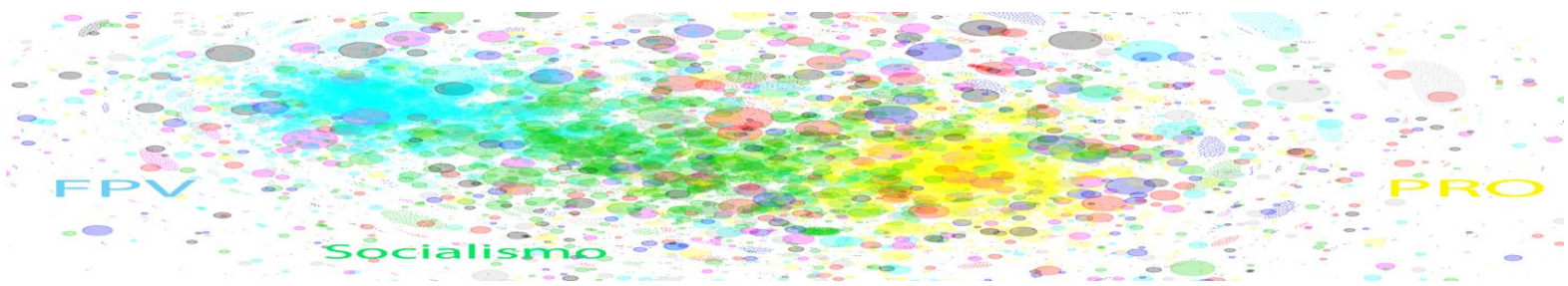
This University of Maryland GVPT Honor's Seminar will challenge students to master the intellectual tools needed to wrestle with social media data, explore the social and political consequences of this new media, and address Big Questions related to the ethical and political of information acquisition in the twenty first Century.


**Course objectives:**

**@Students will acquire the skills to:**

1. Download and Process Social Media Data;
2. Create social network objects, generate layouts to map their data, plot social networks that describe communities of users;
3. Detect communities through different algorithms, identify political groups in social conflict settings, and assess the social structure of and the relative proximity between different communities;
4. Explore and map the content of tweets, use regular expressions to mine social network data for different types of narratives;
5. Produce reports and present their results to peers;

**@Students will demonstrate:**

6. An understanding of how social media data "cures" information that is disseminated among communities of users;
7. An understanding of how the "echo chamber" feeds narratives in times of conflict as well as its connection to the existing literature;
8. An understanding of "information effects" theories, which explain how different groups of individuals acquire and process information;
9. An understanding of social media behavior in conflict settings.


**Organization of the Seminar**

1. **@Students** will form work teams to solve practical problems in the collection of social networks' data. They will use this data to describe political events on real time. Finally, they will produce an individual report and a group report on political events and describe how the tools they develop improve on our understanding of *#politicalcrises*. Assignments will include:
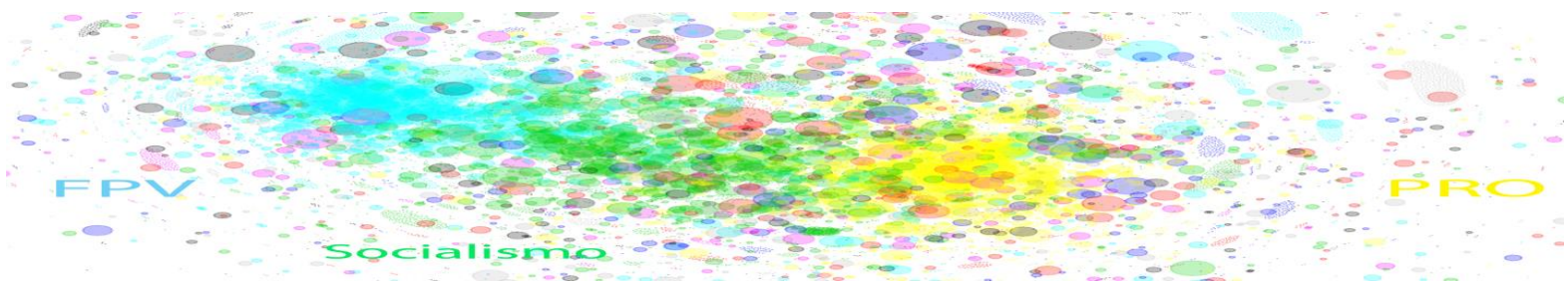
a. Connecting to the Twitter API and collecting data.
b. Formatting social media data to facilitate big data analyses.
c. Creating network representations (*igraph*) of their data.
d. Detecting communities of users and describing their positions in the network.
e. Analyzing Tweets and reporting on their dissemination among communities of users.
f. Producing technical and political reports using social media data.

**@Students** are expected do the assigned readings and participate in class discussion. Grades will be based on participation, small weekly assignments, and two reports with social networks and their interpretations. Please familiarize yourself with the academic honesty policy of the University of Maryland.

## 2. The Class

Every week we will have two different activities: First, we will have a *Seminar* day where **@Students** will discuss key problems in the study of social conflict through social media. On this day, students will understand theories that describe the generation and dissemination of political information. Second, we will have a lab day, where **@Students** will learn how to collect and process social media data. Each Lab is designed to ensure that students learn how to acquire and process data as well as the interpretation of social media output.

## 3. Grades:

| | |
|---|---|
| Participation | 10% |
| Assignments (Total) | 30% |
| Group Graph | 20% |
| Final Report (Individual) | 20% |
| Final Report (Group) | <u>20%</u> |
| | 100% |

## 4. Learning Outcomes:

• **@Students** will master basic concepts, theories and methods pertaining to the comparative study of public opinion and information theory.

• **@Students** will write an original report on a political crisis as see through social media networks.
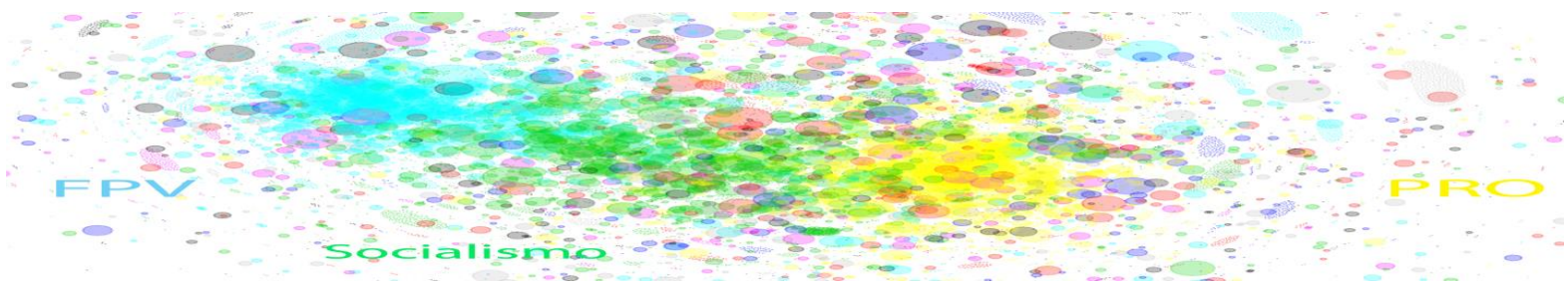
• **@Students** will be able to understand how the study of social media networks relates to existing theories of public opinion.

**ALL READINGS ARE AVAILABLE IN:**
https://www.dropbox.com/sh/38x2cj4rwouv092/AAArq9fg8RffvG2Rnkp2zZUpa?dl=0


## SCHEDULE

## Week 1, August 29 and 31: Introduction: Social Networks, Political Crises, and the Study of Public Opinion

**Readings**

- Lucas, R. (2010). Dreaming in code. *New Left Review, 62*(March–April), 125-132.
  Lab: An introduction to R.
- McHugh, M. (2016). How we built our bubble


## Week 2, September 5 and 7: Memory processing and Attitudes

***To Read in class discussion piece:***

Bakshy, E., Messing, S., & Adamic, L. (2015). Exposure to ideologically diverse news and opinion on Facebook. *science, 348*(6239), 1130-1132.
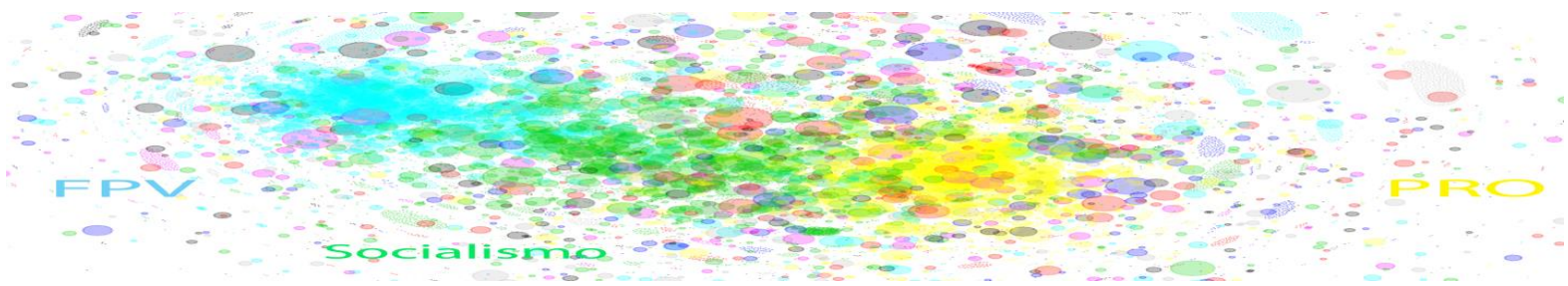
**Required reading:**
- Bizer, G. Y., Tormala, Z. L., Rucker, D. D., & Petty, R. E. (2006). Memory-based versus on-line processing: Implications for attitude strength. *Journal of Experimental Social Psychology, 42*(5), 646-653.

**Supplemental (optional) reading:**
- Bharucha, J. J., & Stoeckig, K. (1986). Reaction time and musical expectancy: priming of chords. *Journal of Experimental Psychology: Human Perception and Performance, 12*(4), 403.

  1st Lab: Connecting to the Twitter API.

## Week 3, September 12 and 13: Motivated Reasoning and the Echo Chamber

**Required reading:**
- Kraft, P. W., Lodge, M., & Taber, C. S. (2015). Why People "Don't Trust the Evidence" Motivated Reasoning and Scientific Beliefs. *The ANNALS of the American Academy of Political and Social Science, 658*(1), 121-133.

**Supplemental (optional) reading:**
- Verhulst, B., Lodge, M., & Lavine, H. (2010). The attractiveness halo: Why some candidates are perceived more favorably than others. *Journal of Nonverbal Behavior, 34*(2), 111-117.

2nd Lab: Processing JSON files and creating a network object.

## Week 4, September 19 and 21: Political Knowledge and the Presidency

**Required reading:**

- Miller, J. M., & Krosnick, J. A. (2000). News media impact on the ingredients of presidential evaluations: Politically knowledgeable citizens are guided by a trusted source. *American Journal of Political Science*, 301-315.

- Kwak, H., Lee, C., Park, H., & Moon, S. (2010). *What is Twitter, a social network or a news media?* Paper presented at the Proceedings of the 19th international conference on World wide web.

3nd Lab: Managing your Network object.

## Week 5, September 26 and 28: Polarization and Social Networks
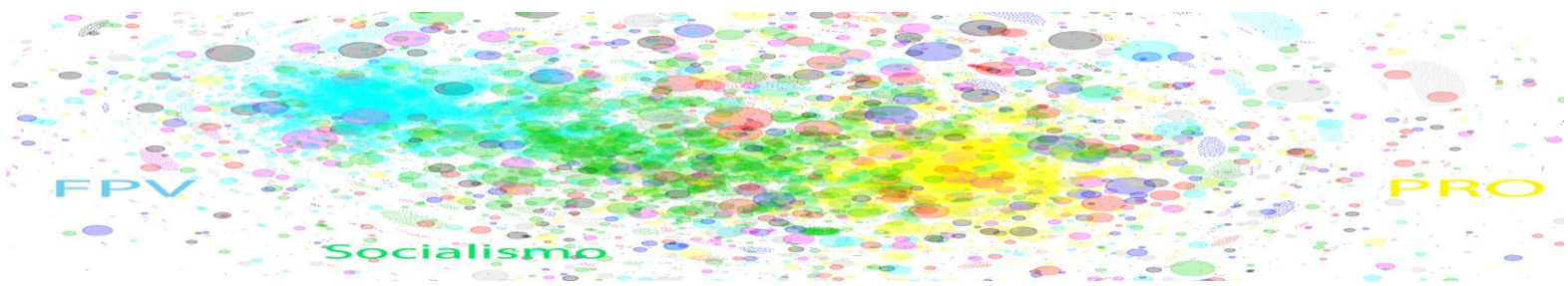
**Required reading:**
- Calvo, Ernesto and Natalia Aruguete. 2016. Time to Protest: Polarization and Time-to-Retweet in Argentina.

**Supplemental (optional) reading:**
- Cowart, H. S., Saunders, L. M., & Blackstone, G. E. (2016). Picture a Protest: Analyzing Media Images Tweeted From Ferguson. *Social Media+ Society, 2*(4), 2056305116674029.

4rd Lab: Communities and Layouts

## Week 6, October 3 and 5: Echo Chambers in Twitter

- Barberá, Pablo, et al. "Tweeting From Left to Right Is Online Political Communication More Than an Echo Chamber?" Psychological Science (2015): 0956797615594620.

  5th Lab: Painting edges and descriptive data on your networks.

## Week 7, October 10 and 12: My Community is Your Community

- Backstrom, L., Bakshy, E., Kleinberg, J. M., Lento, T. M., & Rosenn, I. (2011). Center of attention: How facebook users allocate attention across friends. *ICWSM, 11*, 23.

- Barberá, Pablo, et al. "The Critical Periphery in the Growth of Social Protests." *PloS one* 10.11 (2015): e0143611.

  6th Lab: Authorities and Embedded links.

## Week 8, October 17 and 19: Review and Presentation of First set of Graphs

- Presentation of Graph Results

## Week 9, October 24 and 26: Spring Break: Sentiment analysis

- Banks, Calvo, Karol, and Telhami. Polarization in Twitter: An Experimental Approach
- 7th Lab: Sentiment Analyses.

## Week 10, October 31, November 2: Polarization in Social Media

- Feld, S. L. (1991). "Why your friends have more friends than you do." American journal of sociology: 1464-1477.

- Calvo, E., Dunford, E., & Lund, N. (2016). Hashtags that Matter: Measuring the propagation of Tweets in the Dilma Crisis.

  8th Lab: Friends of Friends.
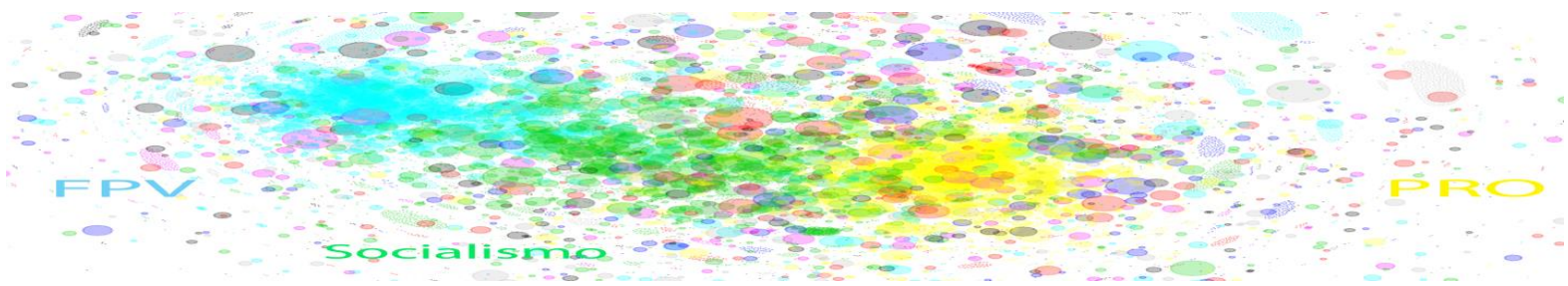
## Week 11, November 7 and 9: Movie Time

- "Nosedive"
- "We live in Public"

## Week 12, November 14 and 16: #Brexit!

- Llewellyn, C., & Cram, L. (2016). *Brexit? Analyzing Opinion on the UK-EU Referendum within Twitter.* Paper presented at the ICWSM.

- Grcar, M., Cherepnalkoski, D., & Mozetic, I. (2016). *The Hirsch index for Twitter: Influential proponents and opponents of Brexit.* Paper presented at the Proc. 5th Intl. Workshop on Complex Networks and their Applications. Studies in Computational Intelligence. Springer.

- 9th Lab: Sentiment over time.

## Week 13, November 21: Congress

- Gainous, J., & Wagner, K. M. (2014). *Tweeting to power: The social media revolution in American politics*: Oxford University Press. SELECTED CHAPTERS.

## Week 14, November 28 and 30: Going Small!

- Scanfeld, D., Scanfeld, V., & Larson, E. L. (2010). Dissemination of health information through social networks: Twitter and antibiotics. *American journal of infection control, 38*(3), 182-188.

9th Lab: Support lab for final projects.

## Week 15, December 5-7: Presentations of Preliminary Findings (group reports)

**EXAMS WEEK: Turn in Final Reports**