

# CASOS Summer Institute 2017

## Day 0 – Set Up

Saturday, 6/3/17

|             |   |                           |        |
|-------------|---|---------------------------|--------|
| 13:00-15:00 | <b>Set Up and Individualized Data Entry</b> | CASOS TA Staff for Sunday |        |
|             | Put up posters                              | Sienna                    | Sienna |
|             | Put up signs                                | Sienna                    | Sienna |
|             | Get software on people's machines           | CASOS TA's                |        |

The focus of Saturday is for one-on-one extra help in

- 1) getting the software onto the participants machines
- 2) helping the participants load their data into the tools
- 3) and providing some one-on-one support or small group support focused around the participants interest

Saturday is not a required day for participants. It is optional.

Lectures and common instruction begin on Sunday June 4, 2017.

CASOS PhDs and Master's Students:

|                   |                 |
|-------------------|-----------------|
| Geoff Morgan      | Geoff Dobson    |
| Sumeet Kumar      | Ramon Villa Cox |
| Binxuan Huang     | Adam Tse        |
| Thomas Magelinski | Shivam Gupta    |

# CASOS Summer Institute 2017

## Day 1 – Overview and Getting Started

Sunday, 6/4/17

| <u>Time</u>   | <u>What</u>   | <u>Instructor</u>                                       | <u>TA's</u>        |
|---------------|---|---|--------------------|
| 08:00 - 08:30 | <b>Breakfast &amp; Registration - start making sure software is on machines</b>                         |   | All CASOS Students |
| 08:30 - 08:40 | <b>Welcome</b>  | Prof. Kathleen M. Carley                                |                    |
| 08:40 - 10:45 | <b>Dynamic Network Analysis Overview</b>  | Prof. Kathleen M. Carley                                | ALL CASOS          |
| 10:45 - 11:00 | <b>Break</b>  |   |                    |
| 11:00 - 12:30 | <b>DNA - key metrics</b>  | Prof. Kathleen M. Carley                                | ALL CASOS          |
| 12:30 - 13:30 | <b>Lunch - &amp; make sure software is on machines</b>  |   | ALL CASOS students |
| 13:30 - 14:30 | <b>ORA – Basic Interface, Import CSV file, email import, Key entity report, Standard Social Network</b> | Jeff Reminga  | ALL CASOS students |
| 14:30 - 15:00 | <b>Twitter import, citation import, and Twitter Report, Super Spreaders, Super Friends Use case</b>     | Jeff Reminga  | ALL CASOS students |
| 15:00 - 15:30 | <b>Break</b>  |   |                    |
| 15:30 - 16:30 | <b>Groups &amp; Topology</b>  | Prof. Kathleen M. Carley                                | ALL CASOS          |
| 16:30 - 17:30 | <b>ORA – Group Report, Reports with 2 or more meta-networks</b>   | Jeff Reminga  | ALL CASOS students |
| 17:30 - 18:00 | <b>Pictures</b>   | <b>All SI and All CASOS Faculty, Staff and Students</b> |                    |
| 18:00 - 20:00 | <b>Reception</b>  | <b>All CASOS Center Invited</b>                         |                    |
|               |   |   |                    |

|                    |  |
|--------------------|--|
| ALL CASOS students | Geoffrey Morgan, Geoff Dobson, Sumeet Kumar, Binxuan Huang, Ramon Villa Cox, Adam Tse, Shivam Gupta, Thomas Magelinski |
|--------------------|--|

# CASOS Summer Institute 2017

## Day 2 – Data

Monday, 6/5/17

| <b><u>Time</u></b> | <b><u>What</u></b>  | <b><u>Instructor</u></b>      | <b><u>TA's</u></b> |
|--------------------|---|-------------------------------|--------------------|
| 08:00 - 08:15      | <b>Breakfast Continental</b>                                    |                               |                    |
| 08:15- 08:30       | <b>Where does the data come from?</b>                           | Prof. Kathleen M. Carley      | ALL CASOS students |
| 08:30-10:15        | <b>Text to Networks &amp; Semantic Networks</b>                 | Prof. Kathleen M. Carley      | ALL CASOS students |
| 10:15 - 10:30      | <b>Break</b>  |                               |                    |
| 10:30 - 11:30      | <b>AutoMap</b>  | Neal Altman                   | ALL CASOS students |
| 11:30-12:00        | <b>Thesauri and Delete, Edit Data, Apply to Many Files</b>      | Jeff Reminga                  | ALL CASOS students |
| 12:00 - 13:00      | <b>Lunch</b>  |                               |                    |
| 13:00-13:30        | <b>Case Study: Fake News &amp; Cyber Attacks</b>                | Sumeet Kumar                  | ALL CASOS students |
| 13:30-15:00        | <b>Rhetorical Analysis Use Case<br/>Semantic network report</b> | Neal Altman &<br>Jeff Reminga | ALL CASOS students |
| 15:00 - 15:30      | <b>Break</b>  |                               |                    |
| 15:30 - 17:00      | <b>LDA, LSA</b>   | Sumeet Kumar                  | ALL CASOS students |
| 17:00 - 18:45      | <b>Small Group Work: Hands On</b>                               | ALL                           | ALL CASOS students |

# CASOS Summer Institute 2017

## Day 3 – Basic Analysis

Tuesday, 6/6/17

| <b><u>Time</u></b> | <b><u>What</u></b>   | <b><u>Instructor</u></b> | <b><u>TA</u></b>   |
|--------------------|--|--------------------------|--------------------|
| 08:00 - 08:15      | <b>Breakfast Continental</b>   |                          |                    |
| 08:15- 09:15       | <b>Centralities, redundancies, cognitive demand - Measures and Reports</b>   | Geoff Dobson             | ALL CASOS students |
| 09:15 - 10:15      | <b>One and Two Mode Metrics, Assessing Change, Folding</b>   | Ramon Villa-Cox          | ALL CASOS students |
| 10:15 - 10:30      | <b>Break</b>   |                          |                    |
| 10:30 - 11:00      | <b>Metric Based Comparison of Networks<br/>Graph and Node Level Metrics<br/>Key entity, Group, Twitter reports</b> | Sumeet Kumar             | ALL CASOS students |
| 11:00 - 12:00      | <b>Groups and Meta-nodes –<br/>Visualization techniques<br/>Attributes</b>   | Jon Storricks            | ALL CASOS students |
| 12:00 - 13:00      | <b>Lunch</b>   |                          |                    |
| 13:00-13:30        | <b>Case Study: Netflow</b>   | Geoff Dobson             | ALL CASOS students |
| 13:30-14:30        | <b>Prediction and Comparison of Two or More Networks: Hamming Distance, Correlation, QAP, MRQAP</b>                | Ramon Villa-Cox          | ALL CASOS students |
| 14:30-15:00        | <b>MRQAP and Regression<br/>How to put network metrics in regressions</b>  | Jeff Reminga             | ALL CASOS students |
| 15:00 - 15:30      | <b>Break</b>   |                          |                    |
| 15:30-16:45        | <b>Visualizing Differences Due to Attributes<br/>Tiles</b>   | Jon Storricks            | ALL CASOS students |
| 16:45-17:00        | <b>Twitter De-identification</b>   | Jon Storricks            | ALL CASOS students |
| 17:00 - 18:45      | <b>Small Group Work: Hands On</b>  | ALL                      | ALL CASOS students |

# CASOS Summer Institute 2017

## Day 4 – Dynamics & Spatial Reasoning

Wednesday, 6/7/17

| <b><u>Time</u></b> | <b><u>What</u></b>   | <b><u>Instructor</u></b> | <b><u>TA's</u></b> |
|--------------------|--|--------------------------|--------------------|
| 08:00 - 08:30      | <b>Breakfast Continental</b>   |                          |                    |
| 08:30 - 10:15      | <b>Dynamics: Reasoning About Networks Over Time</b>                            | Prof. L. Richard Carley  | ALL CASOS students |
| 10:15 - 10:30      | <b>Break</b>   |                          |                    |
| 10:30 - 12:00      | <b>Fourier Analysis, change detection</b><br>Follow along                      | Prof. L. Richard Carley  | ALL CASOS students |
| 12:00 - 13:00      | <b>Lunch</b>   |                          |                    |
| 13:00 – 13:30      | <b>Case Study: Change In Organizations</b>                                     | Geoff Morgan             | ALL CASOS students |
| 13:30 - 14:30      | <b>Geo-Spatial Visualization &amp; Region Viewer</b>                           | Jon Storrick             | ALL CASOS students |
| 14:30-15:00        | <b>Visualizing Change in Networks: Dynamics, Path Finder, movement on maps</b> | Jon Storrick             | ALL CASOS students |
| 15:00-15:30        | <b>Break</b>   |                          |                    |
| 15:30-16:00        | <b>Generating Synthetic Networks in ORA</b>                                    | Sumeet Kumar             | ALL CASOS students |
| 16:00-16:30        | <b>Micro-Simulations in ORA</b>  | Ramon Villa-Cox          | ALL CASOS students |
| 16:30-17:00        | <b>Immediate Impact Analysis</b>   | Geoff Morgan             | ALL CASOS students |
| 17:00 - 18:45      | <b>Small Group Work: Hands-on</b>  | Group Leads: TBD         | ALL CASOS students |

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## Day 5 – Network Simulation

Thursday, 6/8/17

| <u>Time</u>   | <u>What</u>  | <u>Instructor</u> | <u>TA's</u>        |
|---------------|--|-------------------|--------------------|
| 08:00 - 08:30 | <b>Breakfast Continental</b>   |                   |                    |
| 08:30 - 9:30  | <b>Agent Based Modeling</b>  | Geoff Morgan      | ALL CASOS students |
| 09:30 - 10:30 | <b>Constructural Theory</b>  | Geoff Morgan      | ALL CASOS students |
| 10:30 - 10:45 | <b>Break</b>   |                   |                    |
| 10:45 - 11:15 | <b>Virtual Experiments</b>   | Geoff Dobson      | ALL CASOS students |
| 11:15 - 13:00 | <b>Individual Instruction/Lunch</b>  |                   |                    |
| 13:00 – 14:30 | <b>Case Study: Organizations Running Construct - Back and Forth with ORA</b> | Geoff Morgan      | ALL CASOS students |
| 14:30 - 15:00 | <b>Case Study: Cyber Teams</b>   | Geoff Dobson      | ALL CASOS students |
| 15:00 - 15:30 | <b>Break</b>   |                   |                    |
| 15:30 – 16:30 | <b>Validation</b>  | Geoff Morgan      | ALL CASOS students |
| 16:30 - 18:30 | <b>Small Group Work: Hands On</b>  | Group Leads       | ALL CASOS students |

# CASOS Summer Institute 2017

## Day 6 – Advanced Issues

Friday, 6/9/17

| <u>Time</u>   | <u>What</u>  | <u>Instructor</u> | <u>TA's</u>        |
|---------------|--|-------------------|--------------------|
| 08:00 - 08:30 | <b>Breakfast Continental</b>   |                   |                    |
| 08:30 - 9:30  | <b>Geo-Temporal Networks and Sentiment Mining</b>  | Sumeet Kumar      | ALL CASOS students |
| 9:30-10:00    | <b>Dynamics, Trails and Networks: Loom; Going from Trails to Networks and Networks to Trails</b> | Binxuan Huang     | ALL CASOS students |
| 10:00-10:30   | <b>Case Study: Trails</b>  | Binxuan Huang     | ALL CASOS students |
| 10:30 - 10:45 | <b>Break</b>   |                   |                    |
| 10:45 – 12:00 | <b>Handling Large Data Set</b>   | Jeff Reminga      | ALL CASOS students |
| 12:00 - 13:00 | <b>Lunch</b>   |                   |                    |
| 13:00 – 13:30 | <b>Socio-Cultural Cognitive Mapping</b>  | Geoff Morgan      | ALL CASOS students |
| 13:45-14:15   | <b>Social Influence Theory</b>   | Geoff Morgan      | ALL CASOS students |
| 14:15-15:00   | <b>Collecting Twitter Data</b>   | Binxuan Huang     | ALL CASOS students |
| 15:00 - 15:30 | <b>Break</b>   |                   |                    |
| 15:30-17:00   | <b>Small Group Work: Hands On</b>  | Group Leads       | ALL CASOS students |

# CASOS Summer Institute 2017

## Day 7 – One on One – Extra

**Saturday 6/10/2017**

| <u>Time</u>   | <u>What</u>  | <u>Instructor</u>  |
|---------------|--|--------------------|
| 08:00 - 08:30 | <b>Breakfast Continental</b>                                   |                    |
| 08:30 - 10:30 | <b>Break out sessions on tools and individualized training</b> | ALL CASOS students |
| 10:30 - 10:45 | <b>Break</b>   |                    |
| 10:45 - 12:15 | <b>Break out sessions on tools and individualized training</b> | ALL CASOS students |
| 12:15 - 13:15 | <b>Lunch</b>   |                    |
| 13:15 - 14:45 | <b>Break out sessions on tools and individualized training</b> | ALL CASOS students |
| 14:45 - 15:00 | <b>Break</b>   |                    |