Collaborations between National Statistical Institutes and the Academy

March 6, 2017

Frauke Kreuter – University of Maryland, USA; University of Manheim, Germany

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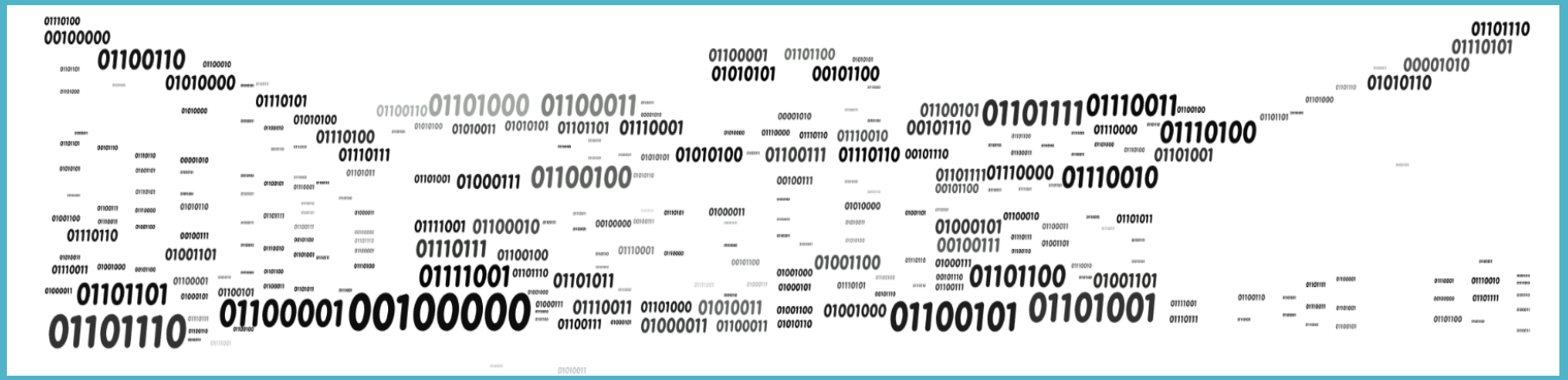

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Key Questions

- How to train your workforce?
- How to attract new talent?
- How to enhance products?

Specialized Education Programs

Data Analysis Competitions

Workshops Train + Build

Specialized Programs

The high quality – high engagement flagship

Specialized Education Programs

Federal Statistical Agencies +
Office of Management and Budget +
Council of Economic Advisors state **mismatch**
between university disciplines
and technical staffing needs

National Science Foundation: $4.1 – 5y
Uni. of Maryland, Uni. of Michigan, Westat

Interagency Consortium of Statistical Policy …
joint funding for the next 20 years to offer
short courses, Master Program, PhD Program etc.

12,993 courses taken

What is different?

- ✓ Shared faculty
- ✓ Joint curriculum development

In-house help

- ✓ Undergraduate internship program – summer long
- ✓ Graduate level internships – semester long / summer

Joint Research

- ✓ Design seminar – problems presented by agencies, 3 weeks to solve
- ✓ Practicum course – 1 year, data collection + analysis for agencies
- ✓ Dissertation grants – proposals to fit agency areas

What worked? Why? Why not?

- ✓ Shared faculty
- ✓ Joint curriculum development – changes too slow, not modular enough

- ✓ Undergraduate internship program
- ✓ Graduate level internships

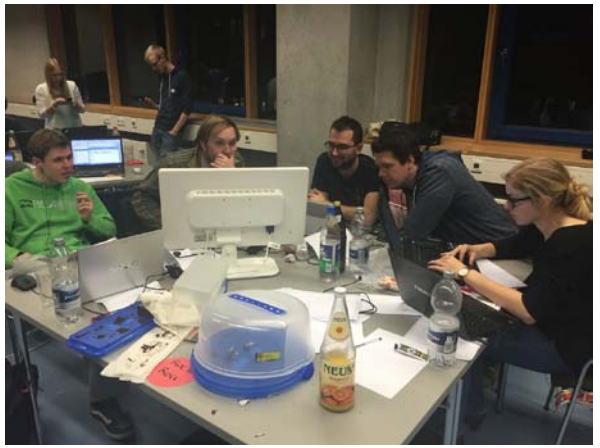
- ✓ Design seminar – varies by project, timing is key, communication
- ✓ Practicum course – very successful if client available (additional cost)
- ✓ Dissertation grants – very successful if match interest - needs

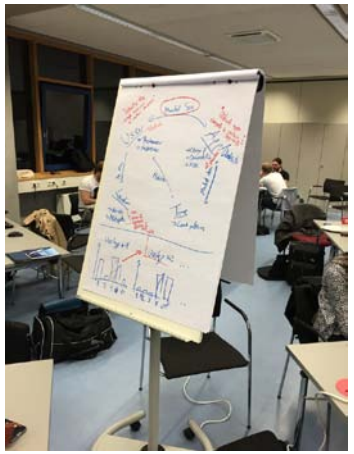
Use competitions

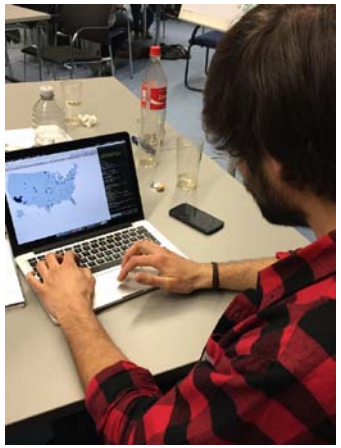
Project focused – strong short term engagement

DataFest

Data Analysis Competitions







What worked? Why? Why not?

- ✓ Rapid idea testing
- ✓ Low cost
- ✓ Draw on large number of people
- ✓ Potential recruitment tool
- ✓ Need public use data

Train + build new products

Hands-on workforce training on your data and your problems

Workshops
Train + Build

Goals of the Course

- Train the workforce in rigorous and modern computational data analysis methods and tools for decision making
- Develop new data products for government agencies, and new integrated data to address cross-agency challenges
- Establish new networks across agencies and geographies to address shared problems

UNIVERSITY OF MARYLAND

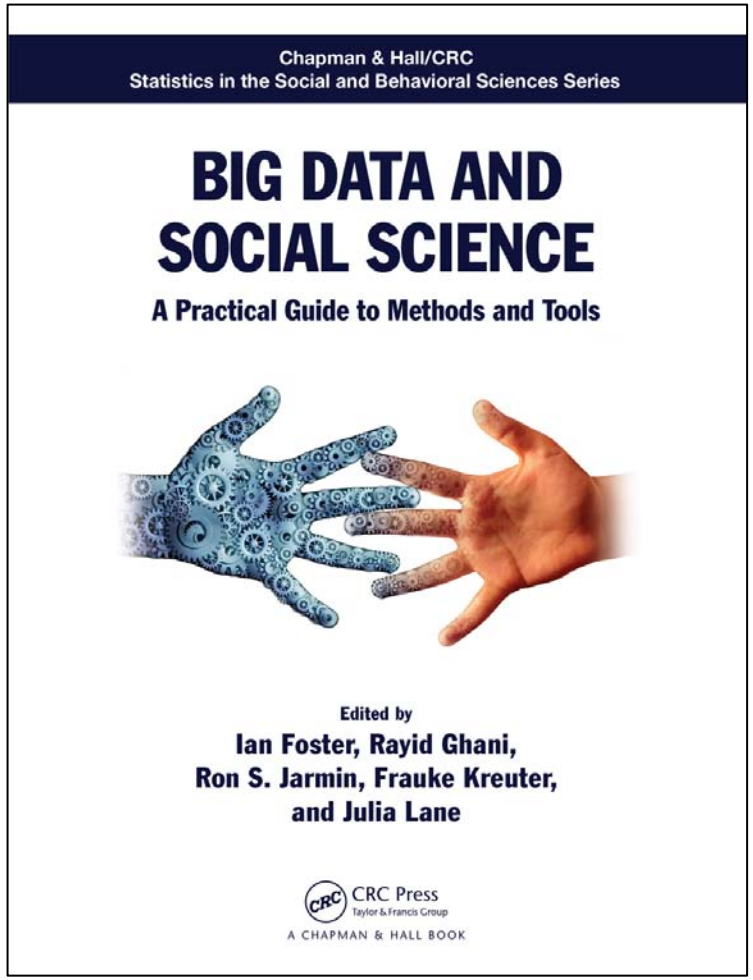
NEW YORK UNIVERSITY

THE UNIVERSITY OF CHICAGO

Approach

The program provides **hands-on projects** with **real micro-data** in a **secure environment** so that participants can learn the basics of how to:

- Code and collect new data (APIs, Web Scrap.)
- Manage complex data (SQL, Python)
- Machine learning, text-, network analysis
- Visualize relationships, spatial distributions
- Address inference issues
- Manage privacy and confidentiality
- Reproducibility and collaboration (Git)



dataanalytics.umd.edu

What worked? Why? Why not?

- ✓ Agency interest
- ✓ Foundation interest
- ✓ Secure environment with access from private PCs
- ✓ Confidential data in administrative data research facility
- ✓ Teams with different skills formed
- ✓ Cross-agency teams formed
- ✓ Project scoping
- ✓ stay tuned … course still in progress

But what if my employees …

- can’t get away?
- already have skills?
- need international network?

Advancement through Education: Open University

- Modularized curriculum
- Asynchronous learning
- Live (video) interaction
- Face-to-face networking

IN OMNIBUS VERITAS UNIVERSITÄT MANNHEIM
JPSM THE JOINT PROGRAM IN SURVEY METHODOLOGY
SPONSORED BY THE
Federal Ministry of Education and Research
AUFSTIEG DURCH BILDUNG OFFENE HOCHSCHULEN

Cooperation

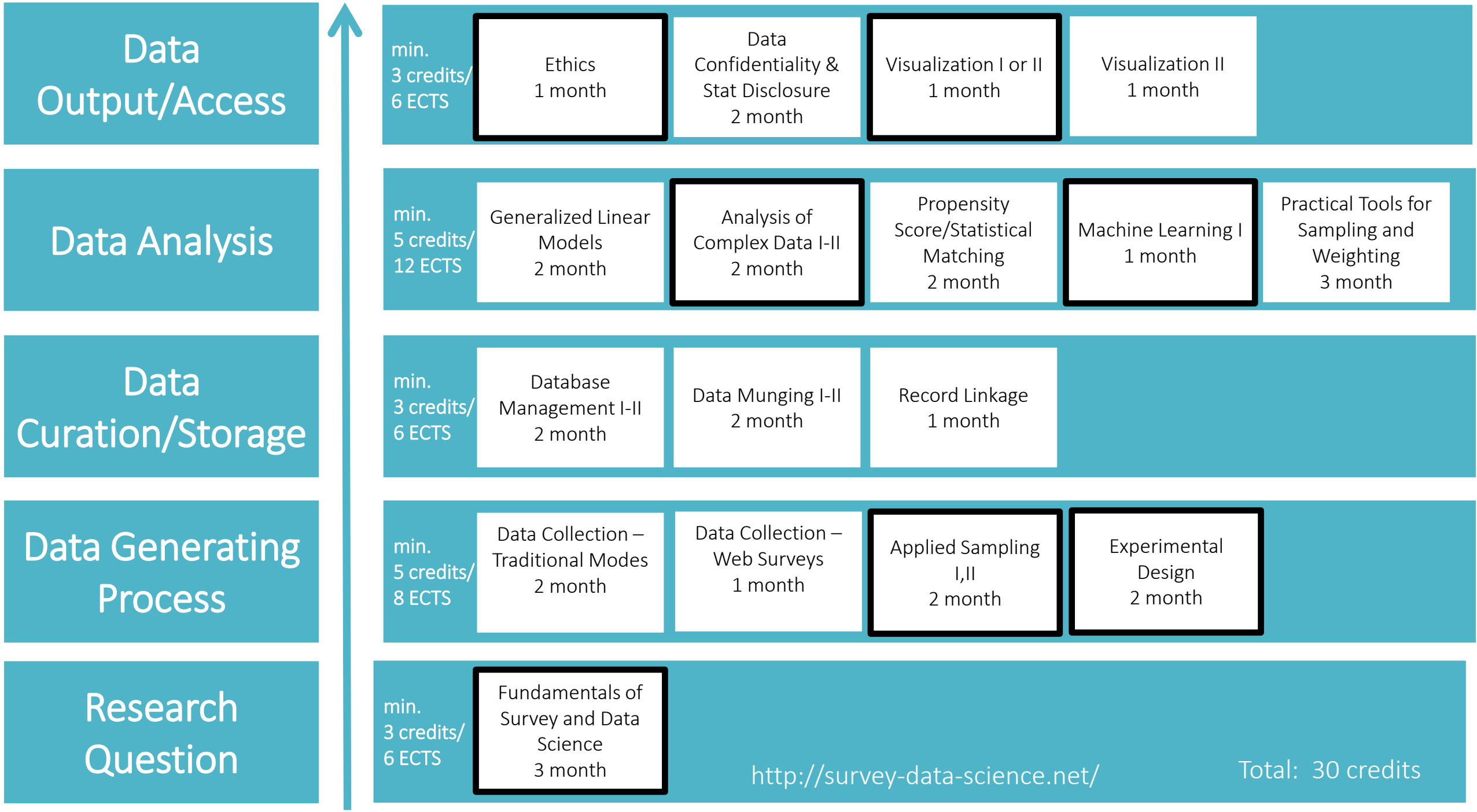
University Partners

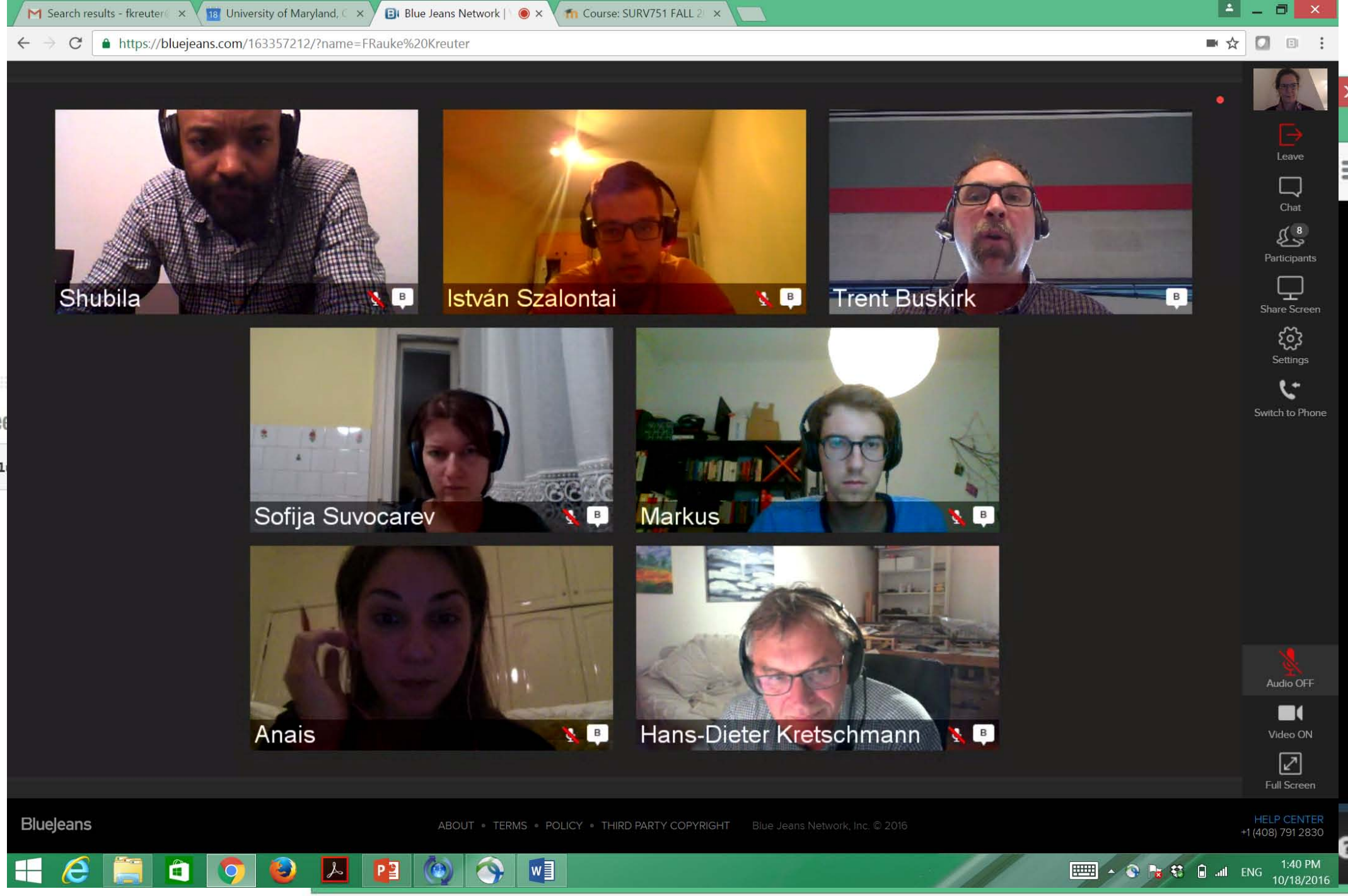
- University of Maryland
- University of Michigan (via JPSM)

- Catholic University of Santiago de Chile
- Australian National Unversity
- Peking University
- U. of Capetown (planned)

Other Partners

- MBS Mannheim Buisness School
- SRO - Michigan
- PEW – Washington D.C.
- GESIS, Germany
- U.S. Bureau of Labour Statistics
- U.S. Census Bureau
- Statistics Netherlands
- DESTATIS


Data Output/Access
min. 3 credits/ 6 ECTS
Ethics 1 month
Data Confidentiality & Stat Disclosure 2 month
Visualization I or II 1 month
Visualization II 1 month
Data Analysis
min. 5 credits/ 12 ECTS
Generalized Linear Models 2 month
Analysis of Complex Data I-II 2 month
Propensity Score/Statistical Matching 2 month
Machine Learning I 1 month
Practical Tools for Sampling and Weighting 3 month
Data Curation/Storage
min. 3 credits/ 6 ECTS
Database Management I-II 2 month
Data Munging I-II 2 month
Record Linkage 1 month
Data Generating Process
min. 5 credits/ 8 ECTS
Data Collection – Traditional Modes 2 month
Data Collection – Web Surveys 1 month
Applied Sampling I,II 2 month
Experimental Design 2 month
Research Question
min. 3 credits/ 6 ECTS
Fundamentals of Survey and Data Science 3 month
http://survey-data-science.net/
Total: 30 credits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DataFest

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Thank you!

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