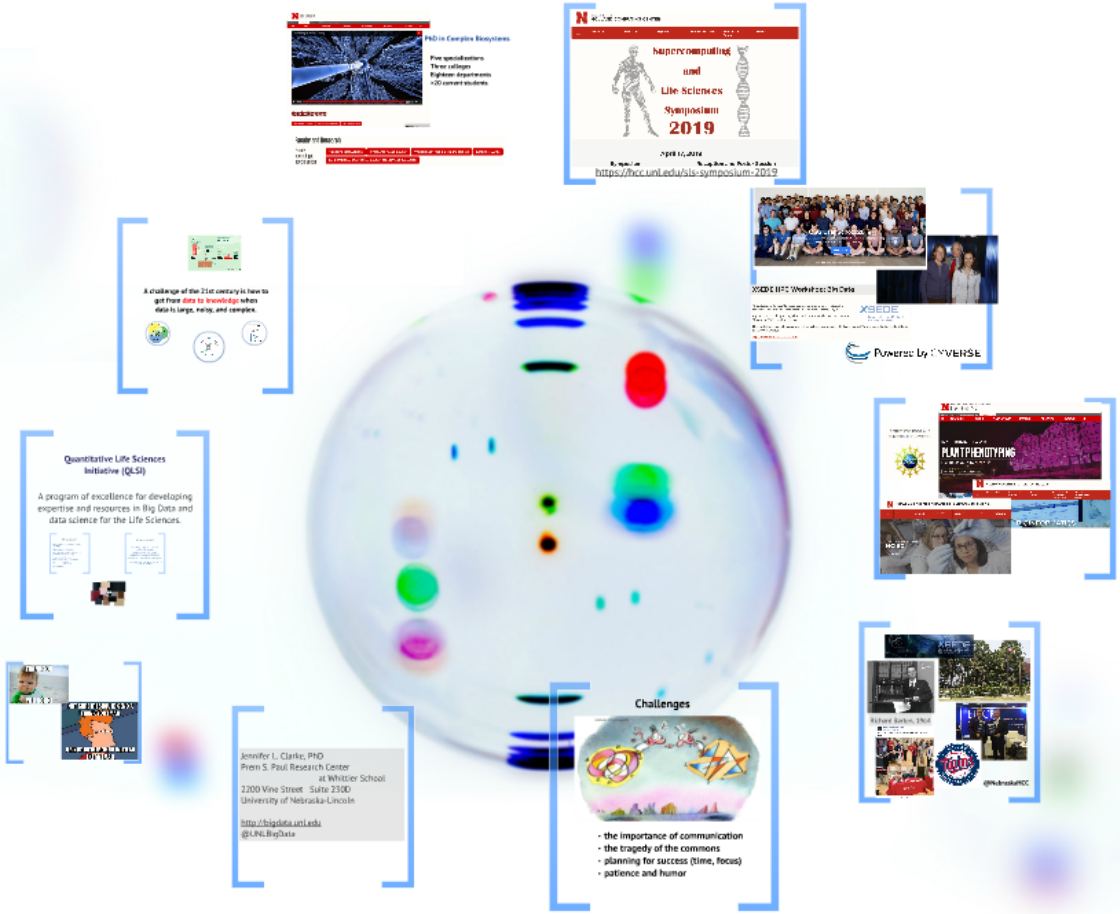
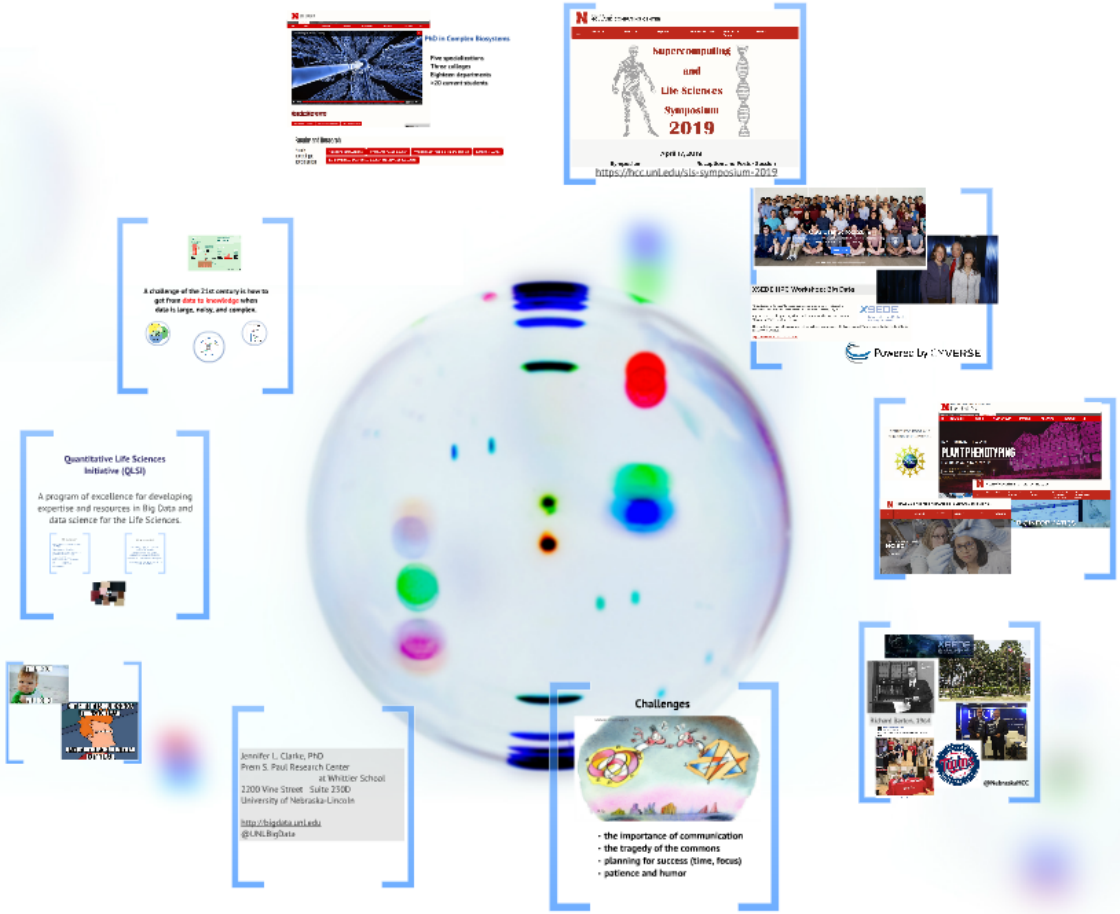


David on Campus:
Supporting the Life Sciences at UNL

Jennifer L. Clarke

OSG 2020

photo (cc) Malte Sörensen @ flickr



David on Campus:
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OSG 2020

photo (cc) Malte Sörensen @ flickr

THANK YOU
YOU ROCK!

NOT SURE IF I SHOULD SEND A THANK YOU EMAIL
OR NOT BOTHER THEM WITH AN EXTRA EMAIL

Quantitative Life Sciences Initiative (QLSI)

A program of excellence for developing expertise and resources in Big Data and data science for the Life Sciences.

Who are we?

Jennifer Clarke, Professor, Statistics, Food Science and Technology

Stacey Herceg, Administrative Wizard

Jiusheng Lin , PhD, Research Assistant Professor [biochemistry and structural biology]

Alejandro Pages, BS, Data Scientist [web-based data systems, data visualization]

PhD students in Complex Biosystems

Big Data Consortium

What do we do?

enable interdisciplinary and basic research in data and the life sciences

advocate for/develop data resources and expertise including advanced cyberinfrastructure

serve as Big Data liaison between UNL & industry partners

develop both graduate and undergraduate curricula in data and the life sciences

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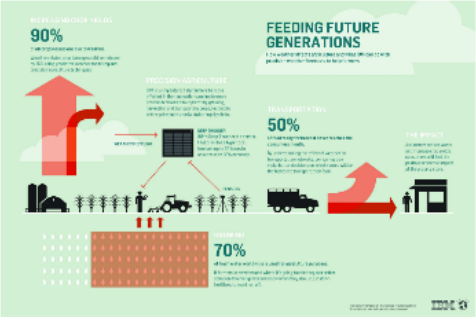
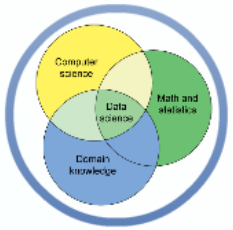
BIBM 2017
KANSAS CITY



A challenge of the 21st century is how to get from data to knowledge when data is large, noisy, and complex.



FEEDING FUTURE GENERATIONS

How weather affects agriculture and what IBM can do with precision weather forecasts to help farmers

INCREASING CROP YIELDS

90%

of all crops losses are due to weather.

Weather-related crop damage could be reduced by 25% using predictive weather modeling and precision agriculture techniques.

PRECISION AGRICULTURE

IBM is using data to help farmers be more efficient in their operations and make more precise decisions about planting, growing, harvesting and transporting crops, leading to better price points and a stable supply chain.

WEATHER MODELING

DEEP THUNDER

IBM's Deep Thunder is a service that provides a hyperlocal forecast up to 36 hours in advance with 90% accuracy.

SENSORS

TRANSPORTATION

50%

of food ready for harvest never reaches the consumers mouth.

By understanding the effect of weather on transportation networks, companies can make better decisions on which routes will be the fastest to transport their food.

THE IMPACT

As farmers reduce waste and increase crop yields, consumers will feel the positive economic impact at the grocery store.

GROWING

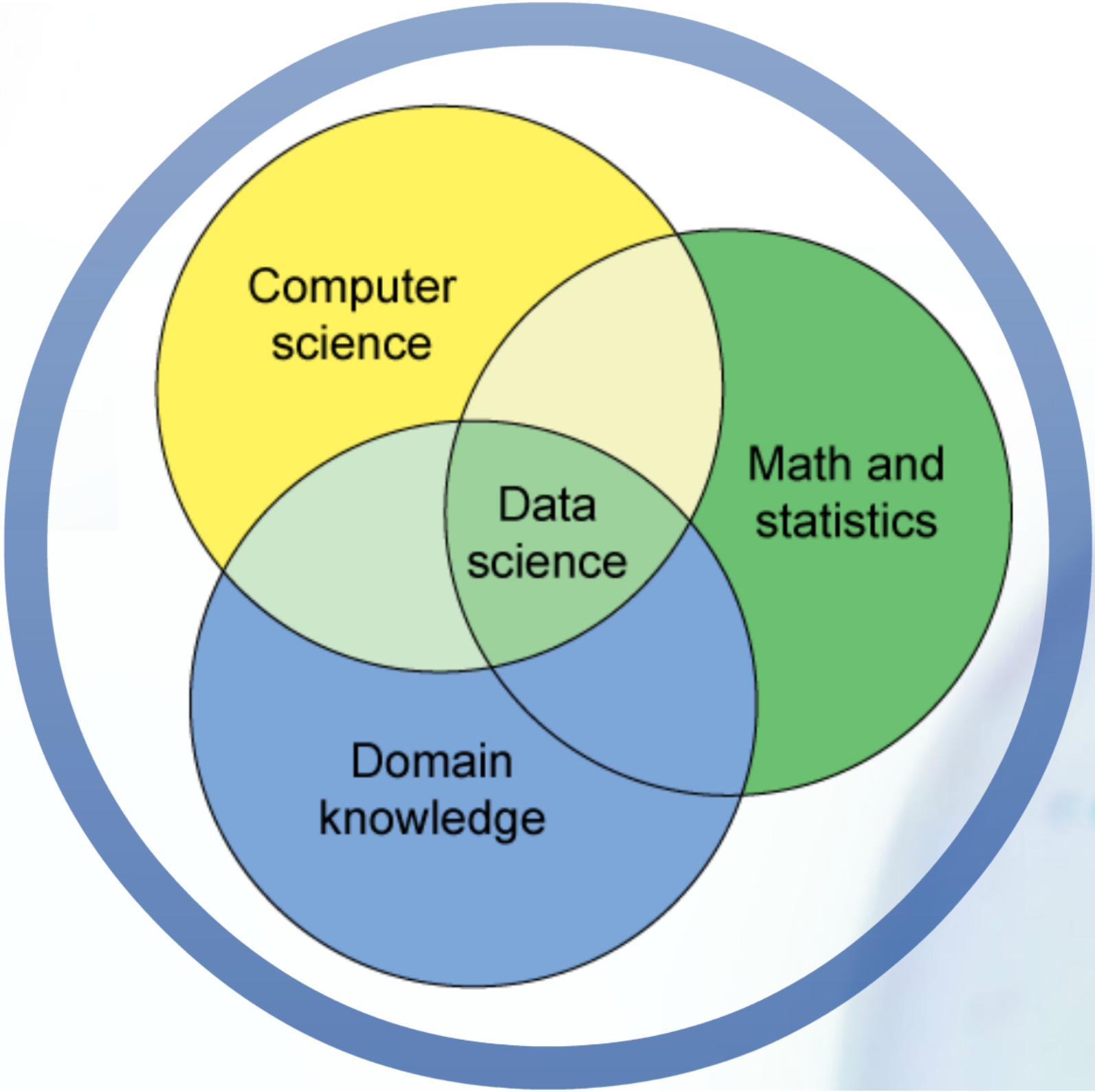
70%

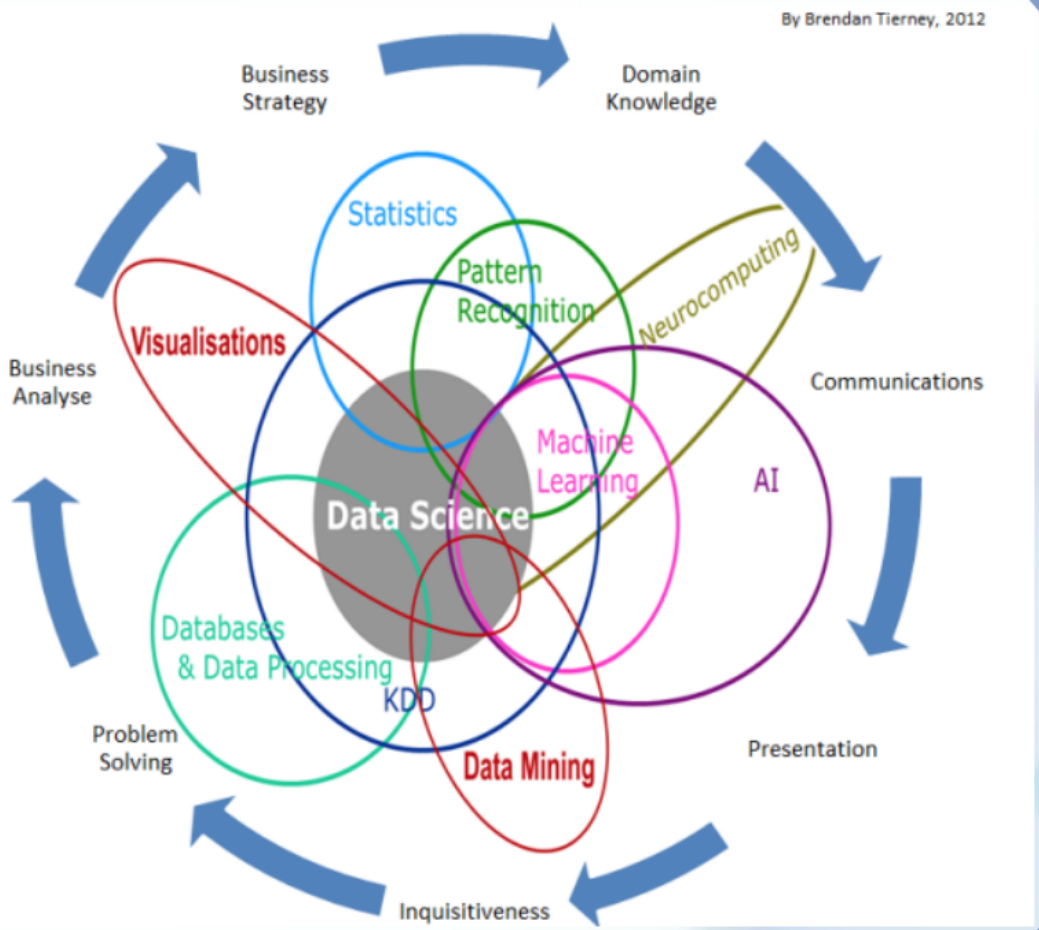
of fresh water worldwide is used for agriculture purposes.

If farmers know when and where it's going to rain they can better schedule their irrigation and know when they should put down fertilizer, to avoid run off.

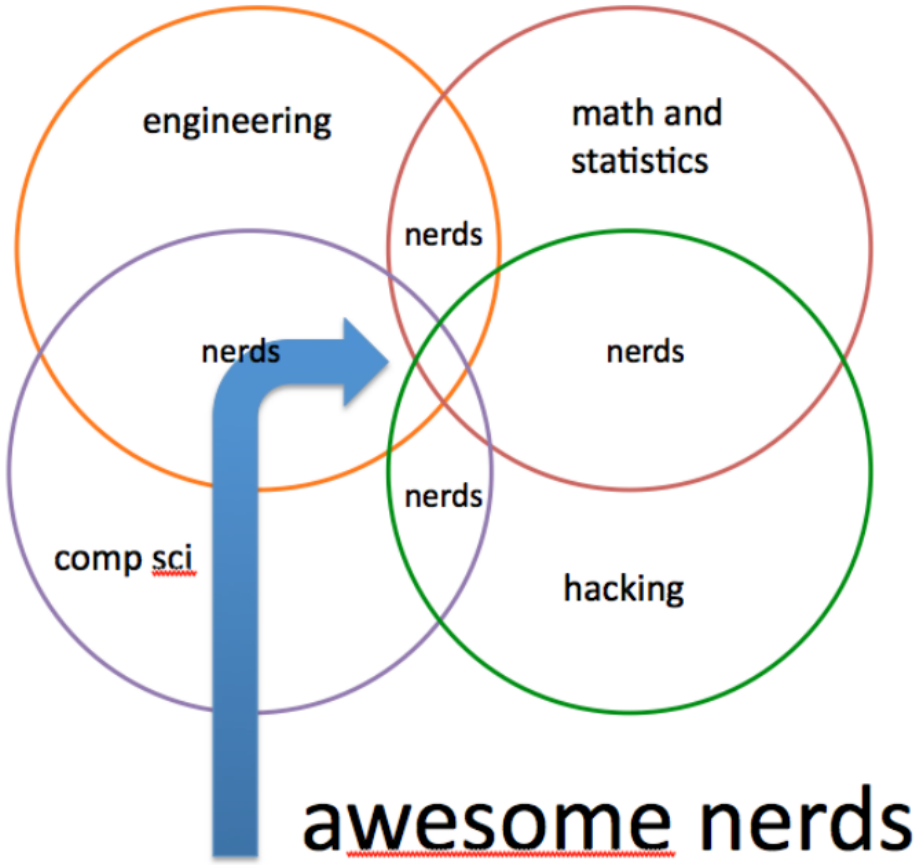
For more information on IBM's Deep Thunder and how it can help farmers visit: www.ibm.com/research

IBM


Computer science
Math and statistics
Data science
Domain knowledge


By Brendan Tierney, 2012
Business Strategy
Domain Knowledge
Communications
Presentation
Inquisitiveness
Problem Solving
Business Analyse
Statistics
Pattern Recognition
Neurocomputing
Visualisations
Machine Learning
AI
Data Science
Databases & Data Processing
KDD
Data Mining

Data scientists?

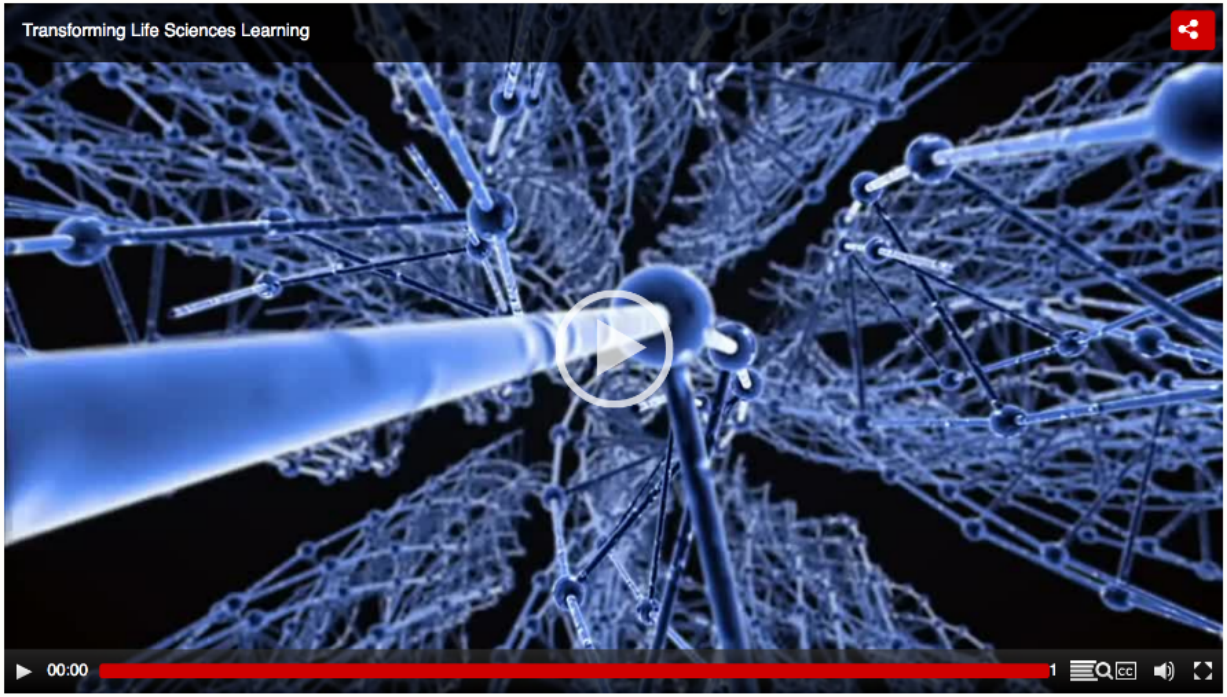


Hilary Mason/bitly

UNL BIG DATA

Nebraska > UNL Big Data > Education > PhD Program-Complex Biosystems

HOME | EDUCATION | RESEARCH | NEWS & EVENTS | RESOURCES | OUTREACH



PhD in Complex Biosystems

Five specializations
Three colleges
Eighteen departments
>20 current students

Complex Biosystems

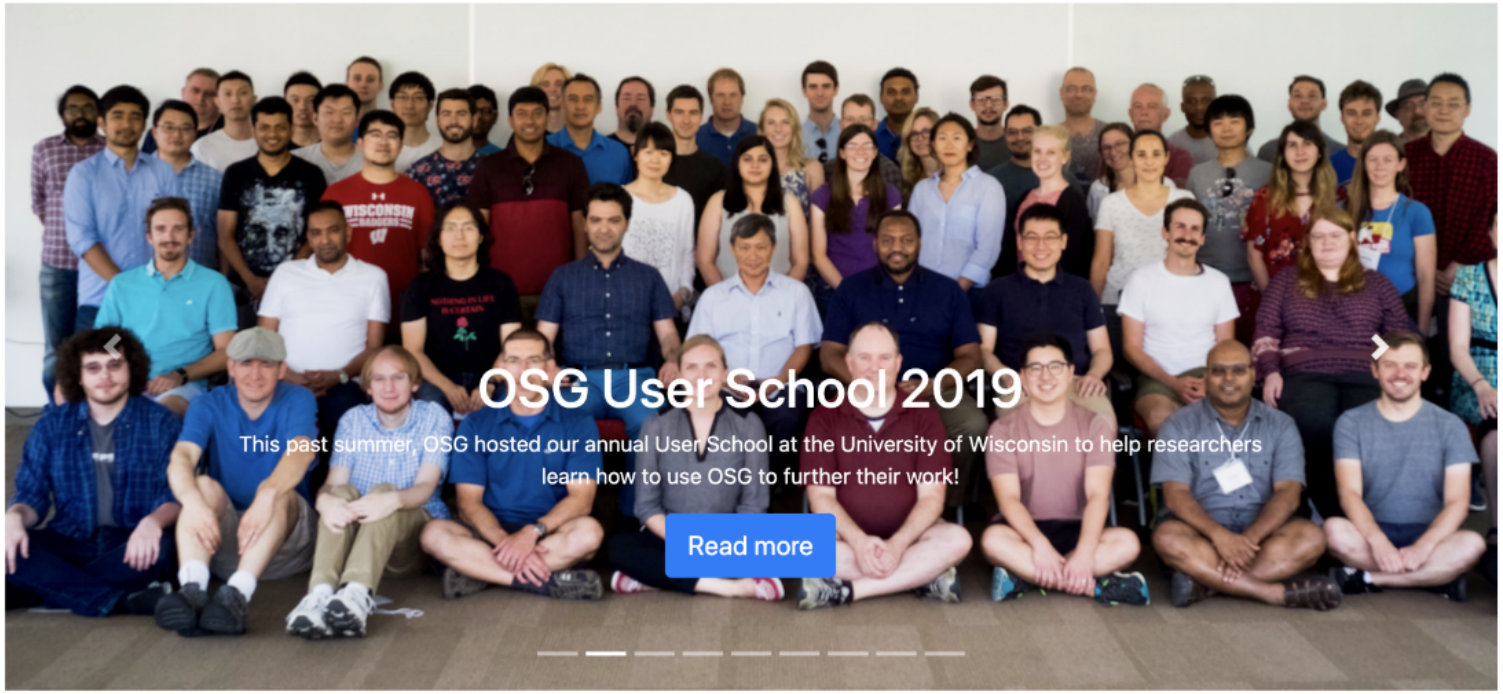
DESCRIPTION & COURSES | SPECIALIZATION TRACKS | FACULTY & RESEARCH

Email Us

Faculty and Research

Faculty according to specialization:

MICROBIAL INTERACTIONS | INTEGRATED PLANT BIOLOGY | PATHOBIOLOGY AND BIOMEDICAL SCIENCE | SYSTEMS ANALYSIS | COMPUTATIONAL ORGANISMAL BIOLOGY, ECOLOGY AND EVOLUTION



XSEDE HPC Workshop: Big Data

XSEDE along with the Pittsburgh Supercomputing Center is pleased to announce a two day Big Data workshop, to be held February 7-8, 2018.

Topics such as Hadoop and Spark and will be presented using the Wide Area Classroom(WAC) training platform.

XSEDE
Extreme Science and Engineering Discovery Environment

This workshop is **free of charge** and will be webcast beginning at 10:00 a.m. Central Time at the Milo Bail Student Center on the UNO Campus.

Register via the XSEDE User Portal

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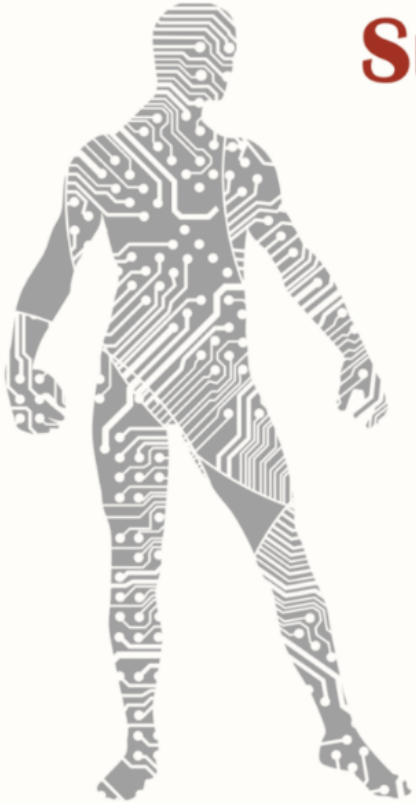


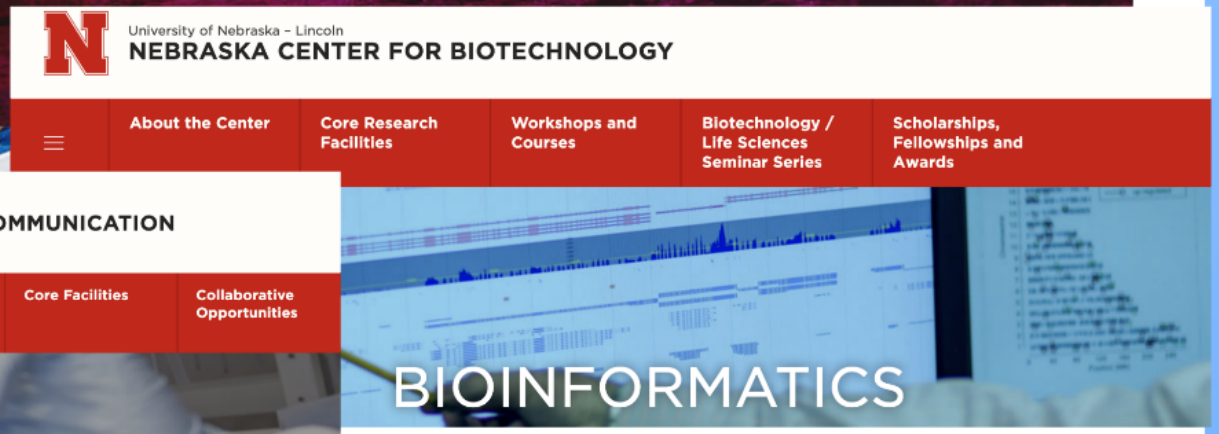
Supercomputing and Life Sciences Symposium 2019

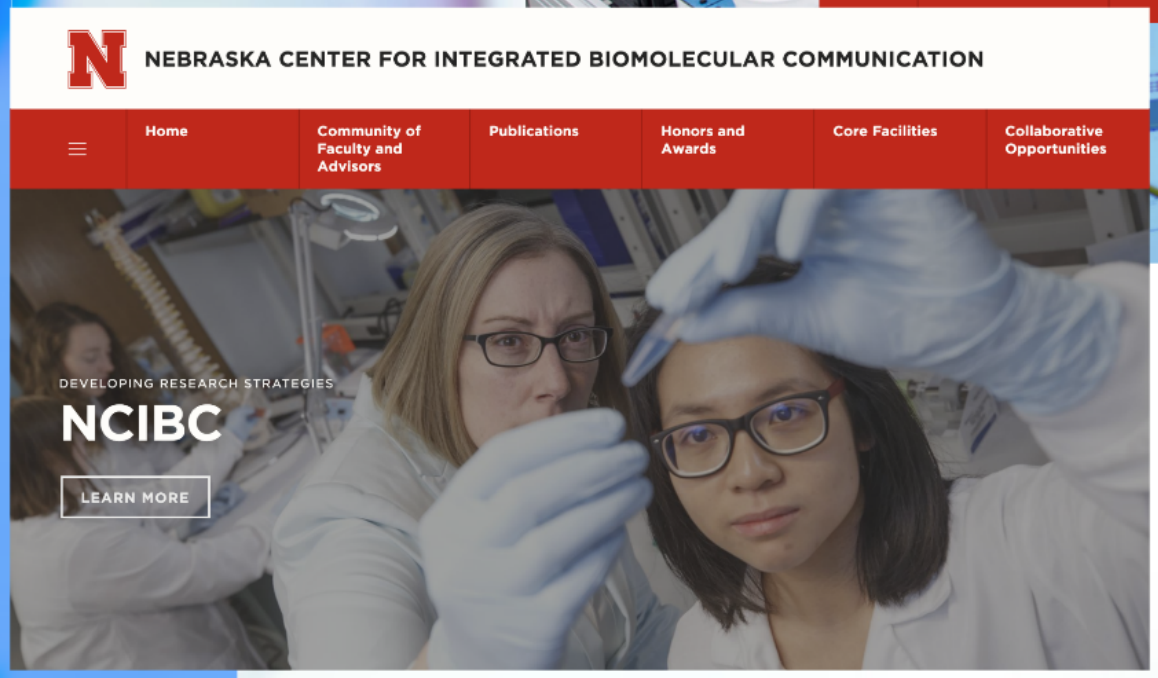
April 17, 2019

Symposium | **Reception and Poster Session**

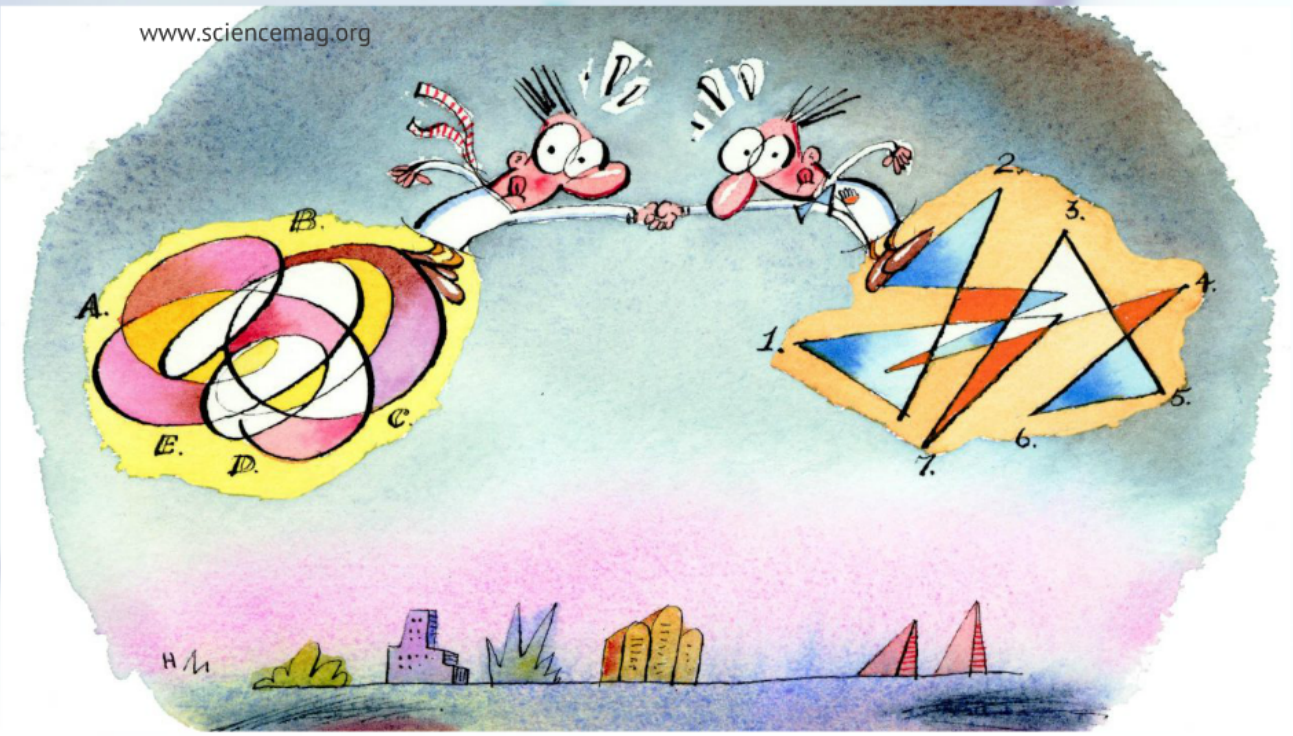
https://hcc.unl.edu/sls-symposium-2019

CENTER FOR ROOT AND RHIZOBIOME INNOVATION





Challenges



- the importance of communication
- the tragedy of the commons
- planning for success (time, focus)
- patience and humor

Richard Barton, 1964

@NebraskaHCC

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at Whittier School
2200 Vine Street Suite 230D
University of Nebraska-Lincoln

http://bigdata.unl.edu
@UNLBigData