Data Science Seminar

The Data Science Seminar is evolved from the former Statistical Machine Learning Seminar which covered topics in statistical theory that was important for machine learning research as well as development and applications of machine learning techniques in interdisciplinary research. The scope of the Data Science Seminar has been broadened to facilitate dialogue among different communities in the data science circle.
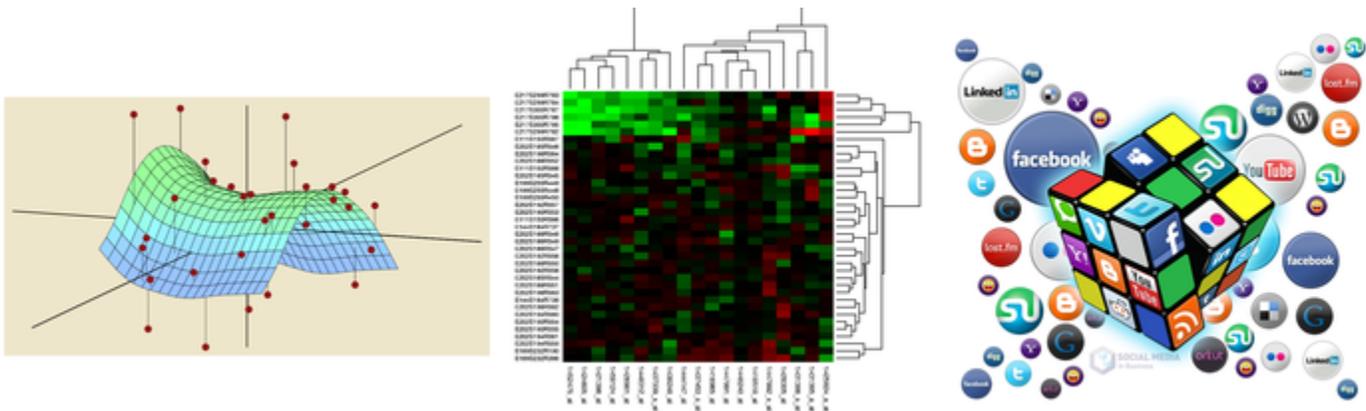
It is listed as course MATH 568.

Location: Whitney 100E (See the directions to the department)
Time: Tuesday 12:15 pm –1:15 pm
Organizers: Minghao Rostami and Minjie Wang

See also the Statistics Seminar.
See Previous talks in the Data Science Seminar and even earlier talks.

Spring 2026

- **February 10, 2026**
  Speaker: Dr. Yizeng Li (Department of Biomedical Engineering at Binghamton University)
  Topic: Multiphase Continuum Models for Cell Migration.
  Abstract

- **April 14, 2026**
  Speaker: Dr. Yang Feng (New York University)
  Topic: Transfer and Multi-task Learning: Statistical Insights for Modern Data Challenges.
  Abstract

- **April 21, 2026**
  Speaker: Dr. Yiqun T. Chen (Johns Hopkins University)
  Topic: AI for (Bio)statistics and (Bio)statistics for AI.
  Abstract

- **April 28, 2026**
  Speaker: Dr. Doug Turnbull (Ithaca College)
  Topic: .

Abstract

- **May 5, 2026**
  Speaker: Dr. Jun Yan (University of Connecticut)
  Topic: .
  Abstract

Fall 2025

- **September 9, 2025**
  Speaker: Dr. Nancy Guo (School of Computing at Binghamton University)
  Topic: AI-empowered precision medicine.
  [Abstract](#)

- **October 21, 2025**
  Speaker: Dr. Fei Xue (Purdue University)
  Topic: Statistical Methods for Mobile Health Data.
  [Abstract](#)

- **October 28, 2025**
  Speaker: Dr. Yufeng Liu (University of Michigan)
  Topic: Low-Rank Online Dynamic Assortment with Dual Contextual Information.
  [Abstract](#)

- **November 18, 2025**
  Speaker: Dr. Bingxin Zhao (University of Pennsylvania)
  Topic: Resampling-based pseudo-training in genomic predictions.
  [Abstract](#)

Spring 2025

- **February 25, 2025**
  Speaker: Dr. Zhaohan Xi (School of Computing at Binghamton University)
  Topic: From Text to Impact: Large Language Models as Responsible Cross-Disciplinary Copilots.
  [Abstract](#)

- **March 18, 2025**
  Speaker: Dr. Kun Chen (University of Connecticut)
  Topic: Hybrid and Integrative Learning for Rare Event Modeling with EHR Data.
  [Abstract](#)

- **April 8, 2025**
  Speaker: Dr. Lingzhou Xue (Pennsylvania State University)
  Topic: Federated On-Policy Reinforcement Learning.
  [Abstract](#)

- **April 15, 2025**
  Speaker: Dr. Min Xu (Rutgers University - New Brunswick)

Topic: Optimal Convex M-Estimation via Score Matching.
Abstract

Fall 2024

- **October 15, 2024**
  Speaker: Dr. Yang Ning (Cornell University)
  Topic: Estimation and Inference in Multivariate Response Regression with Hidden Variables.
  Abstract

- **October 22, 2024**
  Speaker: Dr. JoonHwan Cho (Department of Economics at Binghamton University)
  Topic: Testing for exogenous participation in ascending auction with unobserved heterogeneity.
  Abstract

- **November 5, 2024**
  CANCELLED AND POSTPONED
  Speaker: Dr. Yunlong Feng (SUNY Albany)
  Topic: Understanding robust loss functions in machine learning.
  Abstract

- **November 12, 2024**
  Speaker: Ben Jones
  Topic: An Integrated Experimental and Modeling Approach to Design Rotating Algae Biofilm Reactors (RABRs) via Optimizing Algae Biofilm Productivity, Nutrient Recovery, and Energy Efficiency.
  Abstract

- **December 3, 2024**
  Speaker: Dr. Yingxue Zhang (School of Computing at Binghamton University)
  Topic: Leveraging Unlabeled Data in Offline Reinforcement Learning.
  Abstract

Spring 2024

- **January 23, 2024**
  Speaker: Yili Zhang (MathWorks)
  Topic: Low-Code Machine Learning in SIMULINK & MATLAB APPS.
  Abstract

- **March 26, 2024**
  Speaker: Dr. Zeyu Ding (Department of Computer Science at Binghamton University)
  Topic: Differential Privacy in Practice: How the US Government Protects Your Sensitive Information in the 2020 Census.
  Abstract

Fall 2023

- **September 26, 2023**
  Speaker: Dr. Marianthi Markatou (SUNY University at Buffalo)
  Topic: Distances and their role in statistical inference.
  [Abstract](#)

- **October 3, 2023**
  Speaker: Dr. HaiYing Wang (University of Connecticut)
  Topic: Rare Events Data and Maximum Sampled Conditional Likelihood.
  [Abstract](#)

- **October 10, 2023**
  Speaker: Dr. Yiming Ying (SUNY University at Albany)
  Topic: Interplay between Generalization and Optimization via Algorithmic Stability.
  [Abstract](#)

- **October 17, 2023**
  Speaker: Dr. Peter D. Hoff (Duke University)
  Topic: Core Shrinkage Covariance Estimation for Matrix-variate Data.
  [Abstract](#)

- **October 24, 2023**
  Speaker: Dr. Luis Carvalho (Boston University)
  Topic: Deviance Matrix Factorization.
  [Abstract](#)

- **October 31, 2023**
  Speaker: Dr. Ruiqi Liu (Texas Tech University)
  Topic: Estimation and Hypothesis Testing of Derivatives in Smoothing Spline ANOVA Models.
  [Abstract](#)

- **November 14, 2023**
  Speaker: Dr. Jiguo Cao (Simon Fraser University)
  Topic: Machine Learning for Functional Data.
  [Abstract](#)

- **November 28, 2023**
  Speaker: Dr. Li Zhang (University of California San Francisco)
  Topic: NAIR Software: Unlocking the Immune System's Secrets by Network Analysis and Advanced Machine Learning.
  [Abstract](#)

- **December 5, 2023**
  Speaker: Dr. Xuexia Wang (Florida International University)
  Topic: Genetic Association Test and Risk Prediction Modeling for Cardiomyopathy in Cancer Survivors.
  [Abstract](#)

Spring 2023

- **February 14, 2023**
  Speaker: Dr. Yuan Fang (Binghamton University)
  Topic: Clustering disease trajectories: statistical method applications and evaluation.
  [Abstract](#)

- **February 21, 2023**
  Speaker: Dr. Xuming He (University of Michigan)
  Topic: How Good is Your Best Selected Subgroup.
  [Abstract](#)

- **February 28, 2023**
  Speaker: Dr. James D. Wilson (University of San Francisco)
  Topic: The Political Brain: Associations of Tasked-based Functional Connectivity Networks and Political Ideology.
  [Abstract](#)

- **March 7, 2023**
  Speaker: Dr. Sijian Wang (Rutgers, The State University of New Jersey)
  Topic: Dynamic Attention-Based Functional Data Analysis.
  [Abstract](#)

- **March 14, 2023**
  Speaker: Dr. Holger Dette (Ruhr-Universitaet Bochum)
  Topic: Functional data analysis on Banach spaces.
  [Abstract](#)

- **March 21, 2023**
  Speaker: Dr. Hamsa Bastani (University of Pennsylvania)
  Topic: Efficient and targeted COVID-19 border testing via reinforcement learning.
  [Abstract](#)

- **March 28, 2023**
  Speaker: Dr. Jie Peng (UC Davis)
  Topic: Statistical methods for diffusion MRI.
  [Abstract](#)

- **April 11, 2023**
  Speaker: Dr. Chris Haines (Internal)
  Topic: Independent Spacings Theorem with a Maximum Product Spacings Estimation Application.
  [Abstract](#)

- **April 18, 2023**
  Speaker: Dr. Konstantin G. Arbeev (Duke University)
  Topic: How Good is Your Best Selected SubgroupStochastic process models: Bringing biology to statistics to advance research on aging.
  [Abstract](#)

- **April 27, 2023**

Speaker: Dr. Runze Li (Penn State University)

Topic: Model-Free Conditional Feature Screening with FDR Control.

Abstract

Fall 2022

- **September 20, 2022**
  Speaker: Dr. Soumik Banerjee (Internal)
  Topic: Likelihood-based Approach for Testing the Homogeneity of Risk Difference in a Multicenter Randomized Clinical Trial.
  Abstract

- **October 4, 2022**
  Speaker: Dr. Chao Huang (Florida State University)
  Topic: Shape-on-Scalar Regression Models: Going Beyond Prealigned Non-Euclidean Responses.
  Abstract

- **October 25, 2022**
  Speaker: Dr. John Stufken (George Mason University)
  Topic: Musings on Subdata Selection.
  Abstract

- **November 1, 2022**
  Speaker: Dr. Jinchi Lv (University of Southern California)
  Topic: High-Dimensional Knockoffs Inference for Time Series Data.
  Abstract

- **November 8, 2022**
  Speaker: Dr. Rui Song (North Carolina State University)
  Topic: On statistical inference for sequential decision making.
  Abstract

- **November 15, 2022**
  Speaker: Dr. Rachael Hageman Blair (University at Buffalo)
  Topic: Harnessing stability estimation for module detection, clustering, and ensemble clustering.
  Abstract

- **December 6, 2022**
  Speaker: Dr. Alexander Franks (University of California, Santa Barbara)
  Topic: Sensitivity to Unobserved Confounding in Studies with Factor-structured Outcomes.
  Abstract

Spring 2022

- **Apr. 5, 2022**
  Speaker: Dr. Soumik Banerjee (Internal)
  Topic: Multistage Minimum Risk Point Estimation (MRPE) with First-Order and Second-Order Asymptotic Properties.
  Abstract

- **Apr. 26, 2022**
  Speaker: Dr. Krishnakumar Balasubramanian (The University of California, Davis)
  Topic: Fractal Gaussian Networks: A sparse random graph model based on Gaussian Multiplicative Chaos.
  Abstract

- **May 3, 2022**
  Speaker: Dr. Hongtu Zhu (University of North Carolina)
  Topic: Challenges in Biobank-scale: Imaging Genetics and Beyond.
  Abstract

- **May 10, 2022**
  Speaker: Dr. Yao Zheng (University of Connecticut)
  Topic: Tensor methods for high-dimensional time series modeling.
  Abstract

Fall 2021

- **Sep. 14, 2021**
  Speaker: Dr. Matthew Reimherr (Pennsylvania State University)
  Topic: KNG - A New Mechanism for Data Privacy.
  Abstract

- **Sep. 21, 2021**
  Speaker: Dr. Haoda Fu (Eli Lilly and Company)
  Topic: Our Recent Development on Cost Constraint Machine Learning Models.
  Abstract

- **Sep. 28, 2021**
  Speaker: Dr. Eric F. Lock (University of Minnesota)
  Topic: Bidimensional Linked Matrix Decomposition for Pan-Omics Pan-Cancer Analysis.
  Abstract

- **Oct. 19, 2021**
  Speaker: Dr. Damla Senturk (UCLA)
  Topic: Multilevel Modeling of Spatially Nested Functional Data: Spatiotemporal Patterns of Hospitalization Rates in the U.S. Dialysis Population.
  Abstract

- **Oct. 26, 2021**
  Speaker: Dr. Giles Hooker (UC Berkeley)
  Topic: There is No Free Variable Importance: Traps in Interpreting Black Box Functions.
  Abstract

- **Nov. 2, 2021**
  Speaker: Dr. Yuanjia Wang (Columbia University)
  Topic: Machine Learning Approaches for Optimizing Treatment Strategies for Mental Disorders.
  Abstract

- **Nov. 9, 2021**

Speaker: Dr. Megan Johnson (Internal)

Topic: The Interconnectivity Vector and the Betti Sequence: Finite-Dimensional Vector Representations of Persistent Homology.

Abstract

- **Nov. 16, 2021**
  Speaker: Dr. Cen Wu (Kansas State University)
  Topic: Robust Bayesian variable selection for gene-environment interactions.
  Abstract

- **Nov. 30, 2021**
  Speaker: Dr. Antonio Linero (University of Texas at Austin)
  Topic: Bayesian Decision Tree Ensembling Strategies for Nonparametric Problems.
  Abstract

- **Dec. 7, 2021**
  Speaker: Dr. Annie Qu (University of California Irvine)
  Topic: Correlation Tensor Decomposition and Its Application in Spatial Imaging Data.
  Abstract

Spring 2021

- **Mar. 02, 2021**
  Speaker: Brian Franczak (MacEwan University)
  Topic: On using mixtures of shifted asymmetric Laplace distributions for model-based classification.
  Abstract

- **Mar. 23, 2021**
  Speaker: Adam Ciarleglio (The George Washington University)
  Topic: Multiple imputation in functional regression with applications to EEG data in a depression study.
  Abstract

- **March 30, 2021**
  Speaker: Wenshu Dai (Binghamton University)
  Topic: Finite Mixtures of Regression Models and Finite Mixtures of Regression Models with Concomitant Variables for Clustering Microbiome Data.
  Abstract

- **April. 13, 2021**
  Speaker: Nalini Ravishanker (University of Connecticut)
  Topic: Biclustering Approaches for High-Frequency Time Series.
  Abstract

- **April. 27, 2021**
  Speaker: Melody Ghahramani (The University of Winnipeg)
  Topic:Time Series Regression for Zero-Inflated and Overdispersed Count Data: A Functional Response Model

Approach.
Abstract

- **May 04, 2021**
  Speaker: Zhou Wang (Binghamton University)
  Topic: Multiclass Anomaly Detector: the CS++Support Vector Machine
  Abstract

Fall 2020

- **Oct. 20, 2020**
  Speaker: Sumanta Basu (Cornell University)
  Topic: Measuring Systemic Risk with Graphical Models of Time Series Data.
  Abstract

- **Oct. 27, 2020**
  Speaker: Yuan Luo (Northwestern University)
  Topic: A Multidimensional Precision Medicine Approach Identifies an Autism Subtype Characterized by Dyslipidemia
  Abstract

- **Nov. 3, 2020**
  Speaker: Shaofei Zhao (Binghamton University)
  Topic: Distribution-free and nonparametric multivariate feature screening via measure transportation for high dimensional response and predictor variables.
  Abstract

Spring 2020

- **Mar. 24, 2020**
  CANCELLED AND POSTPONED
  Speaker: Sumanta Basu (Cornell University)

- **April. 21, 2020**
  Speaker: Liang Li, Yunhui Liu and Han Zhang
  Topic: Capstone Project: Factors Affecting PhD Student Success.
  Abstract

- **April. 21, 2020**
  CANCELLED AND POSTPONED
  Speaker: Adam Ciarleglio (George Washington University)

- **May. 05, 2020**
  CANCELLED AND POSTPONED
  Speaker: Yuan Luo (Northwestern University)

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Fall 2019

See the schedule of the **Interdisciplinary Dean's Speaker Series in Data Science**.

- **Oct. 9, 2019 (special day and time)**
  Interdisciplinary Dean's Speaker Series in Data Science
  Speaker: Joseph W Hogan (Brown University)
  Topic: Using Electronic Health Records Data for Predictive and Causal Inference About the HIV Care Cascade
  [Abstract](#)

- **Oct. 11, 2019 (Special Date and time)**
  Speaker: Paul McNicholas (McMaster University)
  Topic: Clustering Higher-Order Data
  [Abstract](#)

- **Oct. 22, 2019**
  Speaker: Gen Li (Columbia University)
  Topic: Integrative multi-view regression: Bridging group-sparse and low-rank models.
  [Abstract](#)

- **Oct. 24, 2019 (1:15 pm, stat seminar time)**
  Speaker: Doug Turnbull (Ithaca College)
  Topic: TBA
  [Abstract](#)

- **Oct. 29, 2019**
  Speaker: Wangshu Tu (Binghamton University)
  Topic: A family of mixture models for biclustering
  [Abstract](#)

- **Nov. 5, 2019**
  Speaker: Wangshu Tu (Binghamton University)
  Topic: Non existence of fixed sample estimator for prescribed proportional closeness
  [Abstract](#)

- **Nov. 8, 2019**
  Interdisciplinary Dean's Speaker Series in Data Science
  Speaker: Andrew Gordon Wilson (New York University; Courant Institute of Mathematical Sciences)
  Topic: How do we build models that learn and generalize?
  [Abstract](#)

- **Nov. 12, 2019**
  Speaker: Kexuan Li (Binghamton University)
  Topic: A Hausman test for the presence of market microstructure noise in high frequency data
  [Abstract](#)

- **Nov. 19, 2019**
  Interdisciplinary Dean's Speaker Series in Data Science

Time: 10am-11:30am
Location: UUW325
Speaker: Arthur Spirling (New York University; Politics and Data Science)
Topic: Word Embeddings: What works, what doesn't, and how to tell the difference for applied research
Abstract

- **Nov. 26, 2019**
  Speaker: Wei Yang (Binghamton University)
  Topic: Random Covariance Matrix and the Marchenko-Pastur law
  Abstract

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Spring 2019

- **March 05, 2019**
  Speaker: Rebecca Nugent (Carnegie Mellon University)
  Topic: Before Teaching Data Science, Let's First Understand How People Do It
  Abstract

- **March 12, 2019**
  Speaker: Subhadeep (Deep) Mukhopadhyay (Temple University)
  Topic: Graph Data Science
  Abstract

- **March 26, 2019**
  The Dean's Speaker Series in Statistics and Data Science
  Speaker: Regina Y. Liu (Rutgers University)
  Topic: Fusion Learning: Efficient Combination of Inferences from Diverse Data Sources
  Abstract

- **April 9, 2019**
  Speaker: David Hunter (Pennsylvania State University)
  Topic: Multivariate Nonparametric Mixture Models
  Abstract

- **April 16, 2019**
  The Dean's Speaker Series in Statistics and Data Science
  Speaker: David Madigan (Columbia University)
  Topic: Towards honest inference from real-world healthcare data
  Abstract

- **April 23, 2019**
  Speaker: Daphney-Stavroula Zois (SUNY Albany)
  Topic: Spatiotemporal Quickest Change Detection for Traffic Accident Nowcasting
  Abstract

- **April 30, 2019**
  Speaker: Lin Yao (Binghamton University)

Topic: Dissertation Defense - JAMES-STEIN-TYPE OPTIMAL WEIGHT CHOICE FOR FREQUENTIST MODEL AVERAGE
ESTIMATOR
Special time and location: 3:30 pm at OR 100D
Abstract

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Fall 2018

- **October 9, 2018**
  The Dean's Speaker Series in Statistics and Data Science
  Speaker: Sidney Resnick (Cornell University)
  Location: Old Champlain Atrium (unusual location)
  Topic: Fitting the Linear Preferential Attachment Model for Social Network Growth
  Abstract

- **October 23, 2018**
  The Dean's Speaker Series in Statistics and Data Science
  Speaker: David Ruppert (Cornell University)
  Topic: Density Estimation with Noisy Data
  Abstract

- **November 13, 2018**
  Speaker: Yudong Chen (Cornell University)
  Topic: Byzantine-Robust Distributed Learning with Non-converxity
  Abstract

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Spring 2018

- **January 30**
  Speaker: Qiqing Yu (Binghamton University)
  Topic: Identifiability Conditions For The Linear Regression Model Under Right Censoring
  Abstract

- **February 20**
  Speaker: Yinsong Chen (Binghamton University)
  Topic:The Conductance and Mixing Time
  Abstract

- **March 13**
  Speaker: **Jiexin Duan** (Purdue University)
  Topic: **Large-Scale Nearest Neighbor Classification with Statistical Guarantee**
  Abstract

- **March 20**
  Speaker: **Yuan Fang** (Binghamton University)

Topic: **Bayesian Approach to Parameter Estimation for the mixtures of Multivariate Normal Inverse Gaussian Distributions**
[Abstract](#)

- **April 10**
  Speaker: **Leila Setayeshgar** (Providence College)
  Topic: **Large Deviations for a Class of Stochastic Semilinear Partial Differential Equations**
   [Abstract](#)

- **April 17**
  Speaker: **Wenbo Wang** (Binghamton University)
  Topic: **A look at distance-weighted discrimination**
  [Abstract](#)

- **April 24**
  Speaker: **Haomiao Meng** (Binghamton University)
  Topic: **Multicategory Angle-based Large-margin Classification**
  [Abstract](#)

- **May 1**
  Speaker: **Chen Liang** (Binghamton University)
  Topic: **Goodness of fit tests for clustered spatial point processes**
  [Abstract](#)

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Fall 2017

- **September 19**
  Speaker: **Dan Yang** (Rutgers University)
  Topic: **Autoregressive Model for Matrix Valued Time Series**
  [Abstract](#)

- **September 26**
  Speaker: **Ji Meng Loh** (New Jersey Institute of Technology)
  Topic: **Single-index model for inhomogeneous spatial point processes**
  [Abstract](#)

- **November 14**
  Speaker: **Weijie Su** (Wharton School of the University of Pennsylvania)
  Topic: **TBA**
  [Abstract](#)

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