

## **Title: *Statistics Department Summer Courses Cut Across Disciplines***

The [Columbia University Department of Statistics](#) is offering two sections of [STAT GR8201 for Summer 2023](#), weekdays beginning July 17, 2023 and running through July 28, 2023, which will be held in the School of Social Work, Room 903, with guest faculty Professor Fan Li (Duke University) and Professor Arthur Gretton (University College London). As statistics cross-cuts disciplines, these Stats Summer Courses are open to all interested graduate students.

Section 001 (3 points) will be offered weekdays from July 17-July 28, from 9:00 to 11:00 am, and will feature [Professor Fan Li, Department of Statistical Science, with a secondary appointment in the Department of Biostatistics and Bioinformatics at Duke University](#). Professor Li's Statistics Department Summer 2023 course lectures will focus on **causal inference**, with topics that include **machine learning**, common designs and analysis of randomized experiments, and observational studies, and advanced topics on longitudinal treatments and principal stratification. According to Professor Li, the lectures *"will use methods illustrated by real world applications from social sciences, economics, healthy and health sciences."* [On the Duke University website](#), Professor Li, states, *"My main research interest is causal inference and its applications to health studies and computational social science. I also work on the interface between causal inference and machine learning."* Professor Li is currently serving as the editor for social science, biostatistics and policy for the journal of Annals of Applied Statistics.

Section 002 (3 Points) will be offered weekdays from July 17-July 21, from 11:30 am to 12:45 pm & 3:30 pm to 4:45 pm, and will feature [Professor Arthur Gretton, Gatsby Computational Neuroscience Unit and Director for the Center for Computational Statistics and Machine Learning at University College London](#). Professor Gretton's Summer 2023 course lectures for the Statistics Department will focus on **generative models using kernel and neural divergence measures**, which will cover topics that include reproducing kernel Hilbert spaces, maximum mean discrepancy and two-sampling testing, generative models using kernel and neural divergence measures, Hilbert-Schmidt independence criterion and independence testing, and various advanced topics on adaptive linear-time tests, as time permits. [Professor Gretton says](#), *"My recent research interests in machine learning include causal inference and representation learning, design and training of implicit and explicit generative models, and nonparametric hypothesis testing."* Professor Gretton has been host to approximately twenty workshops on big data and machine learning, and more, and has nearly 300 published and co-published journal articles.

The Columbia University Department of Statistics Faculty encourages interested graduate students to participate in the STAT GR8201 Topics in Theoretical Statistics Courses offered for Summer 2023 with Professors Li and Gretton, and to consider this an unique opportunity to cut across disciplines and engage with graduate student colleagues from other fields. For more information about the STAT GR8201 Summer 2023 courses, please email Professor Bodhisattva Sen at [bodhi@stat.columbia.edu](mailto:bodhi@stat.columbia.edu).