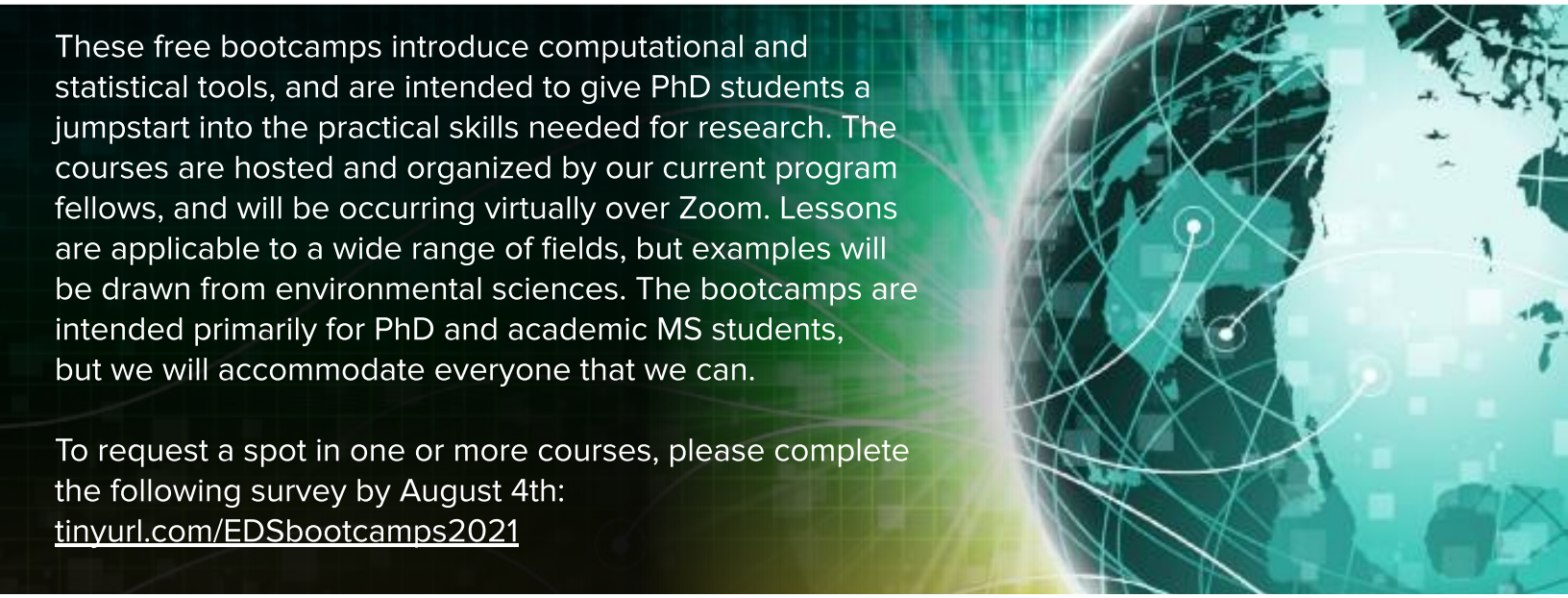
ENVIRONMENTAL DATA SCIENCE VIRTUAL BOOTCAMPS 2021



These free bootcamps introduce computational and statistical tools, and are intended to give PhD students a jumpstart into the practical skills needed for research. The courses are hosted and organized by our current program fellows, and will be occurring virtually over Zoom. Lessons are applicable to a wide range of fields, but examples will be drawn from environmental sciences. The bootcamps are intended primarily for PhD and academic MS students, but we will accommodate everyone that we can.

To request a spot in one or more courses, please complete the following survey by August 4th: tinyurl.com/EDSbootcamps2021

INTRODUCTION TO SCIENTIFIC PROGRAMMING

Aug 30 - Sep 17, 10:00 am - 12:30 pm CT

For those new to programming, a crash course in the basics to get you up to speed: variables, arrays, list, for loops, if statements, functions, and how to work with NumPy, Pandas, and Matplotlib for basic data sciences purposes. This course will be taught in Python + Jupyter notebooks. It is intended for graduate students who have little or no computer programming experience.

COMPUTING FOR RESEARCH

Aug 30 - Sep 10, 10:00 am - 12:30 pm CT

For those who already know the programming basics, this course will dive into advanced computational methods, including data exploration and visualization, numerical methods, using the computing cluster, optimizing your code, and working with geodata formats. The course will be taught in Python + Jupyter notebooks. It is intended for graduate students with some programming experience in Python or similar languages who can make a fast transition to more advanced data science practices.

STATISTICS FOR RESEARCH

Sep 7 - Sep 17, 3:00 pm - 5:30 pm CT

This course provides an introduction to some basic statistical techniques used in environmental research and beyond. We will give students a toolkit of methods to understand datasets they may encounter in their own work. We will cover modern approaches to regression and inference, time series modeling, and Bayesian statistics. The focus is on practical applications and will include extensive coding exercises. The course will be taught in R. The first lesson will help students who know Python or similar languages make the transition.

LIFE DURING GRAD SCHOOL

Aug 30 - Sep 3, 3:00 pm - 4:00 pm CT

Starting grad school is always a big leap. This week-long series aims to help incoming PhD students make the transition. The first three days will be panels where current graduate students and faculty will discuss topics like "what is graduate school anyway?", "navigating your research and the advisor-student relationship", and "the importance of mental health". The last two days will be an overview of resources available on campus and other useful tools for your workflow that will help make grad school easier.

These workshops are funded by DSEER - UChicago's Data Science for Energy and Environmental Research NSF Research Traineeship (NRT) program. For more info, go to nrt.geosci.uchicago.edu or email padston@uchicago.edu