AMERICAN UNIVERSITY OF BEIRUT
CENTER FOR ADVANCED MATHEMATICAL SCIENCES

AMERICAN UNIVERSITY OF BEIRUT
FACULTY OF ARTS & SCIENCES
Department of Mathematics

CAMS MINI-COURSE

THE RIEMANN ZETA FUNCTION
CONJECTURES & COMPUTATIONS

This is a self-contained mini-course to introduce important analytic algorithms in computational number theory. The emphasis will be on well-known formulas and methods of interest in the theory of the Riemann zeta function. Starting with the Riemann-Siegel formula to numerically compute zeta, followed by methods for verifying the Riemann hypothesis including Turing's method, and concluding with conjectures about statistics of zeta zeros inspired by Random matrix theory. Hoping to emphasize hands-on learning and provide sample mini-projects. Basic familiarity with mathematical software, such as Mathematica, will be helpful.

*Certificates will be provided by the end of the course based on attendance.

Neighbourhood of a large value of |zeta(1/2+it)|
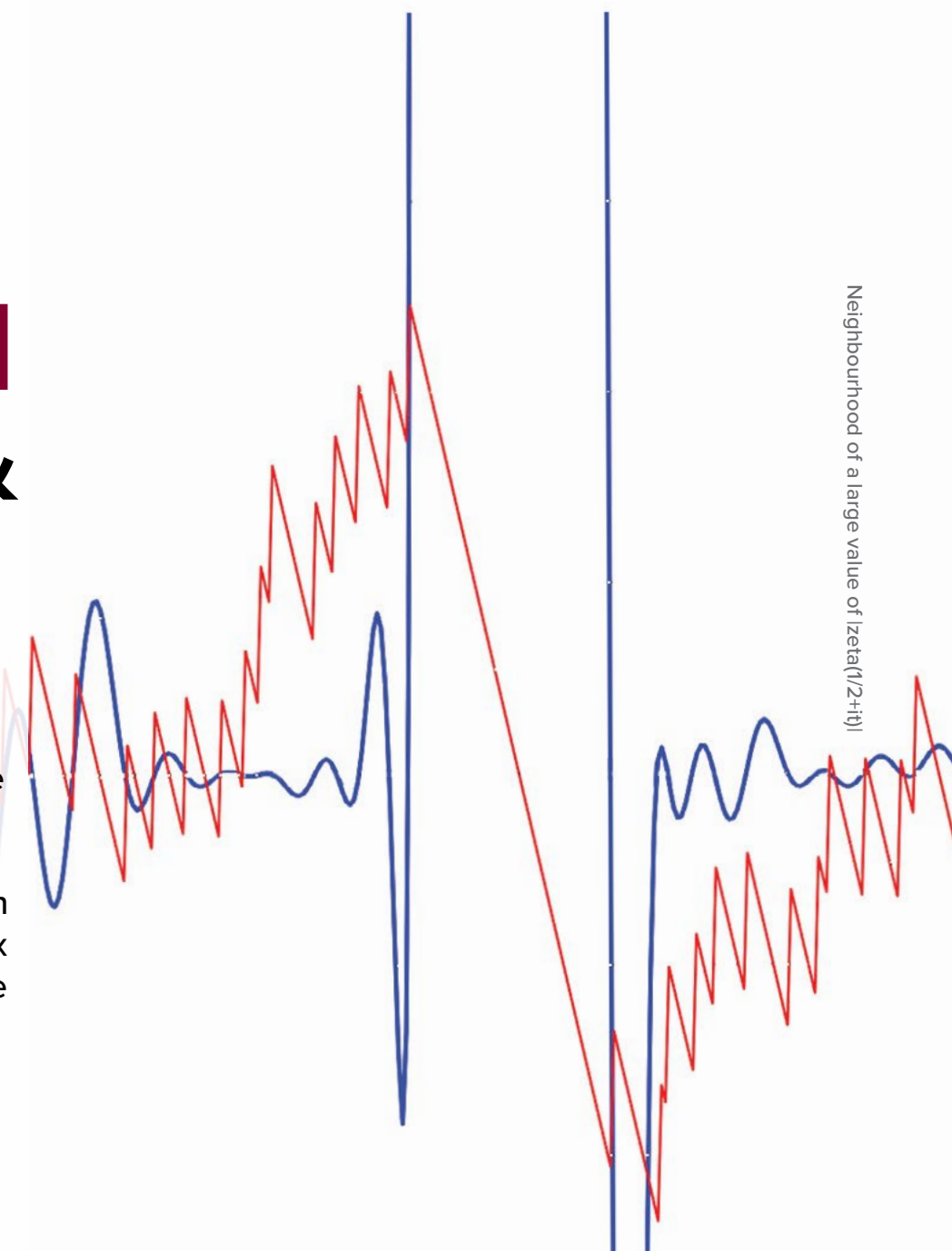
OCTOBER 18, 19 & 20, 2022
4:00—5:00 PM

COLLEGE HALL, AUDITORIUM B1

GHAITH HIARY
The Ohio State University

Ghaith Hiary is an associate professor of mathematics at The Ohio State University in Columbus. He received his PhD in mathematics from the University of Minnesota in 2008, followed by postdoctoral positions at IAS, Waterloo, and Bristol. He works in analytic number theory and computational mathematics.