Electronic Mathematics Education Seminar

A Radical Approach to Calculus

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12:00 - 1:00 ET

I've used history to motivate and organize introductory real analysis and Lebesgue integration. This talk will explain how it should be used to improve calculus instruction. The standard order of the four big ideas—limits then derivatives then integrals then series—is all wrong both historically and pedagogically. In addition, the standard models for derivatives and integrals, slopes of tangents lines and areas under curves, also throw obstacles in the path of many students. Drawing on history and recent research in undergraduate mathematics education, I'll make the case for calculus introduced first as problems of accumulation (integration), then ratios of change (differentiation), then sequences of partial sums (series), and finally the algebra of inequalities (limits).

To join the seminar, go to
https://zoom.us/j/408581540

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