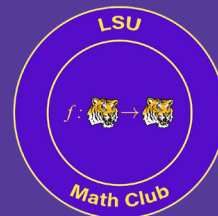


# The $\sqrt{\text{Radical}}$

Mondays @ 5PM • Lockett Hall 3rd Floor Lounge  
October 10, 2016



Historic portrait of Euler by  
Jakob Emanuel Handmann  
Courtesy of Wikipedia  
Commons

## Mathematician of the Week: Leonhard Euler

Leonhard Euler was a Swiss mathematician, and is considered to be one of, if not the most, influential mathematicians of all time. His work spans countless topics in numerous subjects, including analysis, number theory, graph theory, physics and even music theory.

Euler was born on April 15, 1707 in Basel, Switzerland to a religious family. In his childhood, he was good friends with the Bernoulli family, and the legendary Johann Bernoulli himself would go on to become a huge influence in Euler's mathematical career.

By age thirteen, he was already enrolled at the University of Basel, and by age sixteen he had received a Master of Philosophy degree.

Despite many hurdles during his life, including the onset of blindness, Euler remained unbelievably productive. He could recite the entirety of the Aeneid, and later in his career he produced, on average, a mathematical paper every week.

His most notable contributions include Euler's identity, which is considered by many mathematicians to be the most beautiful formula in the world, the early development of graph theory in his solution to the Seven Bridges of Königsberg problem, the introduction of the concept of a function, and the popularization of many common pieces of mathematical notation (including  $i$  for the imaginary unit,  $\pi$  for pi, and  $f(x)$  for a function of  $x$ ).

In contemporary mathematics Euler's work in number theory is still considered cutting-edge, as his product formula for the Riemann zeta function remains one of the most studied mathematical concepts.

### Computational Mathematics Seminar

Xiaoliang Wan, Louisiana State University

Tuesday, October 11 @ 3:30PM

Digital Media Center Room 1034

Topic: Small random perturbations of elliptic problems

### Graduate Student Algebra and Number Theory Seminar

Lucius Schoenbaum, Louisiana State University

Thursday, October 13 @ 3:30PM

Lockett Hall Room 233

Topics: Cartesian Closed Categories and Lambda Calculus

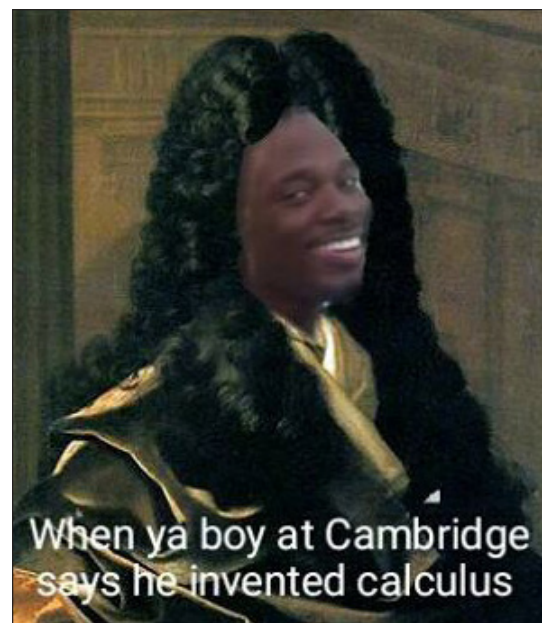
### Executive Board

President	Chandler McArthur
Vice President	Jeremy Alcanzare
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### Suggestion of the Week:

Seniors should start seriously looking into their graduate school applications around now. Draft a personal statement and connect with professors whom you'd ask for a recommendation.

Your Math Club President,  
Chandler McArthur



Historic representation of Leibniz's reaction to Newton's discoveries.

Courtesy of Mathematical Mathematics Memes

Check us out at:



## Q&A with Steven Olsen

**Chandler McArthur:** How is your first semester of graduate school different from undergrad?

**Steven Olsen:** Graduate school is a completely different beast from undergrad. An undergraduate has a lot of free time relatively speaking, but once you're in graduate school you really have to manage your time almost perfectly; you really need to totally devote yourself to studying math. And so for me that was different from undergrad because I think that I wasn't quite as dedicated as I could have been and so it's been a big transition for me learning how to study for hours every day on the same topic. That's been a big shift, and I realize that not all undergraduates have that transition; maybe they always study like that. But definitely for me I found that it's just a total commitment to math, and that's a hard transition, but I think I'm also learning to appreciate it and it can be pretty satisfying.

**CM:** What were some similarities?

**SO:** I guess the way I work through problems is still the same. In general, when I get a homework set I'll try to write them all out immediately and let them kinda simmer for a while. I guess that's a little bit similar to undergrad but especially for me it's been quite different; it's kinda hard to find similarities.

**CM:** What makes LSU an attractive choice for math students looking to go to grad school?

**SO:** I guess I'd say when it comes down to it I think that the caliber of our professors and the kind of research being done here is really up there with many of the other top math graduate schools. We have some very intelligent professors; we have good research that's going on. I think the potential for good opportunities is as competitive here as at a lot of other top schools. You're looking for good research, good connections to top universities, and people who can potentially get you a job after you get your Ph. D., and I think that LSU has all of those things.

**CM:** Could you compare the atmosphere of the math department here for grad school to the first universities that would pop into someone's head if they said "I want to go to the top math graduate programs"?

**SO:** Maybe it's a little more competitive or something like this but once you get to the graduate level it's about equally competitive everywhere. Everyone's really serious about learning math and getting their Ph. D. You have to be serious about that regardless of where you are. I wanna say that the people in those departments are



Steven Olsen, head of LSU Math Circle and a graduate student  
*Courtesy of Steven Olsen*

about all equally committed math. I don't know that it would be so much more rigorous or anything at MIT. If you don't have the dedication, you're just not gonna be able to go through a Ph. D. program for five years. You just have to be totally devoted to it.

**CM:** If you could have dinner with three mathematicians, who would they be?

**SO:** That's tough! This first one that popped into my head was Galois. Man, what a cool guy. I mean, he'd be around around my age -- I think he died when he was twenty-one -- a mathematician and a revolutionary. I think he'd have kind of a fiery passion, so I'd be really interested in talking to him.

Next one I think would be Newton. Newton always fascinated me, since I'm not sure if he's a genius or insane or I would guess a little of both. To have a guy who could come up with such an incredible theory of calculus but then turn around and say "I'm going to devote myself to turning other elements into gold." It's a very strange juxtaposition there, so I think it'd be really interesting to talk to him about that and see what his views were. I guess see why he believed the things he did since he was a strange man.

For the last person, I'm gonna go with Archimedes. That'd be a very different perspective from the other two; I'm sure the Greeks would have thought about math in a bit of a different way than some of our more modern mathematicians. I know he came up with some things that are very close to calculus. He did his method of exhaustion and things and that was very close to a discovery that wouldn't be made for around another two thousand years. I think that he would be a very cool kind of person to round out the trio.