

BAMA

School Year 2021—2022
Join us for a free talk...

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Theo Drane

Playing in the Sand

Via Zoom at 7:30 pm
2, 2021

<https://scu.zoom.us/j/91923584752?pwd=M2s3ajdpb1lBejRGVk0vNURLY3dJZz09>

Please join meeting between 7:15 and 7:30 pm

Meeting ID: 919 2358 4752

One tap mobile

Join by phone: +1 (669) 900-6833

Password: 597188

+16699006833,,91923584752#

Meeting ID: 919 2358 4752

Please share this poster, but we ask that you not share the Zoom link via social media.

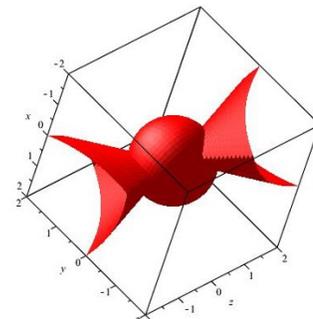
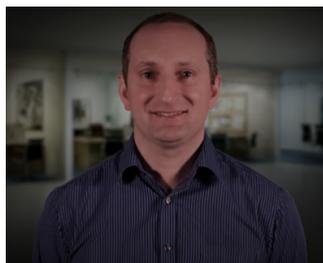
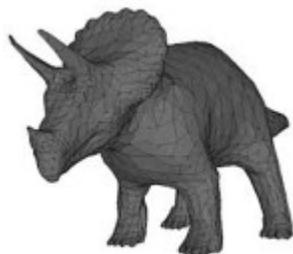
After completing a degree in mathematics I searched, in various places, for a non-obvious and non-trivial application of mathematics in industry. Quite by accident, I discovered a field that has kept me intrigued, entertained and challenged ever since:

How do you make circuits that do mathematics? In other words, how do you make a bunch of logic gates (AND/OR etc) implement simple operations like multiplication, addition, computing sine ratios, and so on? Further, how do you combine these operations to make the best hardware for doing things we care about, like encrypting data, visualizing maps, simulating weather systems, and creating photorealistic games? The answers to these questions help me to improve the hardware for Graphics Processing Units, which are all about triangles, texture, light,...

This area is called silicon arithmetic. It combines mathematics, hardware and computing. It is all about making the fastest, smallest, and most energy-efficient circuits that power the increasing range of devices we rely on every day.

Dr. Theo Drane started working for the silicon arithmetic consultancy Arithmatica after completing a Mathematics degree from the University of Cambridge, UK. He worked in the GPU division of Imagination Technologies, focusing on mathematical circuit optimization, while studying for an Electrical Engineering PhD at Imperial College London. Dr. Drane now leads an applied research group within Intel Graphics, focused on all aspects of architecting, optimizing, and verifying math intensive hardware.

His hobbies include short story writing, and composing; his favorite vacation destination is Madeira.



Visit the Bay Area Mathematical Adventures (BAMA) at <http://mathematicaladventures.org>

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