Pacific Institute *for the* Mathematical Sciences

PIMS Vancouver Lunchbox Lecture

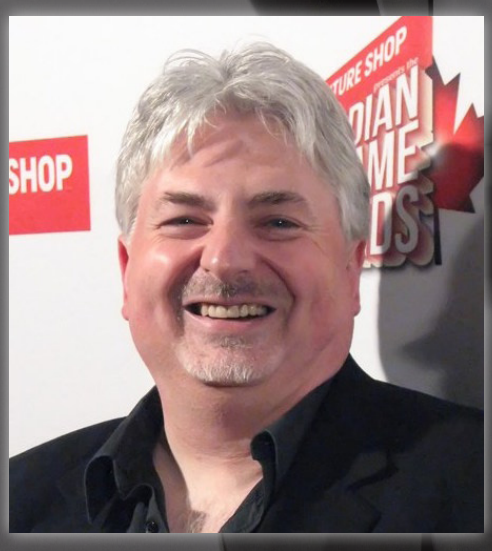
Dave Fracchia (Centre for Digital Media)

10 March, 2017
12:00 pm

SFU-Harbour Centre
Room 1530

The Mathematics of Game Design

Mathematics is integral to every aspect of game development including character and level creation, movement, player input, NPC behaviour, physics simulations, and realtime rendering. Fortunately for game designers, most of this computation is conveniently supplied by software developers and/or handled by existing game engines. However, when designing a game, lots of systems and mechanics are dependent on numbers such s weapons ranges, jump heights, experience points, damage, rewards, currency, etc., many of which can have complex inter-relationships. Although much of the math may be basic, a good understanding of the underlying equations as well as the fields of logic, probability, and statistics can be incredibly beneficial to a designer, especially when it comes to game design and balancing. This lecture will give an overview of how even the most basic knowledge of these fields can benefit a game designer.



DAVE FRACCHIA is currently a Professor of Professional Practice at the Centre for Digital Media (a joint venture of SFU, UBC, ECUAD and BCIT), where he teaches Game Design. Prior to this he was the Studio Head and Vice President of Technology at Radical Entertainment, an Activision company, Vice President of Technology at Rainmaker/ Mainframe Entertainment, Associate Professor in the School of Computing Science at Simon Fraser University, and Postdoctoral Associate / Lecturer in the Mathematics and Computer Science Departments at Yale University. Dave has authored over 50 journal and conference papers, and has over 35 credits in video games such as Prototype and Destiny, direct-to-video movies such as Stuart Little and Barbie, and television series such as ReBoot and Spider-Man.

SPACE IS LIMITED AND A LIGHT LUNCH WILL BE PROVIDED FOR PARTICIPANTS. PLEASE RSVP:

http://www.pims.math.ca/industrial-event/170310-pvlldf

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