



FLORIDA GULF COAST UNIVERSITY
DEPARTMENT OF MATHEMATICS

MATHEMATICS SEMINAR

FRIDAY

FEBRUARY 22ND, 2019

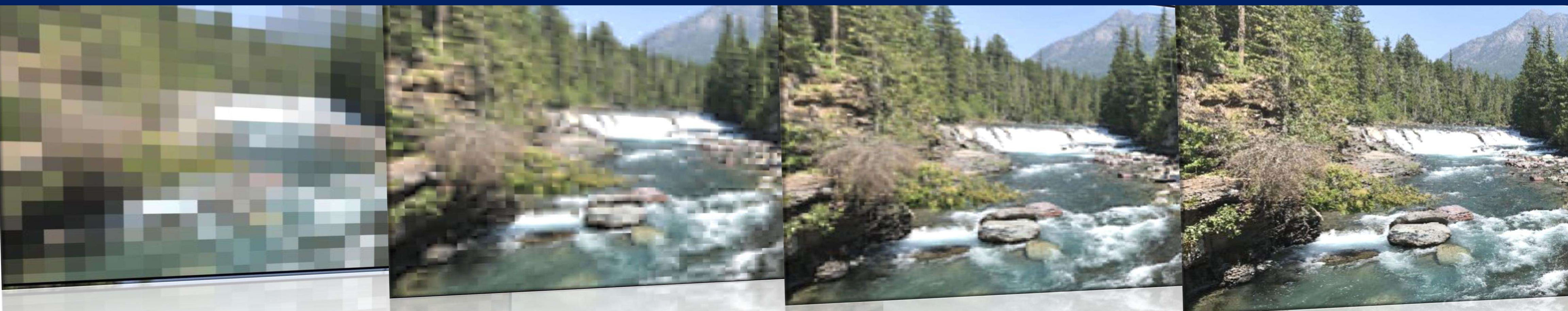
FLORIDA GULF COAST UNIVERSITY

ROOM 124

MERWIN HALL

3:30 PM– 4:30 PM

PICTURE PERFECT: THE MATHEMATICS OF JPEG IMAGE COMPRESSION



Good image compression algorithms are one reason we don't have to spend half our lives waiting for web browsers to load pictures. The most popular of these image compression formats is the Joint Photographic Experts Group (JPEG) standard. In fact, JPEG compression can result in files that are 10 or more times smaller than they would otherwise be, with little loss in image quality.

The heart of JPEG compression is the Discrete Cosine Transform (DCT), an example of one of the most important techniques in all of mathematics---the decomposition of a signal or function into a sum of orthogonal "basis vectors." We'll look at this technique in the context of image compression, with many examples!

Kurt Bryan
Professor of Mathematics
Rose-Hulman Institute of Technology



LIGHT REFRESHMENTS WILL BE PROVIDED



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