The Department of Mathematics presents the

Dr. Marjorie Lee Browne Colloquium

as part of the University of Michigan's
Rev. Dr. Martin Luther King, Jr. Symposium

Robert Megginson

Arthur F. Thurnau Professor of Mathematics
University of Michigan

Monday, January 17, 2022, 4:00 p.m.
Virtual Event via Zoom

Indigenous Mathematics, Including an In-Depth Look at the Number Theory of the Maya

This talk, which will be broadly accessible to non-mathematicians, will begin by visiting such matters as the effect that cultural outlook can have on one's attitude toward mathematics, and why there is an ugly myth that Native Americans and some other indigenous peoples of the world are intrinsically doomed to be bad at math. The talk will then take a fairly deep dive into the number theory of the Maya without becoming overly technical, and show some of the world's first number-theoretic story problems, found engraved on Mayan steles. Some of the questions that will be addressed are:

1. Why did the U.S. Bureau of Indian Affairs remove algebra and geometry from the standard boarding school curriculum in the early part of the twentieth century?

2. What is the evidence that the linguistic in which mathematics is taught has an impact on student learning, particularly of indigenous peoples?

3. Did the Maya really make significant use of what we would recognize as number theory well over a thousand years ago? (Answer: At least one respected ethnomathematician believes so.)

4. Why would the speaker really like to know the source of the Maya symbol for 0 (particularly since the Maya were one of the few peoples to come up with the knowledge of zero as a true number)?

5. Did the world really come to an end on December 21, 2012, as the Maya predicted? (Spoiler alert: (a) There seems to be evidence that the world did not. (b) Furthermore, there really is no credible evidence that the Maya ever thought it would. (c) But we'll see why some folks believe that the Maya did so predict.)

6. Did too much knowledge of number theory lead to the end of the Mejica (Aztec) empire? (Answer: maybe.)

The Colloquium honors Dr. Marjorie Lee Browne, a prominent mathematician and educator who, in 1949, became only the third African-American woman to earn a doctorate in her field and the first African-American woman to earn a Ph.D. in Mathematics from the University of Michigan.

For information please visit:
https://lsa.umich.edu/math/seminars/
marjorie-lee-brown-colloquium-mlkday.html

Zoom link:
umich.zoom.us/j/94286704899
Meeting ID: 942 8670 4899
Passcode: 571357