PIMS
Pacific Institute for the Mathematical Sciences

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Title: Briggs' Fabulous Log Tables of 1624

Abstract:

In 1624 Henry Briggs published Arithmetica Logarithmica, logarithm tables for integers: 1 – 20,000 and 90,001 to 100,000. Logarithms to base 10. The tables were accurate to 14 decimal places. Pierre Laplace (1749 –1833) said that logarithms "doubled the life of every astronomer." Briggs did the calculations in the days before infinite series, calculators and computers. Calculations involved first finding the square root of 10, the 4th root of 10, the 8th root of 10, ... up to the 18,014,398,509,481,984th root of 10. All roots to 30 decimal places. Briggs used the old Babylonian method (from1500 BC) to find his square roots. Remember, no computers just quill and paper. The ingenious part is using these roots to then calculate the logarithms of the 30,00 natural numbers, each logarithm to 14 decimal places. With a little help from Wolfram to save us a few years of basic calculations (since we have no quills), we will outline the calculation for the following, in honour of Briggs & Napier:

log 2 = 0.301 029 995 663 98
log 3 = 0.477 121 254 719 66
log 5 = 0.698 970 004 336 02

Friday—March 29, 2019
12:00—12:50 pm
UHall B650
SNACKS!