

HISTORY OF MATHEMATICS

Leo Corry (Open University)

Chaim L. Pekeris and the art of applying mathematics with WEIZAC

In this talk I describe the work of Chaim Leib Pekeris and his collaborators at the Weizmann Institute in Rehovot, between 1955 and 1963, using the first electronic computer built in Israel, the Weizmann Automatic Computer (WEIZAC). They developed powerful numerical methods that helped achieve new and accurate solutions of the Boltzmann equation, calculate energy levels of the helium atom, produce detailed geophysical and seismological models derived from the study of the free oscillations of the earth, and refine models used to predict meteorological phenomena and global oceanic tides. Pekeris's scientific leadership was a major factor, not always duly acknowledged, behind the rise of the Weizmann Institute as a world-class center of scientific excellence.

Zlil Sela (Hebrew University of Jerusalem)

On the mathematics of Prof. Eliyahu Rips

Prof. Eliyahu Rips was one of the leading group theorists and passed away in July 2024. In the talk I intend to survey some of the main contributions of Prof. Rips, describe his vision and exceptional intuition, and my own experience as his student and collaborator.

Mikhail Katz (Bar-Ilan University)

Notes from the underground

We present a critique of the prevailing historical interpretation of Leibnizian calculus, highlighting resistance within the academic community to alternative views on the history of infinitesimals. In a series of over 80 articles, our group proposed a new paradigm for the history of mathematics over the past 350 years. As may have been anticipated by Kuhn and Lakatos, our proposal encountered fierce opposition from some of the established historians of mathematics. A fresh PhD sympathetic to our proposal appears to have been canceled. A Leibniz scholar felt it so imperative to join a broadside against our work that he contradicted his own earlier Leibniz scholarship. Historians of the previous generation who didn't fit the current dogma are either ridiculed or, when this is impossible, are given a far-fetched interpretation to force such a fit. But, little by little, the truth is coming out.