

Keynote Lecture

KN13

Mathematical Crystallography in the 21st century

M. Senechal¹

¹*Smith College, Northampton, MA, USA*

The solution of simple crystal structures in 1914 sent crystallographers to the library stacks to dig out, dust off, and learn to use the lattices and space groups that mathematicians had discovered in the century before. In 2014 space group assignment is a job for computers, but mathematical crystallography is anything but routine. New materials stretch the boundaries of “pattern,” simulations stretch the boundaries of “possible,” and mathematicians study structures on all scales, from nano to n-dimensional. In this talk I will outline challenges and new directions posed by 21st century crystallography.

Keywords: mathematics, patterns, structures