

Friday 4 November 2022 at 14:15

HU Berlin, Erwin-Schrödinger Zentrum, Room 0'115

Tea & Cookies starting at 13:00!

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Peter Scholze

(MPI Bonn)

Condensed Mathematics

One of the central notions of mathematics is the notion of a topological space: it captures the idea of a space with a notion of "nearness" of points. Originally motivated by the description of familiar objects like the real numbers or manifolds, it has since been used in virtually all areas of mathematics. However, sometimes, even within the field of topology itself, one finds the notion of topological space to be lacking some good properties. For example, it cannot meaningfully describe the idea of spaces with points that are "infinitely near, but distinct".

In joint work with Dustin Clausen, Scholze introduced a potential replacement for topological spaces, called condensed sets, which resolves many of these foundational issues. In this talk, Scholze will try to explain what condensed sets are, and how they improve on topological spaces.

Peter Scholze was born in 1987 in Dresden and grew up in Berlin, where he completed his "Abitur" at the Heinrich-Hertz-Oberschule in 2007. He continued his studies in Bonn and completed his PhD under Michael Rapoport's supervision in 2012, with a thesis on "Perfectoid Spaces". From 2011 to 2016, he was a Clay Research Fellow, and he became Chancellor's Professor at the University of Berkeley in 2014. From 2012 to 2021, he held the position of Hausdorff Chair at the University of Bonn. Since 2018, he has been Director at the Max-Planck-Institut für Mathematik in Bonn. ▲