— Scholze short citation —

For transforming arithmetic algebraic geometry over p-adic fields through his introduction of perfectoid spaces, with application to Galois representations, and for the development of new cohomology theories.

— Scholze long citation —

Peter Scholze has transformed arithmetic algebraic geometry over p-adic fields.

Scholze's theory of *perfectoid spaces* has profoundly altered the subject of p-adic geometry by relating it to geometry in characteristic p. Making use of this theory, Peter Scholze proved Deligne's weight-monodromy conjecture for complete intersections. As a further application, he constructed Galois representations that are attached to torsion cohomology classes of locally symmetric spaces, resolving a longstanding conjecture.

Scholze's version of p-adic Hodge theory extends to general p-adic rigid spaces. Together with Bhatt and Morrow, Scholze developed an integral version of p-adic Hodge theory that establishes a relation between the torsion in Betti and crystalline cohomologies.

On the way to the revolution that he launched in arithmetic geometry, Scholze took up a variety of topics that he reshaped, such as algebraic topology and topological Hochschild homology.

Scholze developed new cohomological methods. Beyond p-adic fields, Scholze's vision of a cohomology theory over the integers has become a guideline that fascinates the entire mathematical community.