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CONCLUDING TALK: SUPERCONDUCTIVITY AND ITS APPLICATIONS TO SOCIETY

Saturday 13 September 2025 12:40 (45 minutes)

This will conclude both the 8th edition of the INFIERI School series and the 2nd related SYMPOSIUM on HIGH TECH x FUNDAMENTAL RESEARCH.

Superconductivity, a continuously progressing research field (e.g. HTS), is one of the keywords of this cross-disciplinary school edition. It can be indeed seen as a kind of link between fundamental research topics, e.g. future accelerators, Heliophysics, and Nuclear Fusion, or entering the realm of nanotechnology and the qubit-world with superconducting quantum computers…

As of 2022: 5 Nobel Prizes in Physics for superconductivity related subjects:
- Heike Kamerlingh Onnes (1913), “for his investigations on the properties of matter at low temperatures which led, inter alia, to the production of liquid helium”.
- John Bardeen, Leon N. Cooper, and J. Robert Schrieffer (1972), “for their jointly developed theory of superconductivity, usually called the BCS-theory”.
- Leo Esaki, Ivar Giaever, and Brian D. Josephson (1973), “for their experimental discoveries regarding tunneling phenomena in semiconductors and superconductors, respectively” and “for his theoretical predictions of the properties of a supercurrent through a tunnel barrier, in particular those phenomena which are generally known as the Josephson effects”.
- Georg Bednorz and K. Alex Müller (1987), “for their important break-through in the discovery of superconductivity in ceramic materials”.
- Alexei A. Abrikosov, Vitaly L. Ginzburg, and Anthony J. Leggett (2003), “for pioneering contributions to the theory of superconductors and superfluids”. (courtesy from Wikipedia).

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Session Classification: SCIENCE & HIGH TECH SYMPOSIUM