
COLLOQUIA DI DOTTORATO, A.A. 2021/2022

Dipartimento di Fisica, Aula102
Lunedì 13 Dicembre 2021 ore 17:00

A dream comes true: Room-temperature superconductivity

Gianni Profeta
Università degli Studi dell'Aquila

Last year, the report of Room-temperature superconductivity in high-pressure hydride marked a major milestone in the history of physics: one of the holy grails of condensed matter research was reached after more than one century of continuing efforts.

This long path started with Neil Ashcroft's and Vitaly Ginzburg's visionary insights on high-temperature superconductivity in metallic hydrogen in the 60's and 70's, and has led to the current hydride fever, following the report of high-T_c high-pressure superconductivity in H₃S in 2014.

In this seminar, we will see how we have arrived to these extraordinary discoveries and the contributions of the main actors in this exciting chapter of condensed matter history. We will show how recent theoretical, computational and experimental developments, established a new course for materials discovery and foresee future strategies and research directions to fully exploit high-temperature superconductivity.