



UNIVERSITÀ  
degli STUDI  
di CATANIA

DIPARTIMENTO DI FISICA E ASTRONOMIA  
Ettore MAJORANA

DOTTORATO DI RICERCA IN FISICA

ANNO ACCADEMICO 2021 - 2022

---

## Exactly solvable one dimensional quantum many particle systems

2 CFU

### Teaching staff

**Luigi Amico**

**Email:** lamico@dmfci.unict.it/luigi.amico@tii.ae

**Office:** DFA-UniCT/Technology Innovation Institute (Abu Dhabi)

**Telephone:** +39 3923637502

**Reception hours:** Monday-Thursday 12-13 (also with zoom/skype)

---

### Program of the course:

*Integrability and exact solution of the Heisenberg chain. Integrability of the bosonic quantum field theory in one spatial dimension through the Quantum Inverse Scattering technique. Lattice corrections of integrable bosonic quantum field theories.*

### Bibliography:

[1] A. G. Izergin, N. M. Bogoliubov, and Vladimir Korepin, Quantum Inverse Scattering Method and Correlation Functions, (Cambridge University Press 1993).

[2] Course notes.