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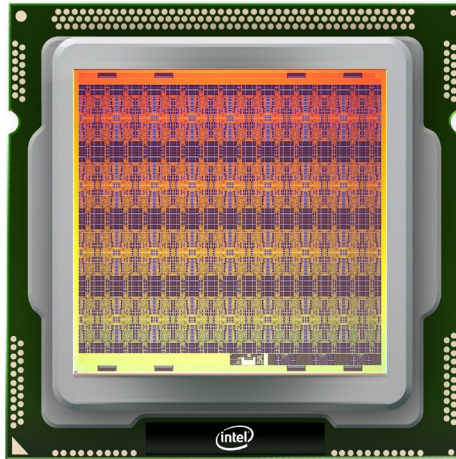
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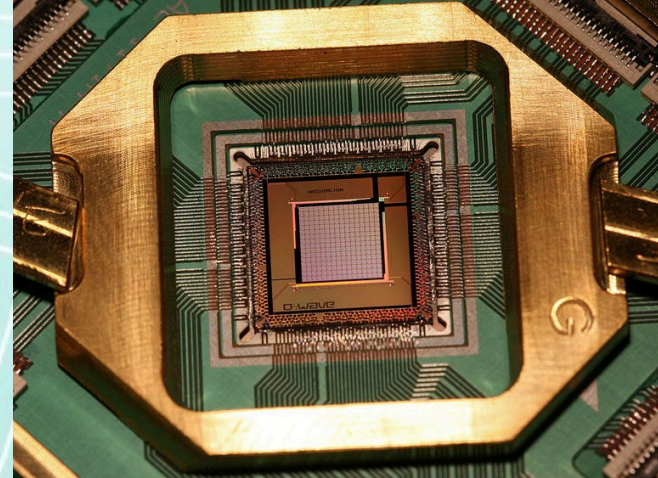
Master Degree in
**Artificial Intelligence
for Science and Technology**

LEARNING PATHS: Complex Systems and Quantum Technologies

Enrico Prati (UNIMI)



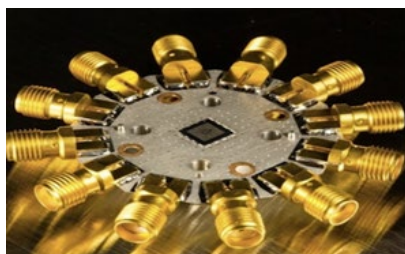
NEUROMORPHIC COMPUTING
new architecture, same electronics



QUANTUM COMPUTERS
elementary (or at least quantum) objects
atoms, electrons, photons, superc. currents

(see IEEE - ICRC International Conference Rebooting Computing)

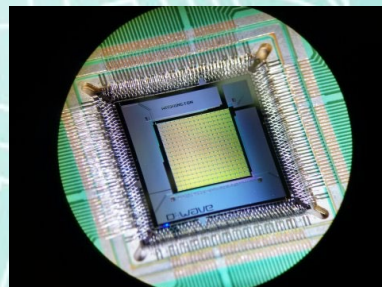
Superconductors



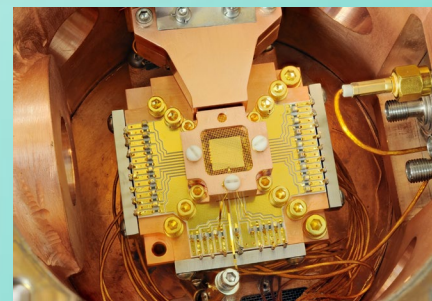
Intel



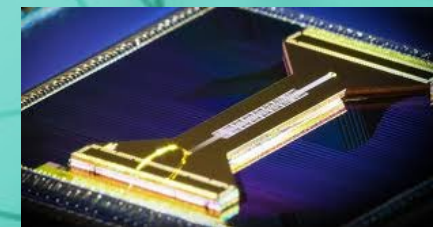
Rigetti



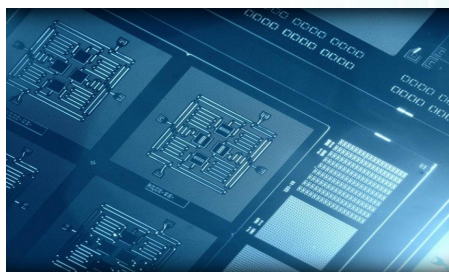
DWave



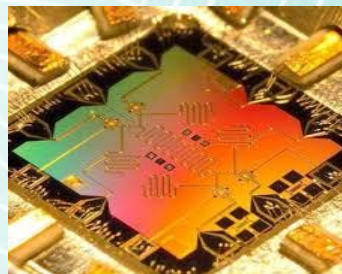
IonQ
Neutral atoms



Honeywell
Photons



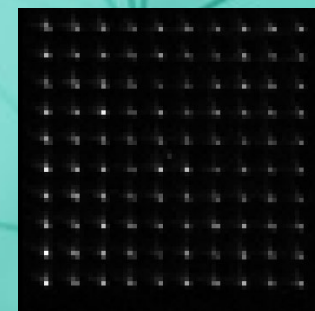
IBM



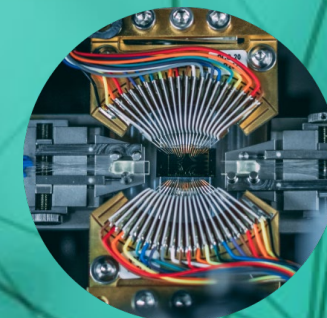
Google



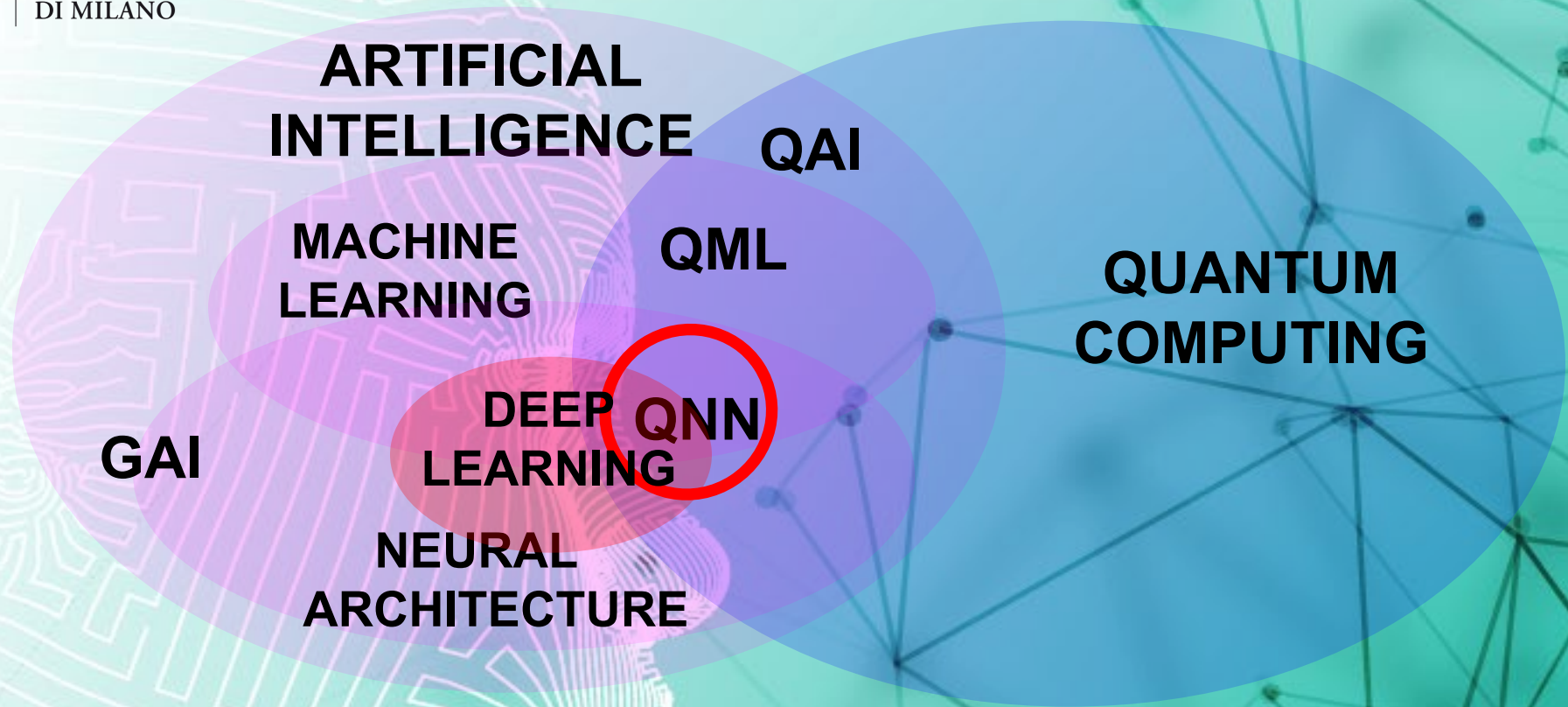
IQM



Pasqal



Xanadu



- GAI** **GENERAL ARTIFICIAL INTELLIGENCE**
- QAI** **QUANTUM ARTIFICIAL INTELLIGENCE**
- QML** **QUANTUM MACHINE LEARNING**
- QNN** **QUANTUM NEURAL NETWORKS**

Application Area 4: Complex Systems and Quantum Technologies

MANDATORY EDUCATIONAL ACTIVITIES	CFU/ECTS
AI models for physics	6
Machine learning for modelling Modulo 1: Supervised learning Modulo 2: Unsupervised learning	12
Statistical learning	6
Foundations of quantum computing	6
ELECTIVE EDUCATIONAL ACTIVITIES: select 1 course	
Advanced statistical mechanics and disordered systems	6
Quantum information and algorithms	6
Statistical Mechanics of Neural Networks	6
Quantum computers and technologies	6

Career opportunities

PhD grant

Large companies with research facility

Emerging startups

Create your own startup

EniQuantic
Ephos
Rotonium
Plankian
UNIMI



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Presentata in Consiglio dei Ministri la Strategia Italiana per le Tecnologie Quantistiche

Butti: "Con questa strategia potenziamo la competitività dell'Italia nel settore delle tecnologie quantistiche"

DATA: 31 luglio 2025 TEMPO DI LETTURA: 2 minuti

Condividi [dropdown]
ARGOMENTI: **Innovazione**

July 2025

Quantum Computing Report
by GQI

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October 2025



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