Qterial

Challenge:
Next Generation
Highly-Conductive Materials

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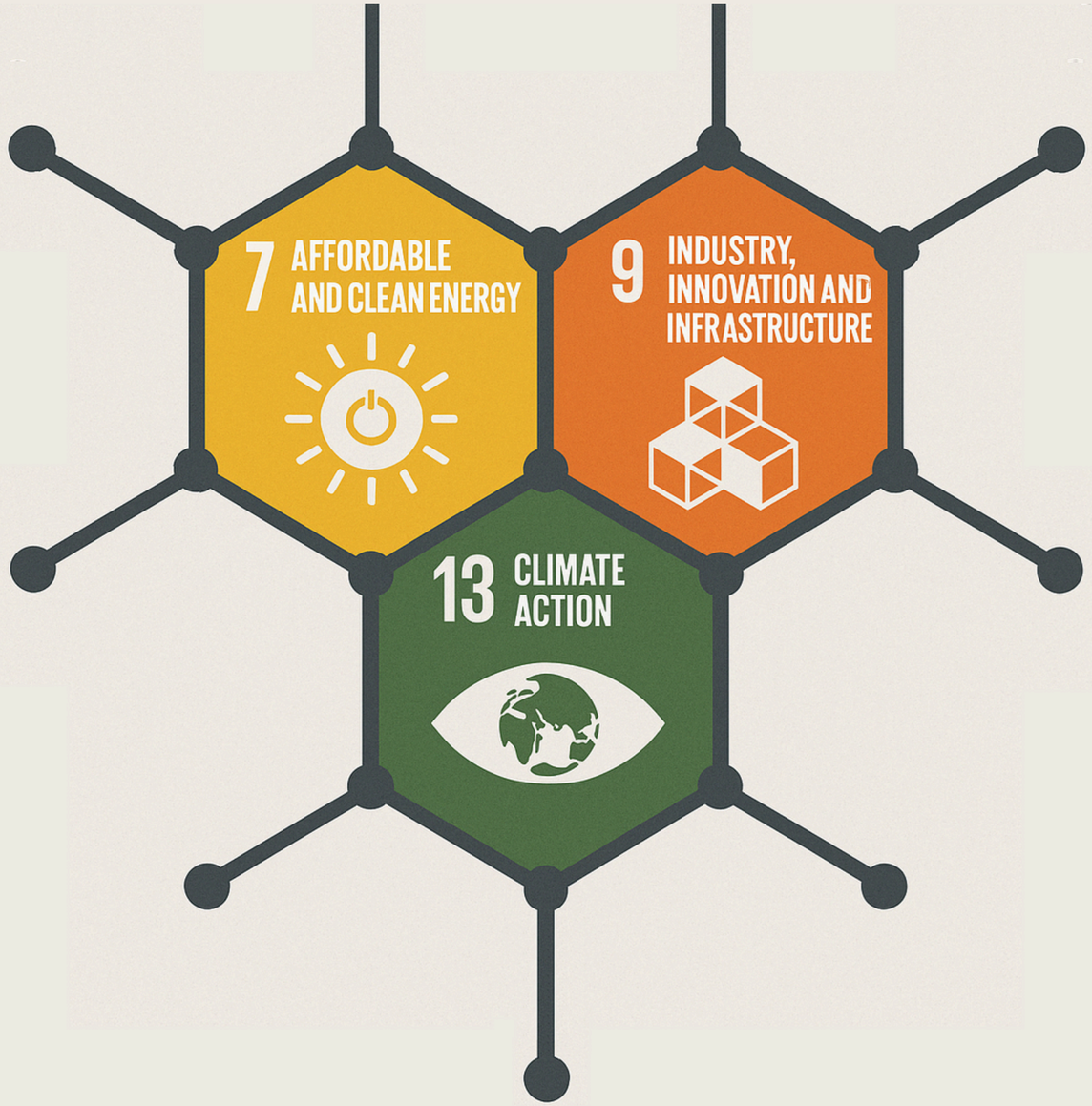
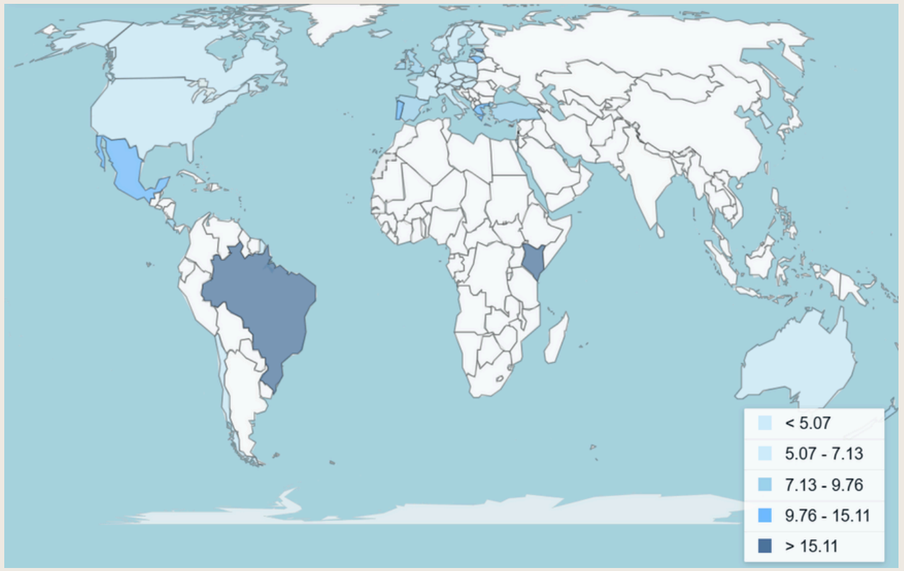


Problem

- Electrical grid power loss
  - 5% yearly loss wastes 220 TWh in US[1]
  - 15+ % in developing countries[2]
- 40% of power loss is caused by wires and cables[3]
  - Long-distance power lines



[1]US Energy Information Administration, 2023 | [2]World Bank, 2023 | [3]Chint Global, 2021

Existing Alternatives

	Accurate Predictions	Cost-effective	Scalable
Experimental Measurements	✓	✗	✗
Classical Simulation	✗	✓	✗
Qterial	✓	✓	✓

Qterial

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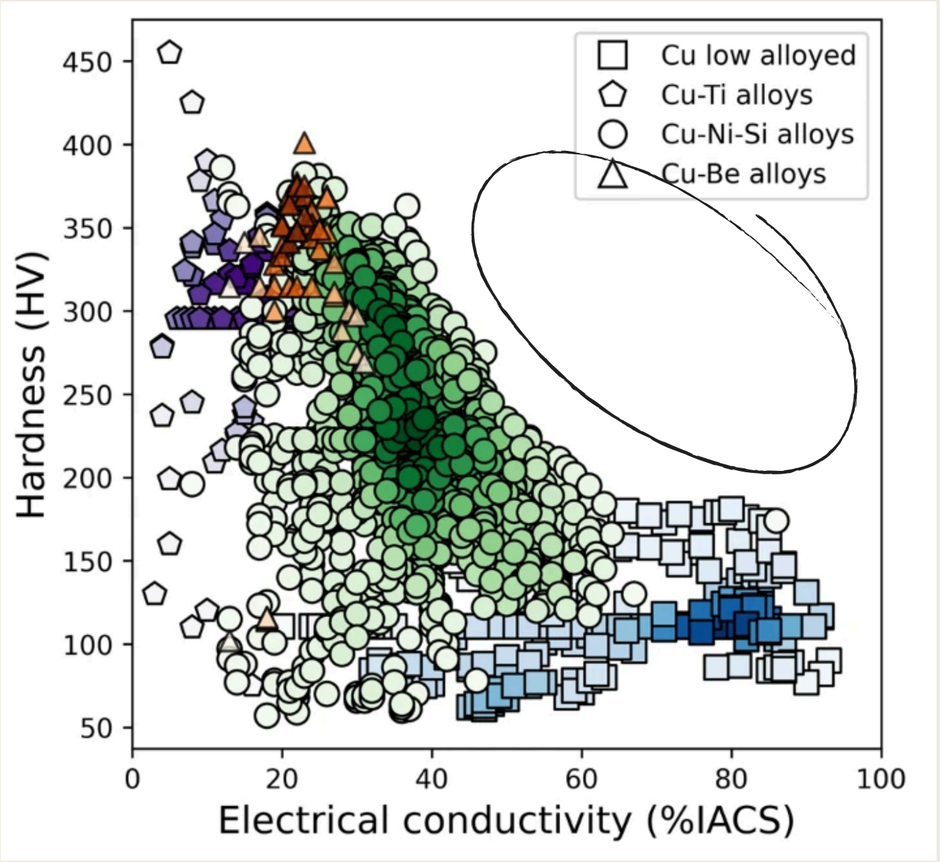
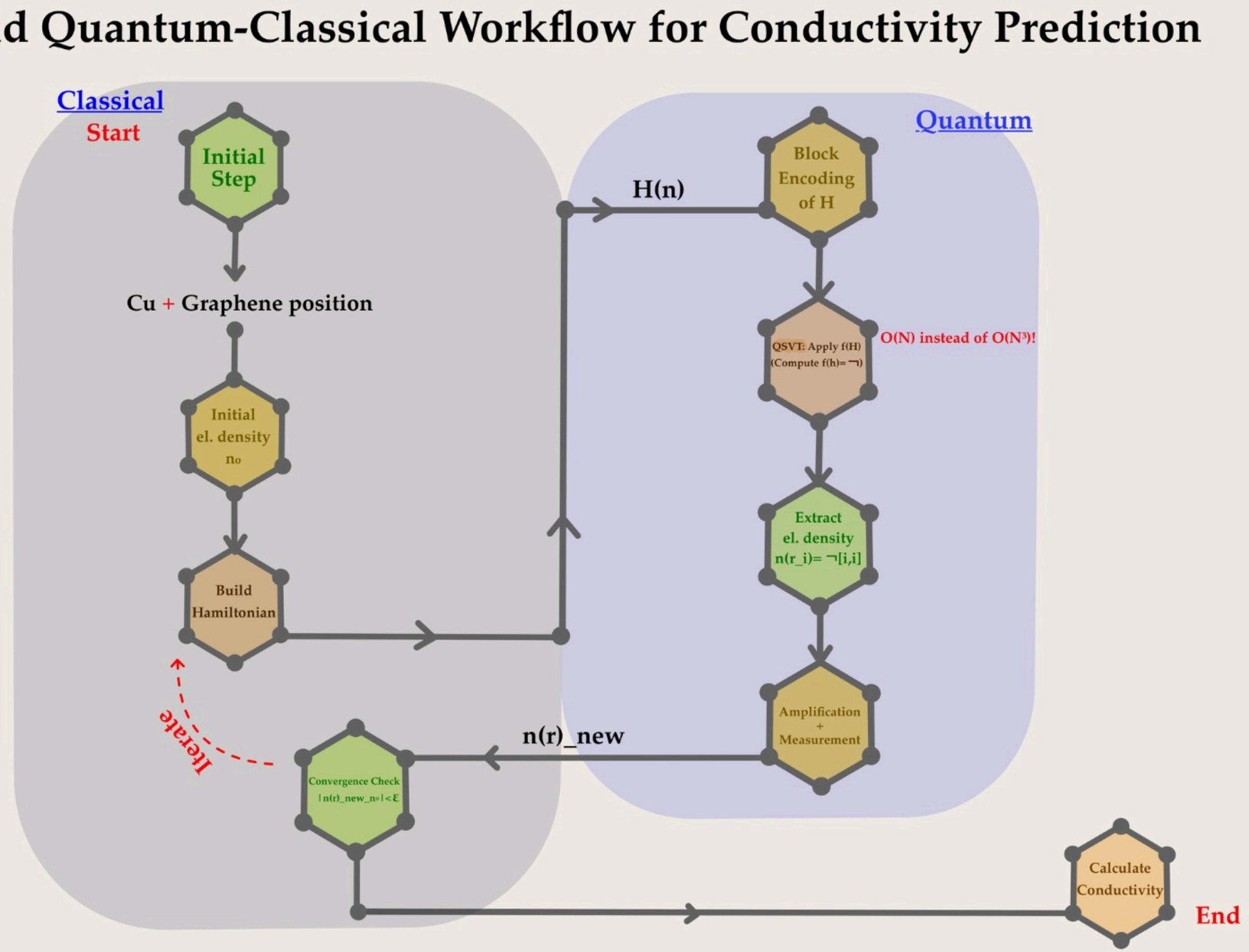
- Tool for designing novel conductive materials

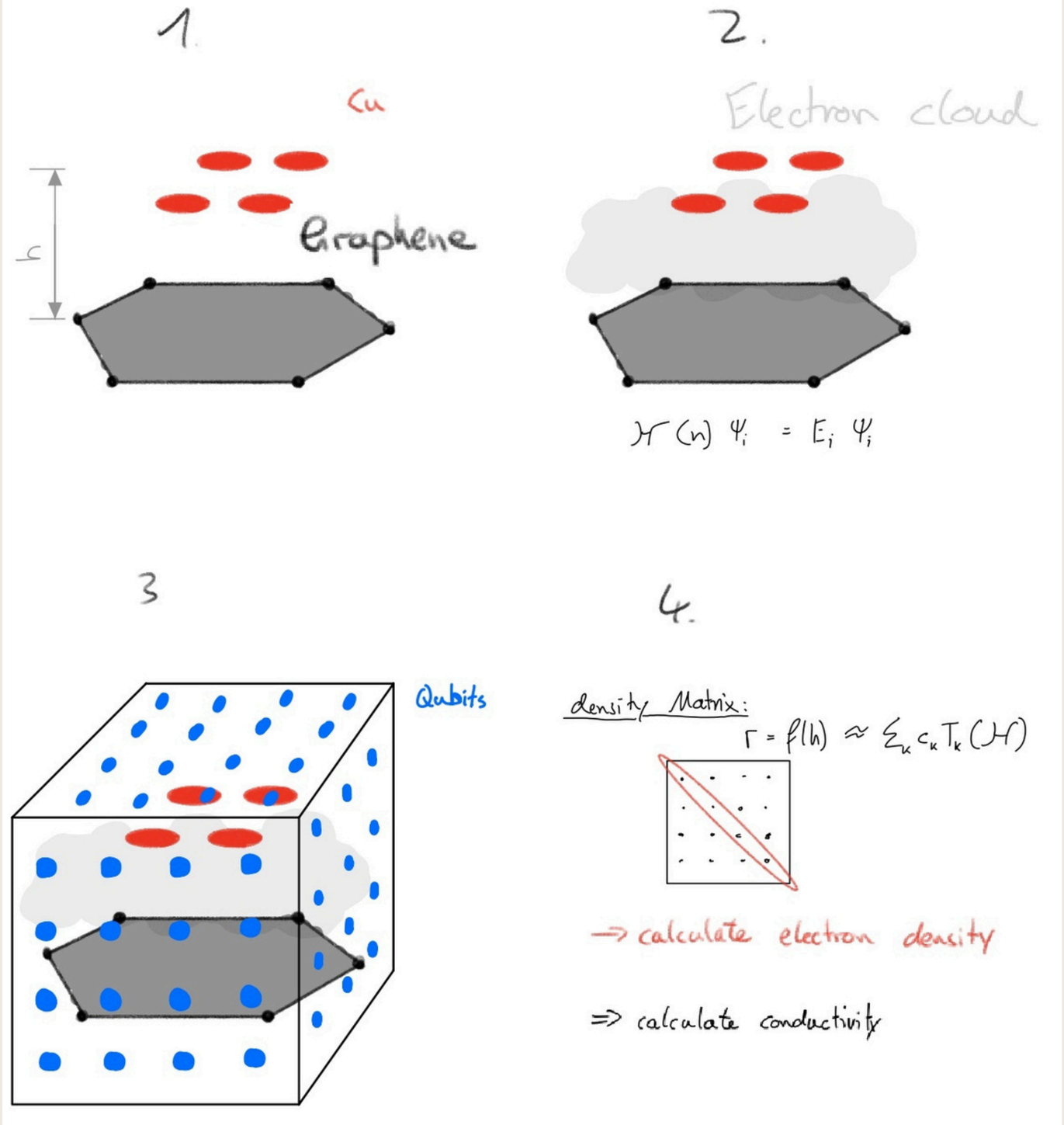
- Carbon-Copper Alloys



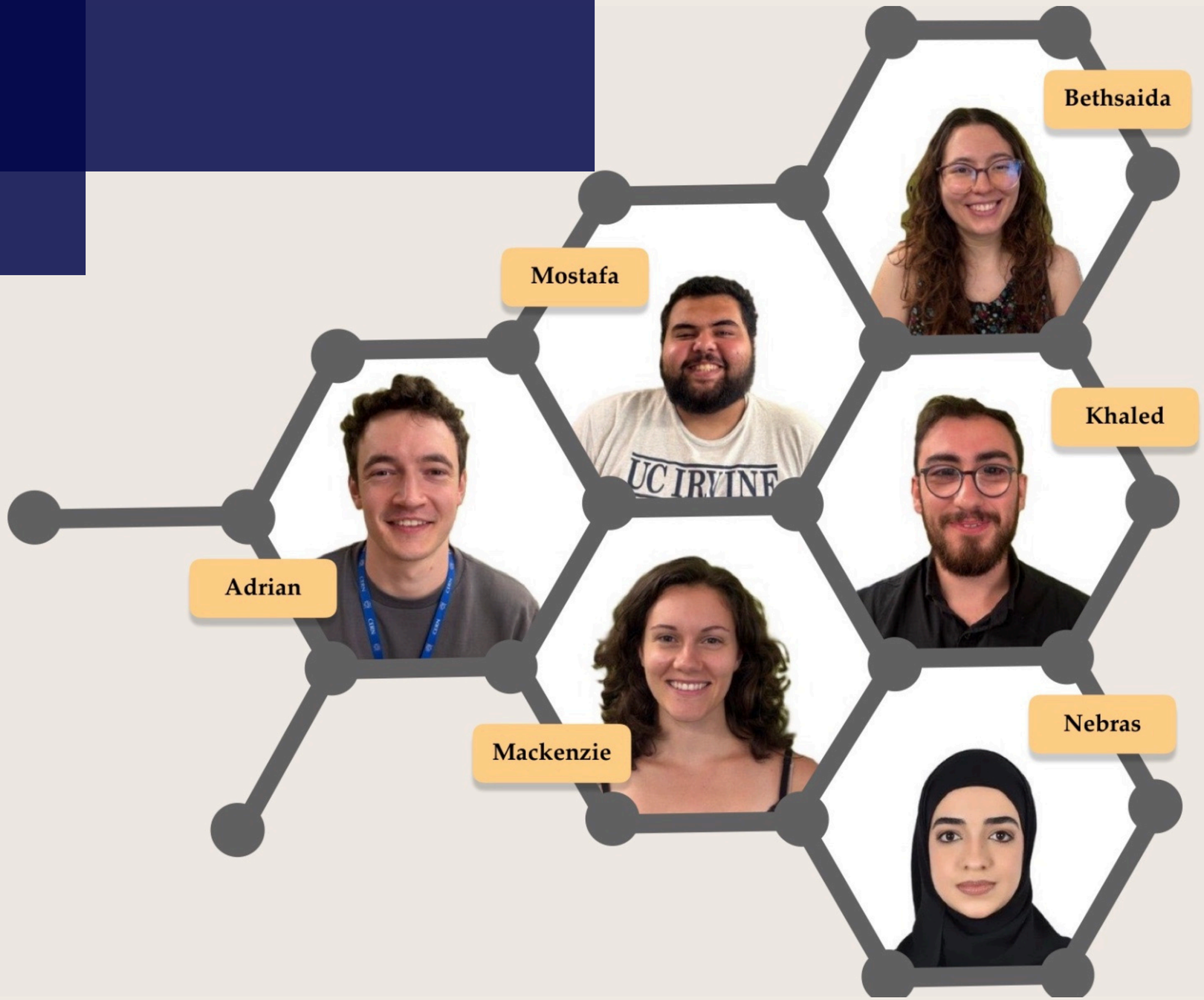
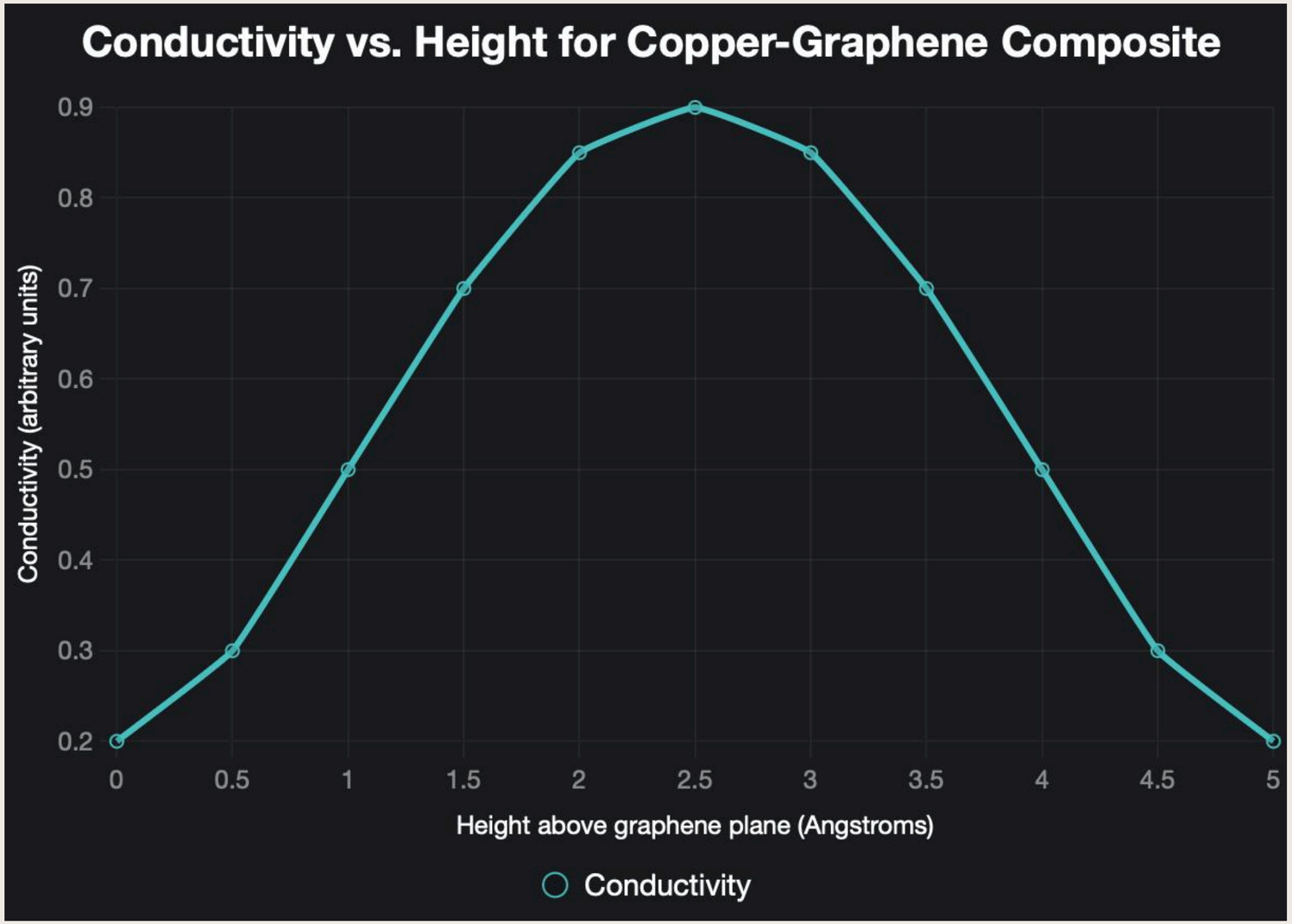
Qterial Algorithm



Qterial Algorithm



Our team



Preliminary Results