



# **Our skills**

# Thermoelectricity (cooling, generate electricity)



## YOUR NEEDS -

- Skills in thermoelectricity for applications in cooling or power generation
- Optimization of thermoelectric materials for cooling or power generation applications
- Thermoelectric demonstrator development
- Numerical models development
- Upscaling / mounting in TRL
- Electrical, thermal or thermoelectric characterization of materials
- Thermoelectric module characterization

# **OUR SOLUTIONS**

- Make our skills and means of development and characterization available to support you in your innovation process.
- Make our skills in numerical modelling available to design and optimize a thermoelectric module for a given application and environment
- Carry out R&D projects
- Innovative solutions industrialization
  Carry out electrical, thermal and therm
- Carry out electrical, thermal and thermoelectric properties measurements over a wide temperature range (2-1500K)
   Characterize thermoelectric modules for electricity
- generation
- Materials physicochemical characterization (RX, SEM, TEM, electron microprobe)

# **KEYWORDS**

Energy conversion, thermoelectric materials, electricity generation, cooling, transport properties, electrical properties, thermal properties, thermal-electrical coupling, modelling, thermoelectricity



## **RELATED SKILLS**

- Thermal measurements at low and high temperatures
- Electrical measurements of massive samples at low and high temperatures
- Structural and microstructural characterization of samples:
  - Electron microscopy
  - X-ray diffraction



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