

SEARCHING FOR GALACTIC AXIONS AND SUPERCONDUCTING DEVICES WITH QUANTUM EFFICIENCY

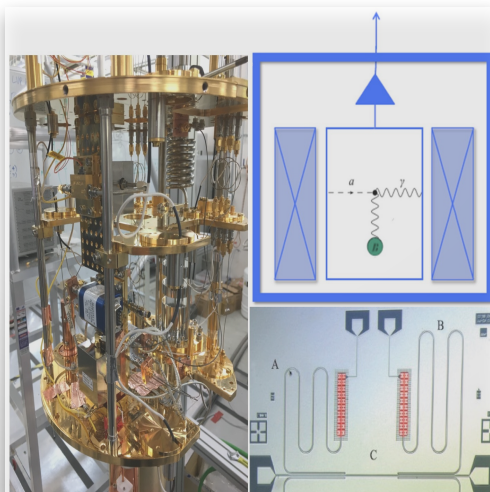
INTERNATIONAL WORKSHOP

October 26 — 30, 2020

Two extremely challenging scientific problems have fascinated scientists for the last two decades: the mystery of dark matter and the development of large quantum (qubits) networks allowing to measure weak electromagnetic signals with an unprecedented precision. To observe the dark matter axions, one has to be able to detect single microwave photons with a high efficiency. The workshop's aim is to bring together the world-leading scientists and young researchers representing different groups around the world working in the fields of dark matter axion search, superconducting quantum networks study, and application of superconducting qubit networks in quantum metrology.

Topics include:

- ▶ dark matter axions
- ▶ ADMX, CULTASK, QUAX, etc.
- ▶ Josephson junctions amplifiers
- ▶ non-classical states of photons
- ▶ superconducting quantum networks
- ▶ quantum sensing:
 - ▶ superconducting qubits
 - ▶ magnetic clusters
 - ▶ ion trapping



To apply for participation in the Workshop, complete the online application form by **July 31, 2020**.

Workshop registration fee: 200,000 KRW (for all participants). Accommodation costs and meals will be covered by the PCS. Limited funding is available to partially cover travel expenses.

For further information, see pcs.ibs.re.kr
or contact the PCS Visitor Program at pcs@ibs.re.kr

Venue:

- ▶ Institute for Basic Science (IBS) +82-42-878-8633
Expo-ro 55, Yuseong-gu, Daejeon 34126, South Korea

Invited Speakers

Marco Affronte (Italy)
Giorgio Brida (Italy)
Alessandro Bruno (Netherlands)
Aaron Chou (USA)
Woohyun Chung (Korea)
Frank Deppe (Germany)
Claudio Gatti (Italy)
Pertti Hakonen (Finland)
Fabian Hassler (Germany)
Evgeni Ilchev (Germany)
Alexandre Karpov (Russia)
Leonid Kuzmin (Sweden)
Bela Majorovits (Germany)
Andrey Matlashov (Korea)
Mikko Möttönen (Finland)
Yasunobu Nakamura (Japan)
Yuri Pashkin (UK)
Gray Rybka (USA)
Pierre Sikivie (USA)
Michael Tobar (Australia)
Alexey Ustinov (Germany)
Sergey Uchaikin (Korea)
Andreas Wallraff (Switzerland)
Alexandre Zagorin (UK)
Alexander Zorin (Germany)

Scientific Coordinators

Mikhail Lisitskiy (Italy)
Mikhail Fistul (Germany)
Yannis Semertzidis (Korea)

Organizers

Gileun Lee (Korea)
Jaehee Kwon (Korea)

Coordinator: Dominika Konikowska (Korea)