



77th IUVESTA Workshop
Surface Processes, Gas Dynamics, and Vacuum
Technology of Cryogenic Vacuum Systems
Fuefuki, Japan August 17-21, 2016



2nd Circular

January 8, 2016

In the various modern applications of vacuum technology, the presence of a low temperature surface in a vacuum system is very common. The behaviour of such a system is often determined by the physical process at the cold surface. At this workshop, the physical basis of gas-surface processes at the cold surface and related phenomena will be discussed.

This is a workshop which is intended to provide a forum for intense debate and discussion between a small number of experts in the field of science and technology of cryogenic vacuum systems. The workshop will be organized as follows: Oral presentations will be given by invited speakers, 50 min in length including discussion. Posters will be presented by the other participants and will be displayed during the workshop for discussion. The number of posters will be 25 at the most. Poster presentations are selected by the program committee on the basis of their expertise on the topics. All delegates will stay at the same hotel together.

VENUE: Kasugai View Hotel
Fuefuki-city, Yamanashi-pref., 406-0015, Japan
(<http://www.k-view.jp/language/english/index.html>)

DATES: August 17-21, 2016
IVC-20 is held at Busan, Korea, August 21-26, 2016.
(<http://www.ivc20.com>)

PRINCIPAL THEMES/TOPICS:

- 1) Technological problems of cryogenic vacuum systems
Cryopumps, cold-bore accelerators, gravitational wave detectors
- 2) Gas-surface dynamics in cryogenic vacuum systems
Adsorption, desorption, accommodation coefficient, sticking probability,
mean residence time
- 3) Desorption at cold surfaces
Thermal desorption, desorption induced by electronic transitions,

4) Electronic process on cold surfaces

Secondary electron yield, photo-electron yield, discharge

5) Physical and chemical processes on cold surfaces

Dynamics induced by electronic transitions,
chemistry on interstellar particles

INVITED SPEAKERS AND PROVISIONAL TITLES

Marton Ady : "Monte Carlo simulations of time-dependent and non-isothermal vacuum systems"

Vincent Baglin : "CERN cryogenic beam vacuum systems : studies, design, operation and upgrades"

Christian Day : "Cryogenic pumping - Technology development and gas dynamics modeling"

Francois Dulieu : "Physical and chemical processes at the surface of cold interstellar dust grains"

Shinji Furuya :

Takato Hirayama : "Electronic excitations and decay processes in condensed rare gases studied by low-energy electron, photon, and ion impact"

Hsiao-chaun Hseuh : "The migration of helium and hydrogen in RHIC cold vacuum systems and its implication to SRF Linac vacuum such as FRIB"

Gao-Yu Hsiung : "Outgassing and photon stimulated desorption in the synchrotron light source"

Eiji Kako : "Technologies in superconducting RF cavities for particle accelerators"

Ivan Khyzhniy : "Super-strong low-temperature "post-desorption" from preirradiated solidified gases"

Jerome Lasne : "Laboratory studies of spontaneously electrical solids: Astrophysical implications"

Yulin Li : "Analysis of gas evolution and desorption from superconducting RF cavities in CESR and the implications to their long-term operational stability"

Oleg Malyshev : "Discovery of secondary photon stimulated desorption and its implication to cryogenic vacuum systems design of particle accelerators"

Yoshio Saito : "KAGRA vacuum system of cryogenic interferometer"

Marcy Stutzman : "Investigations of cryopumping in extreme high vacuum systems"

Mauro Taborelli : "Secondary electron yield at cold surfaces"

Tsuyoshi Tajima : “Los Alamos Neutron Science Center (LANSCE) 800 MeV H +/H- accelerator vacuum system and the role of cryopumps”

INTERNATIONAL ORGANIZING COMMITTEE

Ichiro Arakawa (Gakushuin Univ., Tokyo)
Paolo Chiggiato (CERN, Geneva)
Katsuyuki Fukutani (Univ. Tokyo, Tokyo)
Joe Herbert (STFC, Daresbury)

PROGRAM COMMITTEE

Ichiro Arakawa (Gakushuin Univ., Tokyo)
Katsuyuki Fukutani (Univ. Tokyo, Tokyo)
Shinichiro Michizono (KEK, Tsukuba)

LOCAL ORGANIZING COMMITTEE

Ichiro Arakawa (Gakushuin Univ., Tokyo)
Katsuyuki Fukutani (Univ. Tokyo, Tokyo)
Shinichiro Michizono (KEK, Tsukuba)
Shohei Ogura (Univ. Tokyo, Tokyo)
Masahiro Sasaki (Univ. Tsukuba, Tsukuba)
Kyo Shibata (KEK, Tsukuba)
Yusuke Suetsugu (KEK, Tsukuba)
Yoichi Yamada (Univ. Tsukuba, Tsukuba)

REGISTRATION FEE

A fee for a regular participant is 75,000 JPY, inclusive of accommodations and all meals during the workshop.

APPLICATION FOR POSTER PRESENTATION

Regular participants are expected to present their research or to bring up problems in the field of science and technology of cryogenic vacuum systems. Please send the application for the poster presentation by e-mail by April 8, 2016 to ich.arakawa@gakushuin.ac.jp. In that application mail, you specify:

- 1) Name and Title (Prof / Dr / Mr / Ms),
- 2) Affiliation,
- 3) Tel / Fax / E-mail,
- 4) Concise explanation (< 400 words) of the topic you will present in the poster session.

The number of posters at the workshop would be 20-25. They are selected by the program committee on the basis of their expertise and the relationship with the topics of the workshop. The acceptance of the poster presentation will be noticed by May 6, 2016.

IMPORTANT DATES

- April 8 Deadline for application for the poster presentation
May 6 Notice of acceptance
June 10 Deadline for abstract of invited talks and posters
 Deadline for registration fee

If you need further information, please contact:

I. Arakawa, ich.arakawa@gakushuin.ac.jp



"Dawn at Isawa in Kai Province" in "Thirty-six Views of Mount Fuji" by Hokusai Katsushika (ca. 1830)