Advanced Core for Energetics, Hiroshima University Vol. 42

HU-ACE NEWS LETTER

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Activities of the Core

Jun. 15, 2020	The 85th Hiroshima University Biomass Evening Seminar (co-organization)
Jun. 23, 2020	The 46th HU-ACE Steering Committee Meeting

Collaboration with Switzerland is going on

Collaboration proposal about supercritical water gasification between Hiroshima University and a Swiss University has been approved by Japan Society for the Promotion of Science, and the collaboration is going on now. The counterpart is Swiss Federal Institute of Technology, and Prof. Vogel, Paul Scherrer Institute, is in charge. Supercritical water gasification is a technology to efficiently gasify biomass in hot compressed water, but salts easily precipitates under this condition, and plugs the reactor. When metal catalysts are used to make the reaction to proceed at lower temperature more completely, these salts can be the cause of deactivation of the catalysts. Prof. Vogel's group is the expert of treatment of salts in this hot compressed water. Combination with the mass analysis technology for the reaction products in the hot compressed water reactor of Hiroshima University, it is expected that more efficient treatment of salt gets possible, which contributes to the commercialization of biomass conversion using hot compressed water.

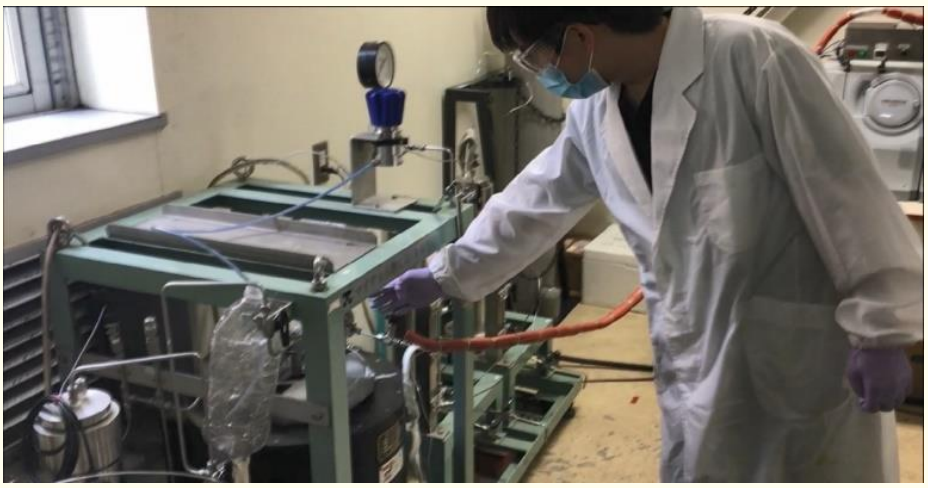

Figure Experimental apparatus in Japan used in the collaboration

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Member Introduction No.24

Kodera, Yukihiro

Research Administrator (URA)

Office of Research and Academia-Government-Community Collaboration Hiroshima University

Reseach Field：Research University

Keyword：Research Support

Abstract

On May 1st, 2020, I joined the URA Division, Office of Research and Academia-Government-Community Collaboration, Hiroshima University as a Research Administrator (URA). Currently, in the URA division, two URAs are assigned to each department of the Graduate School of Humanities and Social Sciences, the Graduate School of Advanced Science and Engineering, the Graduate School of Integrated Sciences for Life, the IDEC Organization and the Graduate School of Biomedical and Health Sciences, and we support and cooperate with the research promotion of each department while cooperating with the Academia-Government-Industry Collaboration Division, the Intellectual Property Division and the Planning Group. I am in charge of research promotion for the Research Center of Nitrogen Recycling Energy Carrier, the Advanced Core for Energetics, the Model-Based Research Center, the Next-Generation Solar Cell research Center and the International Network on Polyoxometalate Science in the Graduate School of Advanced Science and Engineering. Aiming at research promotion for each research center above, I am doing support of external funding acquisition, research facility operation support, research seeds/needs matching, and so on. However, I don't have enough knowledge for support of the Graduate School of Advanced Science and Engineering because I have mainly studied natural products and medicine as mentioned in the background section below. Therefore, in order to do sufficient support, I am currently learning many things, such as mechanical engineering, information technology, energy technology, quantum engineering, knowhow about budget acquisition, and so on.

My Background

I had worked at a pharmaceutical company until my retirement. Most of the time I worked at a research institute in that company, but I also had job carrier other than research, such as jobs in the Research Planning Department and in the Quality Control Department in the Subsidiary in USA. My studies in the research institute were structural analysis, production mechanism and evaluation of biological activities for compounds derived from natural products, analysis of pharmaceuticals for registration application, including organic synthesis of related-compounds isolated. A novel compound named Allixin found from garlic had expectation of being a medicinal drug because it has strong anti-cancer promoting activity in animal skin cancer model and nerve cell stimulating activity in animal experiment even at low concentration with low toxicity. However, we realized difficulty in drug development using the compound in the fundamental research because of its characteristics of low absorption and fast metabolism. After leaving the pharmaceutical company, I worked for a sake brewing company for a short time and enjoyed brewing sake and providing sake I made to customers. Now, I would like to contribute to the research promotion of professors and the development of Hiroshima University with experiences gained via the jobs in the companies.

Curriculum Vitae

Work experience

2020-present
URA, Hiroshima University
2019-2020
Kyokuho Suzou Co., Ltd
(Kyokuho Brewery Co., Ltd)
1985-2019
Wakunaga Pharmaceutical Co., Ltd.
1991-1993
Visiting Scientist in University of California, Irvine, USA
1990-1991
Wakunaga of America, USA

Education

Ph.D. in Hiroshima University, 2002
M.D. in Hiroshima University, 1985
B.A. in Hiroshima University, 1983

Qualifications

US Patent 5093505, 5093122, 10238616,10363234
Publication 34 scientific papers