米国のNASAが本事業研究代表者裏出良博教授の研究成果を紹介と宣伝

東京大学
王淑珍作成
201608

本事業研究代表者である筑波大学　裏出良博教授が 2015 ISS R&D (International Space Station Research and Development) Conference(7/6-7/8) において「Orphan drug development for Duchenne muscular dystrophy by protein crystallization in space」の招待講演を行った後、会場から大変大きな反響を頂き、共同研究開発の要請も受けた。

2015 ISS R&D Conference のプログラムにおける紹介文及びスピーカーのリスト：

●プログラム

Day 2 7/7/2015

11:00am - 12:15pm

Biomedical Advancements from Space-based Protein Crystal Growth (PCG)

Elucidating protein structures promises to unravel complexities of human health and advance pharmaceutical development. Some proteins, however, have been difficult to crystallize in sufficient quality or quantity on Earth to permit structure determination. Onboard the International Space Station, the benefits of microgravity for protein crystal growth offer a solution to these obstacles—the growth of larger, more well-ordered crystals. This session will highlight experiments that exploit the space environment for improved crystal growth—toward the improved understanding of human disease, the acceleration of drug discovery and structure-based drug design, and pharmaceutical industry advances in drug delivery, purification, product development, manufacturing, and storage of biologically active ingredients.

●SPEAKERS

□Larry DeLucas, Director, Center for Structural Biology, University of Alabama at Birmingham (Moderator)

□Yoshihiro Urade, Professor, Tsukuba University

□Joseph Ng, President, iExpress Genes

□Paul Reichert, Associate Principal Scientist, Merck Laboratories

●反響

講演終了後、同学会の主催者である NASA および CASIS、スポンサー企業の一つであるボーイング社の関係者から、本学会への参加のお礼と激励の挨拶を受けた。その際に、今後の研究支援（米国の宇宙実験機会の利用等）の可能性に関する助言を受けた。

同セッションの講演者の一人である iExpress Genes 社社長の Dr. Joseph Ng は、蛋白質

結晶化の専門家である。カウンター・ディフージョン法での大型結晶作成に成功し、中性子線構造解析にも成功している。

彼は裏出教授の研究に大きな関心を示しまして、共同研究の意思を伝えた。他の宇宙ベンチャー企業も何社が、筋ジス医薬品の共同開発について打診した。

研究者のみならず、一般の参加者からも大きな反響を受けた。一例として、ボストンのビデオ・プロデューサーのメール文を以下に添付します。

Dear Professor Urade,

I met you in the lobby of the Marriott Copley hotel on your recent trip to Boston. We spoke for a short time about your presentation on study of a protein associated with Duchenne Muscular Dystrophy and your teams work in designing a protein inhibitor. I had been familiar with your work prior to seeing your presentation. Your presentation brought your work to life. It was remarkable! I am still in awe of the video of the 2 beagles, one with treatment, one without. The difference in function between the 2 beagles made a deep impression on me.

I'm not a scientist, I am a citizen curious about the world in which we live. I learned a great deal about your design work, especially the contribution of neutron diffraction in detecting hydrogen atoms. I am amazed at what we are able to visualize with neutron diffraction and how you and others are able to put that technology to use. Thank you so very much. Your lecture was informative and breathtaking. I'm not sure if Japanese people use words like "breathtaking", but I'll take my risk.

Ⅰ may have shared with you that my friend and I are working on development of a documentary describing the work of scientists like you who use the ISS as a platform to conduct work that benefits humanity. In the next ½ year to 1 year we hope to travel to Japan. It would be our honor to meet with you to discuss your work and the role of ISS. Would this be something interesting to you? It will interest you to know that Mr. Suffredini has pledged NASA support for our project.

When first we met, I approached you to introduce myself. In a few moments after first meeting you became quickly animate and so very friendly. It was such a pleasure to spend some time with you. I wish you every success. This world is a better world with you in it.

Best wishes,

David Rousso

Executive Producer

Pulse-ET www.pulse-et.com

Day 3 7/8/2015

Technical Breakout Sessions