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Kazunori Kataoka Editorial

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This year's recipient of the Journal of Drug Targeting Life-Time Achievement Award is Professor Kazunori Kataoka. He is a Professor of Biomaterials in the Department of Materials Engineering at the Graduate School of Engineering at the University of Tokyo, Japan. He is also a Professor at the Graduate School of Medicine at the University of Tokyo, Chair of the Division of Clinical Biotechnology at the Center for Disease Biology, and Director of the Center for NanoBio Integration at the University of Tokyo.

Professor Kataoka received a B.Eng. in Organic Chemistry in 1974, M. Eng. in Polymer Chemistry in 1976, and Ph.D. in Polymer Chemistry in 1979 from the University of Tokyo. His major thesis advisor was Professor Teiji Tsuruta, a famous and well respected polymer chemist. The title of this Ph.D. thesis was "Synthesis of functional polymers having amino groups and evaluation of their biomedical properties." His Ph.D. thesis research on functional polymers having amino groups portended latter contributions in block copolymer assembly and non-viral gene delivery. Professor Kataoka began his academic career at the Institute of Biomedical Engineering at Tokyo Women's Medical College and later moved to Tokyo University of Science, where he became a full professor. In 1998, he accepted a professorship at the University of Tokyo.

Over the past 40 years, Professor Kataoka has made major scientific contributions in polymer chemistry, supramolecular chemistry, biomaterials, drug delivery/drug targeting, non-viral gene delivery, and nanomedicine. He has published over 400 peer-reviewed articles that have produced ca. 40,000 citations, leading to h-index of 105. Perhaps Professor Kataoka's greatest impact can be felt through his research efforts in cancer nanomedicine, where his scientific contributions have spurred the formation of Nanocarrier Co. Ltd. (<http://www.nanocarrier.co.jp/en/index.html>) and subsequently entry of several anticancer polymeric micelle products in clinical trials, including NC-6004 (Nanoplatin™) and NK 105 (paclitaxel micelle), which are in phase III clinical trials.

For his stellar research contributions, Professor Kataoka has received numerous awards: Japan Society for Biomaterials in 1993, Jorge Heller/Controlled Release Society (CRS) Outstanding Paper Award on 1995, Society of Polymer Science, Japan in 2000, Clemson Award in Basic Research from the Society for Biomaterials in 2005, Barré Award from the University of Montreal in 2006, Founder's Award from the CRS in 2008, National Institute of Materials Science Award, Japan, in 2009, and Humboldt Research Award, Germany, in 2012, and Leo Esaki Prize in 2012. Professor Kataoka is a Fellow of the American Institute of Medical and Biological Engineering and Biomaterials Science and Engineering.

More recently, Professor Kataoka became the Director of Innovation Center of Nanomedicine in the KING SKYFRONT Hub in Kawasaki City. With support from the government of ¥3.5 billion, construction for this project started in 2013, with a formal launch in 2014. He recently received ¥3.6 billion for research on nanobiotechnology from Japan's prestigious national funding program for World-Leading Innovative Research and Development on Science and Technology (FIRST) program. Professor Kataoka's research team will focus on treatment of cancer stem cell using targeted drug delivery systems, treatment of neurological diseases using polymeric micelles that bypass the blood-brain-barrier, stable nanovaccines, fusion drug delivery platforms with medical devices for minimally invasive "chemical surgery," and novel point-of-care diagnostic devices.

Besides his passion for scientific research, Professor Kataoka has been very active in service in national and international organizations, dedicated to biomaterials and drug and gene delivery: He was President of the Japanese Society for Biomaterials, President of the Japanese Society of Gene Design and Delivery, President of the Society of Polymer Science, Japan, and President of the CRS in 2013. He is the Editor of the Journal of Biomaterials Science, Polymer Edition and Associate Editor of Biomacromolecules, and he serves on the editorial board of 12 international scientific journals.

In honor of Professor Kataoka's selection for the Journal of Drug Targeting Life-Time Achievement Award, several of his former students, post-docs, colleagues, and members of the "Kataoka family" have contributed articles for a special issue of Journal of Drug Targeting. From these contributions, one can appreciate his profound influence in the fields of drug delivery/drug targeting, non-viral gene delivery, and nanomedicine. One can also get a strong sense of his global influence, noting contributions from Japan, Korea, France, USA, and Canada. All of us who have had the opportunity to work with Professor Kataoka also know of his kindness, graciousness, and mentorship, helping to shape the careers of many students, post-docs, and colleagues. Speaking for all, I would like to send our hardest congratulations to Professor Kataoka on this tremendous honor and continued success, happiness, and health!