LAUDATIO

In honour of Professor **Masashi KANDO**
from the University of Shizuoka, Faculty of Engineering,
Japan, on the occasion of the
Honorary Professor of Alexandru Ioan Cuza University

Award Ceremony
29 September 2011

Laudatio

In honour of
Professor **Kando,**
University of Shizuoka, Faculty of Engineering, Japan

Dear Professor Kando,
Dear Members of the Senate,
Dear Guests,

Today, Alexandru Ioan Cuza University of Iaşi acknowledges the remarkable accomplishments in the field of Plasma Physics and Applications and the rich and constant teaching activity of Professor **Masashi KANDO** from the University of Shizuoka, Japan.

Plasma Physics is a field of wide interest for present and future science, both from a theoretical and a practical point of view, having multiple applications, from the technological ones (such as plasma cutting and welding, the obtaining / modification of materials with specific properties, chemical reactions, etc.) to those in the field of thermonuclear fusion reactions. Dedicating his life to Plasma Physics, Professor Kando

represents an example of professionalism and tenacity in approaching practical and theoretical problems regarding electric discharges in gases and their applications. His scientific works deal with an interdisciplinary filed, combining physics and engineering, proving that the solutions to practical problems need daring ideas, experimented in the laboratory and a very thorough theoretical preparation in the field of Physics.

On the occasion of such solemn moments for our institution, we are honoured to point out a few key aspects from the biography of Professor Kando, which confirm that a person with fundamental studies and academic degrees in engineering succeeds in obtaining remarkable results in the field of Plasma Physics, by means of constant work, passion and intellectual endowment.

Professor Kando graduated from the Faculty of Engineering of Nagaya University in 1966. He followed a master's degree in engineering in 1968 and got his doctoral degree from Nagaya University in 1974. He published over 100 scientific works in prestigious magazines, such as Plasma Fusion Res., Appl. Phys. Letters, Jpn. J. Appl. Phys., Thin Solid films, J. of Materials Science, Surface and Coating Technology Sci., Technol. of Advanced Materials, J. of Materials Science Letters and Plasma Source Sci. Technol.

As far as his scientific research activity is concerned, Professor Kando approaches major subjects of practical interest

in the field of Plasma Physics, with applications focusing on obtaining or / and advancing the compact fluorescent lamp or improving the efficiency of the plasma thermionic convertors. The practical solutions and the theoretical studies offered by Professor Kando provide evidence of his wide horizon and thorough preparation in the field of Physics, doubled by the passion and the tenacity of the experimenter. Thus, he studies the possibility of using different types of plasma as sources of radiation, from microwave discharges to dielectric barrier discharges, in order to improve the emission properties and the characteristics of these lamps (stability and run-up luminosity). As an excellent physicist, Professor Kando characterizes plasma in different geometries and gases (helium, oxygen, mercury vapours, xenon, nitrogen, mixture of gases), both at low and high pressure, but he also offers practical solutions, which prove the fact that his engineering background is only the beginning of a prestigious career in Plasma Physics. The theoretical and practical approach of some of the studied fundamental complex processes such as, the influence of phenomena at the quartz-plasma interface on the characteristics of the fluorescent lamps, the spatial distribution of the energy of electrons in the analyzed plasmas and the transfer of energy towards the plasma components, the plasma diagnostics under special conditions (supermagnetron plasma) – still create problems of experimentation and accurate data

interpretation. We consider that the results obtained by Professor Kando represent a reference point for the generations that continue to work in this field.

Professor Kando shows the same tenacity, passion and courage when approaching another subject of practical interest, especially if we take into account the difficulties encountered during experiments. We talk about plasma thermionic convertors, a potential future solution in energetics. In this field also, Professor Kando remains the same multivalent scientist, offering practical solutions, such as the extra heating of the cathode by solar exposure, the use of caesium plasma for augmenting the efficiency of the convertor or the development of releases with high absorption and low emission. His works present the results of experiments and his personal original points of view, also.

Another important merit of Professor Kando is represented by the development of scientific cooperation with groups in Romania, Czech Republic and the Netherlands, which led to common important results in the field of plasma technologies. The importance of his highly creative and innovative research is recognised in his 10 patents and awards, such as the Takayanagi Award (in 1990) or the Paper Prize awarded by The Illuminating Engineering Institute of Japan (in 2000).

Beside the research activity, Professor Kando developed a rich and constant educational activity, proving his pedagogical

calling for training young people in the spirit of honest work and competitiveness. By means of contests, he gradually ascended the academic hierarchy, becoming a professor at the Faculty of Engineering of the University of Shizuoka in 1987, where he had a fruitful educational and administrative activity until 2008. Nowadays, he is managing professor of young researchers support office at the same university.

The courses taught by Professor Kando illustrate the depth and diversity of his interests and concerns in the field of Plasma Physics and Applications, and his 3 books on microwaves discharges represent a synthesis of his lifetime achievements and a remarkable scientific landmark. Beside the scientific and educational activities, he developed coordinating and executive activities in his quality of active member in various international scientific committees.

Mention must be also made of his essential contribution to the development of the stable and constant ties between Alexandru Ioan Cuza University of Iaşi and the University of Shizuoka, by establishing scientific and educational cooperation between teachers and young researchers, exchanges of PhD students, lectures, courses and videoconferences at master and PhD degree level.

Today, we honour a complex scientific personality and also one of the authors who were directly involved in the initiation and configuration of the conference that celebrates its

10 year anniversary: *The International Conference on Global Research and Education Inter-Academia*.

This conference was inaugurated in 2002 in Bratislava, and Romania, through Alexandru Ioan Cuza University, is a founding member together with Poland, Slovakia, Japan, Hungary, Germany and Belarus. It was then decided for this scientific event to be an annual one and to offer the academic and scientific communities the possibility to exchange ideas and experiences in the field of science and education and to establish cooperation activities by means of joint study programmes, student mobilities or PhD thesis under joint supervision. Professor Kando joins us again in celebrating this important event, as he has many times done so, when invited by the faculty of physics to give lectures on Plasma Physics and Applications during its scientific events. We take this opportunity to thank him for his presence among us, considering it a clear confirmation of his attachment to Alexandru Ioan Cuza University and our values.

We would like to express our admiration and gratitude for Professor Kando's entire scientific and educational activity, for his devotion and constancy that he proved in developing the cooperation and friendly relation with Alma Mater Iassiensis, and also for the modesty and discretion that characterized him during his meetings with us.

The members of the commission and the entire academic community of Alexandru Ioan Cuza University is honoured to award the title of ***Honorary Professor*** to **Masashi KANDO, Professor at the University of Shizuoka, Japan** for his entire scientific and educational activity, as well as for his contribution to the development of academic and personal cooperation between our universities.

Dear Professor Kando, may you have a long and active life, full of personal accomplishments.

Members of the Commission

President,

Prof. univ.dr Vasile IȘAN,

Rector of Alexandru Ioan Cuza University of Iași

Members,

Prof. dr. Gheorghe POPA

Prof. dr Dumitru LUCA – Dean of the Faculty of Physics

Prof. dr. Nicoleta DUMITRAȘCU

Conf. dr. Lucel Sîrghi

CS I dr. Cristian LUNGU

29 September 2011