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In Memoriam INTA MUZIKANTE (1951–2012), LATVIAN PHYSICIST



Dr. habil. phys. Inta Muzikante, full member of the Latvian Academy of Sciences (elected in 2008; corresponding member since 2006), was born in Valmiera, a town in the northern part of Latvia, on 8 January 1951. She attended school in Sigulda and high school in Riga. During her school years, Inta decided to study natural sciences. After graduating from high-school in 1969, she entered the physics section of the Physics and Mathematics Department of the University of Latvia and obtained her university degree in 1974.

In parallel with University studies, Inta Muzikante started to work at Semiconductor Physics Research Lab at the University of Latvia. After graduating she was offered a position at the Institute of Physical Energetics, Latvian Academy of Sciences, in the laboratory of Prof. Edgars Siliņš, one of the internationally most known Latvian physicists. I. Muzikante started a research of electronic and photoelectric processes in organic crystals and thin films. This was a novel field, pioneered both internationally and in Latvia by professors E. Siliņš, O. Neilands, and J. Freimanis. It may be stated that I. Muzikante stood at the cradle of this research field and stayed faithful to it all of her life. Her work was very successful and within a few years she advanced from research assistant to researcher and then leading research scientist.

Her first scientific topic was studies of the mechanism of charge carrier photogeneration and separation in organic molecular crystals. In 1983, for her work titled *Charge Carrier Photogeneration and Trapping Processes in Organic Molecular Crystals* I. Muzikante obtained her Candidate of Sciences degree (corresponds to Ph.D. degree in Western countries). The major part of I. Muzikante's research activities has been devoted to investigation of electronic states in organic thin films and multilayers. Studies of electrophysical properties and energy structure of the wide class of organic compounds, such as isolators, semiconductors and conductors have been made. During these studies, the complex application of conventional space charge limited current method (SCLC), differential method of SCLC, thermally modulated SCLC and thermally stimulated current was provided for local trapping state investigation. These investigations are of great importance for application in studies of organic light-emitting diodes and organic solar cells.

In I. Muzikante's work for the first time the existence and asymmetry of trapping states of quadrupolar origin in pentacene thin films was experimentally confirmed. In the last decade, I. Muzikante had broadened her scientific scope. The organic materials with photochromic effect became important part of her research because of their possibility of being employed in optical storage of data and molecular switching devices, as well as reversible trans/cis photoisomerization of azobenzene and indandione derivatives in self-assembled monolayers, LB multilayers and polymer films.

A turning point in I. Muzikante's life was restoration of the independent Republic of Latvia in 1991 — the previously tightly closed international borders were opened, and she was free to visit and work in the most important interna-

tional scientific centres. During this period, she stayed and worked at Potsdam University and the Centre of Macromolecular Chemistry in Germany, South Bank University, London and Manchester University in UK, Ecole Supérieure de Physique et de Chemie Industrielles, P.& M. Curie University, and Angers University in France. and at the Vilnius University in Lithuania.

After the passing away of Prof. E. Siliņš in 1998, I. Muzikante took over the duties of the Head of Laboratory. In spite of the Latvian science going through hard times due to inadequate funding, she managed to preserve the lab's core staff and to further develop its scientific potential, while also continuing an active research work herself. In 1998, she obtained the *Dr. habil.* degree for her work *Electronic Processes and States in Organic Molecular Crystals and Langmuir-Blodgett Multistructures.* I. Muzikante's research was highly recognized by awarding her, in 1999, the recently established and prestigious Edgars Siliņš Prize in physics by the Latvian Academy of Sciences.

During this and the subsequent period, another of her many talents started to shine through: her particular skill to find capable young people from the best high-schools in Latvia and to motivate them for research work. Several of these students have now become researchers in her lab. With her demise, four PhD students lost their supervisor. I. Muzikante's research and organizational work gained even more momentum after her lab was transferred to the Institute of Solid State Physics in 2003. At her new home she rapidly acquired the respect and sympathies of their new colleagues. Her duties of the Head of Laboratory and of leading research scientist were soon supplemented by the tasks of the Institute Deputy Director for research.

I. Muzikante has authored more than 240 research papers. She started to give lecture courses to the students of physics at the University of Latvia and took up even more duties. She served as a guest editor in international journals, as an expert in the European Commission, and as a representative for Latvia in a number of European scientific programmes and projects. With passing away of Inta Muzikante (on 15 February 2012), the Latvian and international science community has lost a brilliant scientist and a talented science or ganizer. However, more important and above all of her excellent professional achievements is that all of those who knew her will remember her as a helpful and cordial friend.

Linards Skuja, Mārtiņš Rutkis

INTA MUZIKANTE (1951-2012), FIZIĶE

Inta Muzikante, *Dr. habil. phys.*, bija Latvijas Zinātņu akadēmijas īstenā locekle (ievēlēta 2008. gadā; korespondētājlocekle no 2006. gada), fiziķe, izcila zinātniece organiskās cietvielu fizikas un molekulārās elektronikas jomās. 1974. gadā beigusi Latvijas Valsts universitātes Fizikas fakultāti. Strādājusi Latvijas Valsts universitātes Pusvadītāju fizikas laboratorijā, Latvijas Zinātņu akadēmijas Fizikālās enerģētikas institūtā prof. Edgara Siliņa laboratorijā, vēlāk bijusi laboratorijas vadītāja. 1983. gadā saņēmusi zinātņu kandidātes grādu. I. Muzikantes pētnieciskā darbība bija veltīta elektroniskajiem un fotoelektriskajiem procesiem organiskajos kristālos un plānās kārtiņās, veikti pētījumi par organisko savienojumu (izolatoru, pusvadītāju, vadītāju) elektrofizikālajām īpašībām un enerģijas struktūru, fotohromiem organiskajiem materiāliem u.c. 1998. gadā ieguvusi *Dr.habil* grādu. Pēc Latvijas valstiskās neatkarības atjaunošanas apmeklējusi studentu zinātniskos darbus, ir 240 zinātnisko publikāciju autore, bijusi viesredaktore starptautiskos žurnālos, eksperte Eiropas Komisijā un darbojusies kā Latvijas pārstāve Eiropas zinātniskajās programmās un projektos.