

Proceedings of the XXXVII International School
on the Physics of Semiconducting Compounds
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Editor of the Proceedings

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Preface

The XXXVII International School on the Physics of Semiconducting Compounds “Jaszowiec 2008” was organized by the Institute of Physics of the Polish Academy of Sciences, Faculty of Physics of University of Warsaw, the Institute of High Pressure Physics “UNIPRESS” of the Polish Academy of Sciences and the Committee on Physics of the Polish Academy of Sciences. Like several previous meetings the School was preceded by the “Jaszowiec 2008” Pre-school, a special two-day Tutorial Session, which provided an introduction to the main topics of the School. In the organization of the Pre-school, apart from the four above-mentioned institutions, also Foundation ”Pro Physica” was involved. In total over 230 colleagues from 17 countries participated in the School and over 130 colleagues from 13 countries participated in the Pre-school. There were 19 invited talks and over 140 contributed, both oral and poster presentations. As usual the School covered a broad range of topics related to the semiconductor physics and technology, with special accents put on semiconductors in optoelectronics, spintronics, and photonics. This year’s Tutorial Session was entitled: “Prying into a quantum world”.

The organization of the School and the Tutorial Session would be impossible without financial support of the following sponsors:

- Polish Academy of Sciences,
- University of Warsaw,
- Polish Ministry of Science and Higher Education,
- SANDiE Network of Excellence,
- U.S. Army International Technology Center-Atlantic, Research Division,
- Office of Naval Research Global.

Their contribution is greatly appreciated. It provided support for 50 young participants from 6 countries as well as all invited speakers.

We wish to express our gratitude to the members of the Program Committee and the International Advisory Committee for their significant contribution to the success of “Jaszowiec 2008”. We would also like to thank all the colleagues who helped to organize the School and the Tutorial Session. We address special acknowledgments to Jacek Szczytko — Chairman of the Tutorial Session, as well as the members of the Organizing Committee: M. Arciszewska, B. Chojnacki, W. Kaliszek, E. Lusakowska, J. Wołoszyn and B. Wieczorek.

This issue of *Acta Physica Polonica A* is a collection of invited and contributed papers presented during the Tutorial Session and the School.

Tomasz Story (*Chairman*)

Izabela Kuryliszyn-Kudelska (*Secretary*)

Invited lectures at the Tutorial Session:

1. **Andrey Akimov** (St. Petersburg) — *Ultrafast Acoustics in Semiconductor Nanostructures*
2. **Francis Balestra** (Grenoble) — *New Semiconductor Devices*
3. **Laurance Eaves** (Nottingham) — *Using High Magnetic Fields to Probe Electron Wavefunctions And Carrier Dynamics in Novel Semiconductor Heterostructures*
4. **Stefano Sanvito** (Dublin) — *Quantitative Theory for Electron Transport in Nano- And Bio-Devices*
5. **Ivan Rungger** (Dublin) — *Tutorial Using the Smeagol Code for Quantitative Electron Transport Calculations*

Invited lectures at the School:

1. **Uri Banin** (Jerusalem) — *Semiconductor Nanocrystal Quantum Dots: From Science to Applications*
2. **Crispin H.W. Barnes** (Cambridge) — *Manipulating Electrons in Nanostructures With Sound*
3. **Jacqueline Bloch** (Marcoussis) — *Excitonic Polaritons in Semiconductor Micropillars*
4. **Vitalii Dugaev** (Rzeszow) — *Spin Currents in Magnetic Nanostructures*
5. **Martin Eickhoff** (Garching) — *Self Assembly and Properties of GaN Nanostructures*
6. **Nicolas Grandjean** (Lausanne) — *Nitride Microcavities towards Polariton Laser*
7. **Renaud Leturcq** (Zurich) — *Counting Electrons on The Fly*
8. **Jan Muszalski** (Warsaw) — *Optoelectronic Devices Employing One-Dimensional Photonic Structures*
9. **Junsaku Nitta** (Sendai) — *Spin-Orbit Effects in Semiconductor Nanostructures*
10. **Susumu Noda** (Kyoto) — *Manipulation of Photons by Photonic Crystals*
11. **Janusz Sadowski** (Warsaw) — *GaMnAs: Layers, Wires and Dots*
12. **Ady Stern** (Rehovot) — *Quasiparticles in Fractional Hall Liquid*
13. **Bartłomiej Szafran** (Kraków) — *Coupled Quantum Dots — Spatial Correlations Between Interacting Carriers*
14. **Alexander I. Tartakovskii** (Sheffield) — *Nuclear Spin Dynamics in Optically Pumped Quantum Dots*
15. **Wilhelm Warta** (Freiburg) — *Materials for Crystalline Silicon Photovoltaics*