CURRICULUM VITAE

Serguei Brazovskii

Research Director Emeritus
Laboratoire de Physique Théorique et des
Modèles Statistiques - LPTMS, CNRS,
University Paris-Sud, Orsay, France

E-mail: brazov@lptms.u-psud.fr *WEB:* http://www.lptms.u-psud.fr/membres/brazov

Major Activities

1998 - present	LPTMS, CNRS, at University Paris Sud, Orsay, France
1997 – 2000	consultant of Los Alamos and Brookhaven National Laboratories, USA.
1972 –1998	Landau Institute for Theoretical Physics, Moscow, Russia
1969 &1972	Master degree and PhD from Moscow Physical Technical Institute
1988 – present	Regional Editorial of the Journal "Synthetic metals", Elsevier.
1993 – present	Co-chairmen of the International Workshops on Electronic Crystals - ECRYS.
2012, 2016	Chairman of the international conferences IMPACT 2102 & 2016 Electronic States and Phases Induced by Electric or Optical Impacts

Invited visiting positions:
Brazil: Int. Inst. of Physics - Natal; **Croatia**: University of Zagreb;
Denmark: NORDITA - Copenhagen; ***Russia***: Nat. Univ. for Sci. & Technol. MISiS
France: ILL and ESRF - Grenoble, LPS, LURE, CNRS & University Paris sud - Orsay;
Israel: Weizmann Institute - Rehovot; ***Italy***: ISI - Turin, ICTP - Trieste;
Japan: Univ. of Tokyo, Yukawa Inst. - Kyoto; ***Korea***: SNU, Inst. Basic Research, APCTP;
Switzerland: ETH – Zurich; ***USA***: BNL, LANL, University of Chicago, UCSB.

International Confs., invited talks: >50; *Publs.:* >170, # of references: >6000, h-index: 36.

Scientific achievements and current directions:
Phase transitions: "***Brazovskii phase transition***" of weak crystallization.
Light emitting conducting polymers – **"*Brazovskii-Kirova model*"**.
Liquid crystals: theory of the "blue phase".
Low-dimensional electronic systems and applications to properties of synthetic materials – organic metals, chain conductors, conjugated polymers;
Electronic crystals - charge/spin density waves, charge order, ferroelectricity;
applications to tunnelling in nanostructures, nonlinear and femtosecond optics.
Pinning and sliding of electronic crystals, plastic flows,
applications to space resolved synchrotron radiation studies *).
Topological defects in electronic systems: solitons and instantons, topological confinement of charge and spin, dislocations, solitonic lattices and FFLO in superconductors, exact solution for many-body problems, understanding of solitons seen by STM and in quasi 1D Mott insulators.
Electric-field-induced electronic phases and for superconductivity induced by electrostatic doping.
Co-discovery of electronic ferroelectricity *); its prediction in conducting polymers.
Ground state reconstruction and spacio-temporal processes in nano-junctions of CDWs *).
Oscillatory evolution, dynamical phase transition and domains patterns under optical pumping *).
Hidden phase reached under optical or voltage pilses in a polaronic Mott crystal TaS2.
Dynamical phase transitions and self-focusing in evolution of optically pumped ensembles of excitons; applications to neutral-ionic transition.
(* *In collaborations with experimental groups from Grenoble, Ljubljana, Moscow, Orsay*)