

Dr. Branislav Vlahovic

(i) Professional Preparation

- Zagreb University, Nuclear Physics and Physics of Elementary Particles, M.S., 1988.
- University of Zagreb, Croatia, Physics, Materials Science and Engineering, Ph.D. 1990.

(ii) Appointments

- 2004-present Chair Department of Physics, North Carolina Central University
- 2003-2004 Professor. Department of Physics, NCCU/Jefferson Laboratory
- 2000-2003 Associate Professor, NCCU/Jefferson Laboratory.
- 1997-2000 Assistant Professor, NCCU/Jefferson Laboratory.
- 1995-1997 Visiting Assistant Professor, North Carolina Central University.
- 1990-1995 Research Associate, Department of Physics, Duke University
- 1990 Visiting Professor, Center for Theoretical Physics, Trieste, Italy.
- 1989-1990 Visiting Professor, University of Leningrad, St. Petersburg, Russia.
- 1988 Visiting Professor, Center for Theoretical Physics, Trieste, Italy
- 1980-1990 Research Scientist, Institute Rudjer Boskovic, Zagreb, Croatia.
and Assistant Professor, Physics Department, Univ. of Zagreb.

(iii) Five Most Related Publications, total of 148 publications and 136 conference presentations

1. I.V.Bondarev and B.Vlahovic, "Entanglement of a pair of atomic qubits near a carbon nanotube" *Physical Review* **B75** (2007) 033402.
2. Filikhin, V M Suslov and B. Vlahovic, Modeling of InAs/GaAs quantum ring capacitance spectroscopy in the non-parabolic approximation, *Physical Review* **B 73**, (2006)205332.
3. I. Filikhin, E. Deyneka and B. Vlahovic, Non-parabolic model for InAs/GaAs quantum dot capacitance spectroscopy, *Solid State Communications* **140** (2006) 483.
4. I.V.Bondarev and B.Vlahovic "Optical absorption by atomically doped carbon nanotubes", *Physical Review* **B74**(2006)073401.
5. I Filikhin, V M Suslov and B. Vlahovic, Electron Spectral Properties of the InAs/GaAs Quantum Ring, *Physica* **E33** (2006)349-354.

(iv) Five other significant publications:

1. B.Vlahovic, D.Markoff, I.Bondarev, I.Filikhin, H.Melikian, G.Vlahovic, and M.Wu "Integration of nanoscale science and technology research into undergraduate curriculum at Minority Universities", A book chapter (50 pages) in edited collection "Nanotechnology Education", American Scientific Publishers, USA, 2006.
2. Single-electron levels of InAs/GaAs quantum dot: Comparison with capacitance spectroscopy I. Filikhina, E. Deynekab, and B. Vlahovic, *Physica* **E 31** (2006) 99.
3. B. Pivac, P. Dubcek, I. Kovacevic, S. Bernstorff, R. Mu, M. Wu, A. Ueda, B. Vlahovic, "GISAXS study of gold implanted fused silica", *Scripta Materialia* **55**, (2006)135.
4. I. Filikhin, E. Deyneka and B. Vlahovic, Modeling of InAs/GaAs self-assembled heterostructures: quantum dot to quantum ring transformation, *Journal of Vacuum Sci. Technol.* **A24**(2006)1249.
5. The origin of photon absorption below and above surface plasmon resonance of gold colloids confined in dielectric media, Z. Gu, R. Mu, A. Ueda, M.H. Wu, S. Morgan, W.E. Collins, C.I. Muntele, D., and B. Vlahovic, *Surface and Coatings Technology*, Vol **196** (2005)89-95.

(v) **Synergistic Activities**

- 2004 Oliver Max Gardner Award, the only state wide academic award in NC
- 2004 Nominated for White House Millennium Award
- 2004 Award for Excellence in Research, 2003 Outstanding Research Award, and 2002 Experienced Researcher Award, NCCU College of Arts and Science.
- Who's Who Among Americas Teachers 6th Edition, 2000.
- One of Coach of Yugoslav Olympic representation for 1990 Olympiad in physics (students won 2 gold, 4 silver and 3 bronze medals).
- The bronze medal for the best innovation on International patent exhibition RASTYU 89, Rijeka Yugoslavia, 1989, for optically transparent high electrically conductive thin SnO₂ film.
- Member of American Physics Society, American Physics Teachers, and Sigma Xi
- Member of Jefferson National Laboratory
- Member of Consortium for Advancing Renewable Energy Technologies
- Member of Renewable Energy Academic Partnership Consortium
- Organizer and Chair of the second international conference: "Nuclear and Particle Physics with CEBAF at Jefferson Lab", Dubrovnik, May 18-24, 2003.
- Chair of the Semiconductors and Magnetic Properties Session at the 66th Southeastern Meeting of the American Physical Society, November 7-9, 1999 Chapel Hill, NC.
- Organizer and Scientific secretary of the international conference: "Nuclear and Particle Physics with CEBAF at Jefferson Lab", Dubrovnik, November 3-10, 1998.
- Member of organizing committee, of the International Conference "Polarized Photon Polarimetry", TJNAF, June 2-3, 1998.
- One of founders of: "Solar and Photovoltaic Physics Association of Croatia".
- Guest Editor of Journal Fizika, 1998, and 2004
- 2003-2007 NSF grant Polarimeter for High Energy Photons, \$188,000.
- 2005-2008 DOD grant Formation and characterization of quantum dots and multi-junction thin films designed for high efficiency photovoltaic cells \$487,000.
- 2002-2007 NASA Integration of nanotechnology and computational modeling NASA related research into the undergraduate curriculum at North Carolina Central University and Fisk University, \$1,600,000.
- 2004-2007 UNC grant: Development of Undergraduate Computational Science Program at NCCU, \$225,000
- 2004-2005 NSF grant: Acquisition of a Pulsed Laser System for Quantum Dots and Thin Films Research and Education, \$352,725.
- 2004-2006 NSF grant: Integration of Nanoscience and Nanotechnology into the Undergraduate Curriculum at North Carolina Central University, \$100,000.
- 2001-2005 DOD Optical and Electron Beam Quantum Dots Deposition, \$1,149,912.

(vi) **Collaborators and Other Affiliations**

- a) As a member of JLab, B. Vlahovic collaborated with the most of JLab members.
- b) Graduate students advised: Geraud Laveissiere, Brian Diederich, and Vesna Borjanovic.
- c) Postdoctoral Scholars: Davor Gracin, Perishami Manoravi.