

## CURRICULUM VITAE

Valentina Borissova Petkova

**Born:** 02.03.1948, Shumen, Bulgaria

### **Education and degrees:**

1966: High school in Sofia

1971: Master degree in Theoretical Physics from the Physical Department of Sofia University with Diploma work under the supervision of Professor Tch. Palev at the Theory of Elementary Particles Group of the Institute of Nuclear Research and Nuclear Energy (INRNE), Sofia, Bulgarian Academy of Sciences (BAS),

**Title:** *Representations of the symplectic algebra in the space of all polynomials of Heisenberg operators.*

1976: PhD thesis under the supervision of Professor I.T. Todorov at INRNE, BAS,

**Title:** *"Indecomposable representations of the conformal group and some applications to invariant operator product expansions".*

2007: Doctor of Sciences thesis,

**Title:** *"Fusion rules, graphs and quantum symmetries"*

### **Positions:**

1977: Permanent position equivalent to Junior Assistant Professor at the INRNE, BAS

1981: Permanent position equivalent to Assistant Professor at the INRNE, BAS

1987: Permanent position equivalent to Associate Professor at the INRNE, BAS

2009: Permanent position equivalent to Professor at the INRNE, BAS

2012: Corresponding member of the Bulgarian Academy of Sciences

2018: Professor emeritus at INRNE, BAS

### **Award:**

The Bulgarian National Award for Young Scientists, 1982

### **Teaching experience:**

1975: Assistance to Prof. I. Todorov in the advisorship of the Diploma work of M. Mintchev

1977: acting as Assistant Professor for the course "Mathematical Methods in Physics" in the Physical Department of Sofia University.

1982 - 1983: Assistance to Prof. D. Stoyanov in the advisorship of the PhD of G. Sotkov.

2002: Three lectures on 2d Conformal Field Theory for graduate students and PhD students in the Physical Department of Sofia University.

2009: Lectures on 2d conformal field theory (42 hours) at the Institut für Theoretische Physik, Universität Göttingen, Germany.

### **Scientific visits:**

1978: (11 months) visit at the 2nd Institute for Theoretical Physics in Hamburg, Germany (collaboration with G. Mack on lattice gauge theories)

### **Short visits (1 week to 3 months):**

1974 – 1982: JINR, Dubna

1983 – 2006, 2011, 2012: INFN, Trieste  
(collaboration with P. Furlan on 4d and 2d CFT)

1989: Hamburg

1990, 1996, 2006: CERN, Geneve

1991: Karlsruhe

1992: SISSA, Trieste

1993, 2006: Universite Paris - VI

1994: Saclay  
(collaboration with J.-B. Zuber on the relation of the 2d CFT to graphs)  
1996: ESI, Vienna  
1997, 1998, 2000, 2002, 2007: - ICTP, Trieste  
1998, 1999: King's College, London  
(collaboration with G. Watts on fractional level WZW models)  
1999: Saclay ,1999: ESI, Vienna, 2000: CERN  
(collaboration with J.-B. Zuber on boundary CFT)  
2003 – 2006: Saclay  
(collaboration with I. Kostov on non-critical string theory)  
2007 - 2009: Saclay  
2009: Lectures on 2d conformal field theory (42 hours) at the Institut für Theoretische Physik,  
Universität Göttingen, Germany  
2009: - Universite Paris - VI  
2010 - 2015: Saclay  
2014: Dubna  
2015 , 2017: INFN, Trieste (collaboration with P. Furlan on conformal Toda theory)  
2018 - 2019: Saclay (collaboration with I. Kostov on correlators in 4d  $\mathcal{N} = 4$  SYM )

#### **Talks at seminars:**

Sofia, Hamburg, Clausthal, Karlsruhe, Kaiserslautern, Trieste (SISSA, ICTP and many times at INFN),  
CERN, Universite Paris - VI, Genoa, Saclay, Sian (China), Durham, London (King's College)

#### **Participation in schools and workshops:**

Tehran - 1973, Primorsko - 1977, 1980, Bonn - 1978, Varna - 1982, 1987, 2008, Freiburg - 1983, Les  
Houches - 1984, Cargese - 1991, Paris - 1994 (talk), Bologna - 1997 (talk), Hamburg - 1998, York - 2001,  
Edinburgh - 2004, Sozopol - 2004, Paris - 2006, Lyon - 2006, Paris - 2007, Valencia - 2007 (talk), Moscow  
- 2008, Paris -2009, Munchen - 2009, Paris - 2017, Dubna 2019.

#### **Invited talks at conferences and workshops:**

Clausthal-Zellerfeld- 1985, 1989, 1999, Gosen - 1991, Kiev - 1992, Durham - 1992, Razlog - 1995, Vienna  
- 1996, Goslar - 1996, Swansea - 1996, Warwick - 1999, London - ICMP-2000, Kyoto - 2000, London - 2001,  
Como - 2001, Dubna - 2005, Varna-2005, Santiago de Compostela-2005, Belgrade - 2006, Vienna - 2008,  
Sofia - 2009, Sofia - 2010, Paris - 2010, Yerevan - 2011, Prague-2012,Prague-2015, Dubna-2015, Saclay 2018,  
Prague - 2019, Stockholm - 2019, Yerevan - 2019.

#### **Participation in organisation of international conferences:**

EU network "Euclid" Workshop, Integrable Models and Applications, 31 August - 4 September 2004,  
Sozopol, Bulgaria.

IV network conference of the RTN "Forces-Universe", Varna, September 2008.

Workshop of the COST Action MP1405 QSPACE "The Quantum Structure of Spacetime" , Sofia -2018.

Conferences in Varna, organised by the Lab. "Theory of elementary particles", INRNE, BAS.

#### **Participation in international scientific projects:**

Project within the BAS - Royal Society agreement (1999-2000)

EU: RTN EUCLID, contract HPRN-CT-2002-00325 (2003 -2006)

EU: MCRTN ForcesUniverse, contract MRTN-CT-2004-005104 (2005 - 2008)

RILA (Bulgarian-French programme) (2007-2008)

COST Action MP-1210 "The String Theory Universe" (2013-2017 )

COST Action MP1405 QSPACE "The Quantum Structure of Spacetime" (2014-2018)

RILA (Bulgarian-French programme) (2017 -2019)

**Referee for the scientific journals:**

Nucl. Phys. B, J. Phys. A, JHEP, SIGMA

**Member of juries:**

for PhD, Dr.Sc. and professorship in Bulgaria, France and USA.

**Current research topics:**

Conformal field theory in 2 - and higher dimensions. AdS/CFT correspondence.

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