

# CURRICULUM VITAE

*Steven Duplij*

## PERSONAL INFORMATION

Passport name: **Stepan Douplii**

Pen/scientific name: **Steven Duplij**

Cyrillic name: **Степан Анатольевич Дуплий**

### Office address:

Mathematisches Institut  
Westfälische Wilhelms-Universität Münster  
Einsteinstrasse 62  
48149 Münster  
Germany

### Home address:

Edith Stein-Kolleg  
Kolde Ring 60  
48151 Münster  
Germany

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**sduplij@gmail.com**

duplij@math.rutgers.edu

Web pages: **[http://wwwmath.uni-muenster.de/persdb/show\\_perspage.php?id=1011](http://wwwmath.uni-muenster.de/persdb/show_perspage.php?id=1011)**

<http://wwwmath.uni-muenster.de/u/duplij>

<http://homepages.spa.umn.edu/~duplij>

<http://www.math.rutgers.edu/~duplij>

## DEGREES

**2002** The academic status of Senior Research Fellow is given by Higher Certifying Commission, Kiev, Ukraine

**1999** Habilitation Thesis: "*Semigroup Methods in Supersymmetric Theories of Elementary Particles*", Bogolyubov Institute of Theoretical Physics, Kiev, Ukraine,

**Doctor Habilitatus** in Theoretical Physics

(Doctor of Science in Physics and Mathematics)

**1983** Ph.D. Thesis: "*Theoretical Investigation of Hard Processes in QCD*";

**1978-1982** Post Graduate Course in Theoretical Physics, Kharkov State University;

PhD (Candidate of Science in Physics and Mathematics); adviser M.P. Rekalov

All docs and transcripts in PDF are available here: <http://webusers.physics.umn.edu/~duplij/job>

## EDUCATION

**1994-1995** Special German Language Course, Goethe Institute, Mannheim, Germany;  
Distinguished diploma

**1974-1978** Department of Theoretical Physics, Kharkov State University;  
The Distinguished Diploma in Theoretical Nuclear Physics - M.Sc.

**1973-1976** Special English Language Course, Kharkov State University;  
The Distinguished Diploma

**1971-1973** Department of Theoretical Radiophysics, Kharkov State University

## WORK EXPERIENCE

- 2014-now** Scientific Researcher at the Mathematisches Institut, Universität Münster, Münster, Germany
- 2000-2014** Lead Senior Staff Researcher at the Nuclear Physics Laboratory, Kharkov National University, Kharkov, Ukraine
- 2000-now** CMS collaboration, CERN, Geneva
- 1997-2000** Senior Staff Researcher at the Nuclear Physics Laboratory, Kharkov National University, Kharkov, Ukraine
- 1983-1997** Staff Researcher at the Nuclear Physics Laboratory, Kharkov State University, Kharkov, Ukraine
- 1992-1993** Staff Researcher at the Astronomic Observatory, Kharkov State University, Kharkov, Ukraine
- 1983-1992** Staff Researcher at the Nuclear Physics Laboratory, Kharkov State University, Kharkov, Ukraine
- 1978-1983** Half-time Researcher at the Radiophysics Laboratory, Kharkov State University, Kharkov, Ukraine

## FELLOWSHIPS & GRANTS

- 2011-2012** Fulbright Scholar Program at the Rutgers University, Piscataway, USA (Host: G. A. Goldin)
- 2007** April-June American Physical Society Travel Grant
- 1994-1997** Alexander von Humboldt Fellowship at the Physics Department, University of Kaiserslautern, Kaiserslautern, Germany (Host: W. Rühl)

## EDITOR EXPERIENCE

- 1999-2013** Editor of *Kharkov National University Journal* (Vestnik KSU), ser. Nuclei, Particles and Fields
- 2013-now** Editor of *East European Journal of Physics*

Editor-compiler:

- S. Duplij, W. Siegel, J. Bagger** (Eds.) "*Concise Encyclopedia of Supersymmetry and Noncommutative Structures in Mathematics and Physics*"  
Dordrecht-Boston-London: Kluwer Academic Publishers, 2004, 561 pp.  
(Second printing Springer Science, Berlin-Heidelberg-New York, April 2005).
- S. Duplij, J. Wess** (Eds.) "*Noncommutative Structures in Mathematics and Physics*",  
Dordrecht-Boston-London: Kluwer Academic Publishers, 2001, 484 pp.
- S. Duplij, V. Zima** (Eds.) "*Supersymmetric Structures in Mathematics and Physics*",  
Kiev, UkrINTI, 2000, 262 pp.

Reviewing:

- 1998-now** Reviewer of *Zentralblatt Mathematik*, Karlsruhe-Berlin, Germany
- 2005-now** Reviewer of *Journal of Zhejiang University. Science*, Hangzhou, China
- 2007-now** Reviewer of *Journal of Mathematical Physics*, AIP, Melville, USA
- 2010-now** Reviewer of *Reports of Mathematical Physics*, Warsaw, Poland
- 2012-now** Reviewer of *Advances in Mathematical Physics*, New York, USA

## LECTURE COURSES

Calculus  
Elementary Particle Physics  
Quantum chromodynamics  
Unified theories  
Supersymmetry and supergravity

## SUPERVISION

5 students received Distinguished M.Sc. Degree in Theoretical Physics  
4 PhD students, 1 PhD defended

## PROFESSIONAL MEMBERSHIPS

**2014** RUSSIAN UNION OF WRITERS (Moscow, Russia)  
**2008** AMERICAN PHYSICAL SOCIETY (College Park, MD)  
**2002** ALEXANDER VON HUMBOLDT CLUB Ukraine  
**1995** AMERICAN MATHEMATICAL SOCIETY (Providence, RJ)  
**1994** INTERNATIONAL ASSOCIATION OF MATHEMATICAL PHYSICS  
(Cambridge, MA)  
**1993** ENGLISH INTERNATIONAL ASSOCIATION (Lund, Sweden)  
**1993** AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE  
(Washington, DC)  
**1992** EUROPEAN PHYSICAL SOCIETY (Geneva, Switzerland)  
**1999** INTERNATIONAL MATHEMATICAL UNION (IAS, Princeton)

## LISTED

WORLD DIRECTORY OF MATHEMATICIANS  
MARQUES WHO IS WHO IN THE AMERICA 2014  
ENCYCLOPEDIA OF MODERN UKRAINE  
MATHEMATICAL PORTAL Math-Net  
GOOGLE SCHOLAR  
MICROSOFT ACADEMICS

## CONFERENCE ORGANIZING

**2005** June-International Workshop "*Pseudo-Hermitian Hamiltonians in Quantum Physics*" as a member of Advisory Board  
**2000** September-NATO Advanced Research Workshop "*Noncommutative Structures in Mathematics and Physics*" as a Partner Country Co-Director  
(NATO Co-Director: Julius Wess)

## CONFERENCE PARTICIPATION

Participated at numerous international conferences, workshops, schools and seminars in USA, Germany, France, UK, Poland, Spain, Czech Republic, Russia, China, Ukraine.  
**2015** April Workshop "STRUCTURE AND CLASSIFICATION OF  $C^*$ -ALGEBRAS"  
(Münster, Germany)  
**2014** May Workshop "QUANTUM GROUPS AND OPERATOR ALGEBRAS"  
(Münster, Germany)

**2011** August 3rd International Conference QUANTUM ELECTRODYNAMICS AND STATISTICAL PHYSICS (Kharkov, Ukraine)  
**2010** June 26th Workshop "FOUNDATIONS AND CONSTRUCTIVE ASPECTS OF QFT" (Münster, Germany)  
**2010** May ANALYTIC AND ALGEBRAIC METHODS IN PHYSICS VI (Prague, Czech Republic)  
**2009** October ALGEBRA, GEOMETRY, AND MATHEMATICAL PHYSICS (Bedlewo, Poland)  
**2009** September THE FOURTH INTERNATIONAL CONFERENCE ON P-ADIC MATHEMATICAL PHYSICS (Hrodna, Belarus)  
**2009** June SYMMETRY IN NONLINEAR MATHEMATICAL PHYSICS (Kiev, Ukraine)  
**2009** May ANALYTIC AND ALGEBRAIC METHODS V (Prague, Czech Republic)  
**2008** December 100th STATISTICAL MECHANICS CONFERENCE (Rutgers, USA)  
**2008** July SUMMER SCHOOL AND CONFERENCE ON MODERN MATHEMATICAL PHYSICS (Belgrade, Serbia)  
**2007** May 97th STATISTICAL MECHANICS CONFERENCE (Rutgers, USA)  
**2004** July-August SIMONS WORKSHOP IN MATHEMATICS AND PHYSICS (Stony Brook, USA)  
**2001** July XV Max Born Symposium SCHROEDINGER OPERATORS, RANDOM POTENTIALS AND SINGULAR PERTURBATIONS (Wroclaw, Poland)  
**2000** July INTERNATIONAL CONFERENCE ON SUPERSYMMETRY AND QUANTUM FIELD THEORY 75<sup>th</sup> Birthday of D. V. Volkov (Kharkov, Ukraine)  
**1999** July INTERNATIONAL CONFERENCE ON SUPERSYMMETRY AND QUANTUM SYMMETRIES in the memory of V. I. Ogievetsky (Dubna, Russia)  
**1999** July INTERNATIONAL CONFERENCE STRINGS-99 (Potsdam, Germany)  
**1999** August INTERNATIONAL CONFERENCE ON QUANTUM GRAVITY AND SUPERSTRINGS (Dubna, Russia)  
**1998** August INTERNATIONAL CONGRESS OF MATHEMATICIANS (Berlin, Germany)  
**1997** January INTERNATIONAL SEMINAR ON SUPERSYMMETRY AND QUANTUM FIELD THEORY in memory of D. V. Volkov (Kharkov, Ukraine)  
**1997** August INTERNATIONAL CONFERENCE ON SYMMETRY METHODS IN PHYSICS (Dubna, Russia)  
**1997** August INTERNATIONAL ALGEBRAIC CONFERENCE dedicated to the memory of L. M. Gluskin (Slavyansk, Ukraine)  
**1996** June SUPERSYMMETRY-96 (College Park, MD)  
**1996** June INTERNATIONAL CONFERENCE ON HIGHER HOMOTOPY STRUCTURES IN MATHEMATICAL PHYSICS (Poughkeepsie, NY)  
**1995** June CRACOW SCHOOL OF THEORETICAL PHYSICS (Zakopane, Poland)  
**1995** July INTERNATIONAL CONFERENCE ON GAUGE THEORIES, APPLIED SUPERSYMMETRY AND QUANTUM GRAVITY (Leuven, Belgium)  
**1995** July EUROPEAN SCHOOL OF GROUP THEORY (Valladolid, Spain)  
**1994** July INTERNATIONAL CONGRESS ON MATHEMATICAL PHYSICS (Paris)  
**1993** June INTERNATIONAL SCHOOL ON THEORETICAL AND MATHEMATICAL PHYSICS (Saint-Francois, Guadeloupe)

## VISITS & TALKS (outside FSU)

### 2014

Münster, Germany (Inst. Math.)-*J. Cuntz, W. Werner, R. Wulkenhaar*  
Salerno, Italy (Univ. Salerno, Math. Dept.)-*C. Delizia*

### 2012

Hangzhou, China (Zhejiang Univ.)-*Fang Li*  
Davis, USA (UC, Math. Dept.)-*M. Mulase, A. Schwarz*  
Riverside, USA (UC, Math. Dept.)-*M. Lapidus*  
Honolulu, USA (Univ. Hawaii, Phys. Dept.)-*X. Tata*  
Syracuse, USA (Univ. Syracuse, Phys. Dept.)-*K. Wali*  
Medford, USA (Tufts Univ., Inst. Cosmology)-*A. Vilenkin*  
Boston, USA (NEU, Math. Dept.)-*A. Martsinkovsky*

### 2011

Chicago, USA (UIC, Math. Dept.)-*L. Kauffman*  
Minneapolis, USA (Univ. Minnesota, Phys. Dept.)-*M. Shifman*  
Philadelphia, USA (UPenn, Math. Dept.)-*J. Stasheff*  
Piscataway, USA (Rutgers, Math. Dept.)-*G.A. Goldin*  
Argonne, USA (ANL, HEP Division)-*C. Zachos*  
New York, USA (CUNY Graduate Center, Math. Dept.)-*A. Douglas*

### 2010

Münster, Germany (Inst. Math.)-*J. Cuntz, W. Werner,*  
Heidelberg, Germany (Inst. Theor. Phys.)-*G. Wolschin, J. Kupsch,*  
Wien, Austria (ESI, Univ.)-*H. Grosse,*  
Prague, Czech. Rep. (Inst. Nucl. Phys., Rez)-*M. Znojil,*  
Wien, Austria (Inst. Theor. Phys., TUW)-*D. Grumiller,*  
Padova, Italy (Inst. Nucl. Phys.)-*M. Tonin,*  
Naples, Italy (Inst. Phys.)-*G. Esposito,*  
Florence, Italy (Inst. Nucl. Phys.)-*R. Casalbuoni, L. Lusanna,*  
Rome, Italy (Inst. Theor. Phys.)-*M. Bianchi*

### 2009

Warsaw, Poland (Inst. Math.)-*S. Woronowicz, P. Urbanski,*  
Lodz, Poland (Univ.)-*B. Broda,*  
Wroclaw, Poland (Inst. Theor. Phys., IFT)-*J. Lukierski,*  
Zielona Gora, Poland (Inst. Phys., IF)-*M. Dudek,*  
Szczecin, Poland (Inst. Phys., IF)-*M. Dabrowski,*  
Krakow, Poland (Inst. Phys., IF)-*H. Arodz,*  
Prague, Czech. Rep. (Inst. Math.)-*B. Burgstaller*  
Potsdam, Germany (AEI)  
Dresden, Germany (Forschungszentrum Dresden-Rossendorf)-*U. Günther*

### 2008

Piscataway, USA (Rutgers Univ.)-*G. Goldin,*  
Medford, USA (Tufts Univ.)-*A. Vilenkin,*  
Cambridge, USA (MIT)-*E. Lomon,*  
New York, USA (CUNY)-*S. Catto,*  
Köln, Germany (Inst. Theor. Phys.)-*M. Zirnbauer,*  
Belgrade, Serbia (Inst. Phys., IF)-*B. Dragovich,*  
Nic, Serbia (Inst. Phys.)-*M. Ciric,*

Trieste, Italy (SISSA)-*L. Bonora*, Bielefeld, Germany (Univ.)-*C. Ringel*,  
 Bonn, Germany (Phys. Inst.)-*V. Rittenberg*  
**2007**  
 Princeton, USA (Inst.Adv.Study)-*S. Adler*,  
 Chicago, USA (Univ.Illinois,UIC)-*L. Kauffman*,  
 Medford, USA (Tufts Univ.)-*A. Vilenkin*,  
 Cambridge, USA (MIT)-*E. Lomon*,  
 Baltimore, USA (John Hopkins Univ.)-*J. Bagger*,  
 Philadelphia, USA (Univ. Penn.)-*J. Stasheff*  
**2006**  
 Münster, Germany (Inst. Math.)-*J. Cuntz*,  
 Bielefeld, Germany (Univ.)-*C. Ringel*  
**2004**  
 Princeton, USA (Inst. Adv. Study)-*S. Adler*,  
 Baltimore, USA (John Hopkins Univ.)-*J. Bagger*,  
 Stony Brook, USA (SUNY, YITP)-*W. Siegel*,  
 Minneapolis, USA (Inst. Theor. Phys.,FTPI-UMN)-*M. Shifman*,  
 Krakow, Poland (Jagellonian Univ.)  
**2003**  
 Wroclaw, Poland (Inst. Theor. Phys.,IFT)-*W. Marcinek, J. Lukierski*  
**2001**  
 Göttingen, Germany (ISF)-*F.Müller-Hoissen*,  
 Hangzhou, China (Zhejiang Univ.)-*F. Li*,  
 Shanghai, China (Inst. Phys.)-*Y.-L. Xu*,  
 Wroclaw, Poland (Inst. Theor. Phys., IFT)-*W. Marcinek, , J. Lukierski*  
 Prague, Czech. Rep. (CTU)-*C. Burdik*  
 Rez, Czech. Rep. (Inst. Nucl. Phys.,NPI)-*M. Znojil*,  
 Mannheim, Germany (Univ.)-*M.Schlichenmaier*  
**2000**  
 Warsaw, Poland (Inst. Math.)-*J. Okninski*,  
 Wroclaw, Poland (Inst. Theor. Phys., IFT) -*W. Marcinek, J. Lukierski*  
**1999** Potsdam, Germany (AI)  
**1998** Berlin, Germany (HMI)-*W. Von Oertzen*,  
 Berlin, Germany (Tech. Univ.),  
 Krakow, Poland (Inst. Nucl. Phys.)  
**1994-1996**  
 Kaiserslautern, Germany (Univ.)-*W.Rühl*  
**1994**  
 St.Andrews, UK (Univ.)-*J. Howie*  
 Orsay, France (Inst. Nucl. Phys.)-*A. Comtet*  
**1993**  
 München, Germany (Max-Planck-Inst. für Physik)-*J.Wess*,  
 Lyon, France (Inst. Phys.)  
 Kaiserslautern, Germany (Univ.)-*W.Rühl*

## PUBLICATIONS

More than 100 articles and reports including *Journal of Physics*, *Communications in Mathematical Physics*, *Journal of Mathematical Physics*, *Communications in Algebra*, *Semigroup Forum*, *Letters in Mathematical Physics*, *Theoretical and Mathematical Physics*; *Journal of Lie Theory*, *International Journal of Geometric Methods in Modern Physics*, *Linear Algebra and Applications* (full list is on homepage and arxiv.org).

Monograph: S. Duplij "*Semisupermanifolds and semigroups*", Kharkov: Krok, 2000, 220pp. (Second Print by CreateSpace Pubs.: Charleston, 2013, available from Amazon).

## RESEARCH INTERESTS

**Supersymmetry** and semigroups; supermatrix models; superconformal symmetry; super Riemann surfaces; supermanifolds; supersymmetric quantum mechanics; supergravity.

**Quantum groups** and supergroups; Hopf algebras and Yang-Baxter equation; representations of quantized algebras, polyadic algebras and groups, Cuntz algebras.

**Nonlinear methods** in (super)electrodynamics, Yang-Mills, gravity and multigravity.

**Constrained systems and gauge theories**, application of differential equations.

### Secondary:

Symmetries of genetic code and DNA sequences; Helicity formalism in quantum chromodynamics; Polarization phenomena in low energy nuclear physics; Rutherford backscattering method in ion implantation; Nonstationary radio noise.

## SPECIAL SKILLS

**Languages:** English (perfect), German (speaking), Russian (native), Ukrainian (native).

**Programming:** Perl, Mathematica, Maple, LaTeX, BibTeX, HTML

**PC platforms:** MS-DOS, Windows XP, Windows 2003, Windows Vista, Unix, Linux

**PC software:** Scientific Work Place, dBase, Adobe products, Microsoft Excel, Word, Photoshop, Dreamweaver, PowerPoint

## MASS MEDIA & SOCIAL LIFE

TV programs and interviews at the Kharkov TV studios (regularly)

Scientific program "Logos" (regular interviews at the Central Kharkov radio station)

Articles about me: in USA (SCOOP USA, Gazette, Library of Congress); in Germany, in Ukrainian press (regularly)

AvH Fellows meetings/workshops at the German Embassy in Ukraine, Kiev (regularly)

## ADDITIONAL PERSONAL INFORMATION

Date and place of birth: August 29, 1954, Chernyshevsk, Russia.

Citizenship: Ukraine.

## LITERARY & MUSICAL ACTIVITY

Writing poetry and short stories

More than 200 publications in USA/UK professional literary magazines (in English).

Poetry books - including

IN CRY (Mitez, Kharkov, 1996) bilingual English/Russian

ANGEL (1996), ALIEN (1995), DREAM (1994) (in English);

REFLEXOES 1993 (in Portuguese)

DASH-DOTTED (Cambridge, MA, 2012) bilingual English/Russian poetry (available from Amazon).

SUPERMANIFOLD OF LIFE (Cambridge, MA, 2014) multilingual poetry and short prose in 9 languages (available from Amazon).

### Playing guitar and composing songs

*CD audio albums of songs:* BLITZ (Heidelberg, 1995), MOTIFS OF YEARS (Heidelberg, 1996), SUPERMANIFOLD OF LIFE (Houston, 2007)

*MC audio album of songs:* BLITZ (GEMA, Berlin, 1996)

*CD audio album of poems:* SUPERMANIFOLD OF LIFE (Kharkov, 2004), professional reading in English by T. Kudryashova.

### Live art performances

*1994 July* INTERNATIONAL CONGRESS OF ARTS AND COMMUNICATIONS (Edinburgh, UK) — poetry reading in English

*1994 December* SMALL PRESS BOOK FAIR (New York, NY) — poetry reading in English and Russian

*1994 December* PenRose PUBLISHING Co. (Mystic Island, NJ) — poetry reading in English and Russian

*1995 July* University of Valladolid Residence (Valladolid, Spain) — poetry reading with own songs to the guitar in English and Russian

*1995 July* LA CLAVE MUSIC AND POETRY CLUB (Madrid, Spain) — poetry reading with own songs to the guitar in English and Russian with Spanish translation

*1995 August* SYMPOSIUM OF INTERNATIONAL SOCIETY OF POETS (Washington, D.C.) — poetry reading and performance of literary works

*1995 August* RAVEN POETRY CLUB (Baltimore, MD) — poetry reading in English

*1995 August* SECOND CHURCH OF PONCE (Ponce, Puerto Rico) — poetry reading with own songs to the guitar in English and Russian with Spanish translation

*1995 August* THE LIBRARY OF CONGRESS (Washington, D.C.) — poetry reading with own songs to the guitar (in English and Russian) at the special Russian Table

*1995 August* ROCK CREEK GALLERY (Washington, D.C.) — poetry reading with own songs to the guitar in English and Russian

*1996 June* WASHINGTON POETS WORKSHOP'S annual reading (Reston Community Center, Washington, DC) — poetry reading and songs to the guitar in English and Russian

*1996 June* ALBANY POETRY CLUB (Albany, NY) — poetry reading and songs to the guitar in English and Russian

*1996 June* MARY PICKFORD THEATER at THE LIBRARY OF CONGRESS (Washington, DC) — poetry reading and songs to the guitar in English and Russian

*1996 June* RAVEN POETRY CLUB (Baltimore, MD) — songs to the guitar in English

*1996 December* FEUDENHEIM HARMONIKA CLUB (Mannheim, Germany) — songs to the guitar in Russian

*1999 May* LITERARY CLUB, Kharkov State University (Kharkov, Ukraine) — poetry reading and songs to the guitar in English and Russian

*2003 May* LITERARY CLUB (Wroclaw University, Poland) — poetry reading in English and Russian

*2007 May* MINDPUDDLES GALLERY (Houston, TX) — poetry reading and songs to the guitar in English and Russian

*2007 May* BOWERY POETRY CLUB (New York, NY) — poetry in English and Russian