

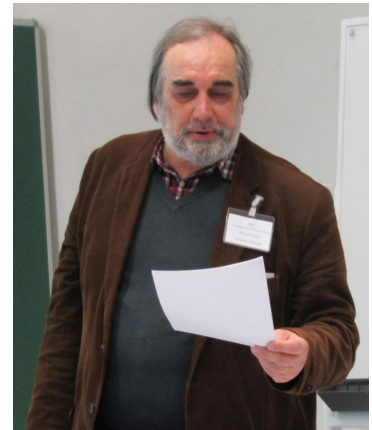
CURRICULUM VITAE

Stepan Douplii

Name: **Stepan Douplii**

Publishing name: **Steven Duplij**

Cyrillic name: **Степан Анатольевич Дуплий**



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- 48159 Münster, Germany

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SUMMARY

Senior Scientist with more than forty years of research experience in cryptography, quantum computing, algebraic structures, coding-related mathematics, and mathematical physics.

Author of 210 scientific publications, including nine monographs with IOP Publishing, Springer, Kluwer, and Nova.

Extensive background in polyadic algebraic systems, quantum information, mathematical modeling, and signal processing.

Long-term research experience in Germany (WWU Münster, CIT; ERC projects; Alexander von Humboldt Fellowships).

Strong international profile: USA (Fulbright), China (Visiting Research Fellow), CERN (CMS Collaboration).

Fluent in English, strong German, native Russian/Ukrainian, spoken Italian.

PERSONAL INFORMATION

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

Citizenship: Ukraine. Marital status: married, wife is EU citizen. Nonsmoking.

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

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

- 2025-2026** Visiting Research Fellow (Scientific Grant) Yantai Research Institute, Harbin Engineering University, Harbin, China
Research in cryptography, quantum computing, algebraic structures, and signal processing.
- 2025–present** Affiliated Researcher (Hosting Agreement) Center for Information Technology (CIT), University of Münster, Germany
Continued collaboration in cryptography, quantum computing, and mathematical physics.
- 2019-2025** Scientific Researcher at the Center of Information Technology (CIT), Universität Münster, Münster, Germany
Research in quantum information, cryptography, algebraic structures, and mathematical modeling; participation in ERC-funded projects.
- 2016** Lecturer in Mathematics, Bochum University of Applied Sciences, Germany
- 2014-2016** Scientific Researcher at the Mathematisches Institut, Universität Münster, Münster, Germany
- 2012** Lecturer in Mathematics, Rutgers University, Piscataway, USA
- 2011-2012** Visiting Fulbright Scholar, Rutgers University, USA
- 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
- 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

- 2025-2026** Scientific Grant, Yantai Research Institute, Harbin Engineering University, Harbin, China (Host: Qiang Guo)

2015-2016 European Research Council Grant at University of Münster (Host: J. Cuntz)
2010 Alexander von Humboldt Fellowship at University of Münster (Host: J. Cuntz)
2011-2012 Fulbright Scholar Program at the Rutgers University,
 Piscataway, USA (Host: G. A. Goldin)
2010 Alexander von Humboldt Fellowship at University of Münster (Host: J. Cuntz)
2008 Alexander von Humboldt Fellowship at University of Köln (Host: M. Zirnbauer)
2007 American Physical Society Travel Grant at John Hopkins University
 (Host: J. Bagger)
2005-2006 Alexander von Humboldt Fellowship, University of Münster (Host: J. Cuntz)
2004 Simons Foundation Travel Grant (Stony Brook, USA)
2001 Alexander von Humboldt Fellowship at Max-Planck-Institute for Dynamics
 and Self-Organization, Göttingen (Host: F. Müller-Hoissen)
2001 National Natural Science Foundation of China Grant at Zhejiang University,
 Hangzhou (Host: Fang Li)
1994-1997 Alexander von Humboldt Fellowship at the Physics Department,
 University of Kaiserslautern, Kaiserslautern, Germany (Host: W. Rühl)

SCIENTIFIC PUBLICATIONS

In total: **210** publications, among them 9 books and 201 articles in
*Physical Review, 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, etc.* Full lists are on my [homepage](https://www.uni-muenster.de/IT.StepanDouplii/Duplij_publications-(1980-2026)-full.pdf)
[https://www.uni-muenster.de/IT.StepanDouplii/Duplij_publications-\(1980-2026\)-full.pdf](https://www.uni-muenster.de/IT.StepanDouplii/Duplij_publications-(1980-2026)-full.pdf)

Scientific Books (available on [Amazon](#), [Barnes&Noble](#), etc.):

1. S. Duplij, R. Vogl, “*Innovative Quantum Computing*”, IOP Publ., Bristol-London, 2023, 178 pp.
2. S. Duplij, “*Polyadic Algebraic Structures*”, IOP Publ., Bristol-London, 2022, 461 pp.
3. S. Duplij and M.L. Walker, eds, “*Selected Topics in Gravity, Field Theory and Quantum Mechanics*”, MDPI Books, Basel, 2022, 348 pp.
4. S. Duplij, “*Exotic Algebraic and Geometric Structures in Theoretical Physics*”, Nova Publishers, New York, 2018, 410 pp.
5. S. Duplij, “*Supersymmetry, Quantum Groups, Multigravity and Singulaer Theories*”, Central West Publ., Australia, 2018, 254 pp.
6. S. Duplij, W. Siegel, and J. Bagger, eds., “*Concise Encyclopedia of Supersymmetry And Noncommutative Structures In Mathematics And Physics*”, Kluwer Academic Publishers, Dordrecht-Boston-London, 2004, 584 pp. (Second printing, Springer Science and Business Media, Berlin- New York-Heidelberg, 2005).
7. S. Duplij and J. Wess, eds., “*Noncommutative Structures in Mathematics and Physics*”, Kluwer, Dordrecht, 2001, 493 pp.
8. S. Duplij and V. G. Zima, eds., “*Supersymmetric Structures in Mathematics and Physics*”,

UkrINTI, Kiev, 2000, 262 pp.

9. S. Duplij “*Semisupermanifolds and Semigroups*”, Kharkov: Krok, 2000, 220 pp. (Second Print by CreateSpace Publ.: Charleston, 2013).

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*

2018 Invited Editor at *World Scientific Publishing Co*

Reviewing:

1998-now *Zentralblatt Mathematik*, Karlsruhe-Berlin, Germany

2005-now *Journal of Zhejiang University. Science*, Hangzhou, China

2007-now AIP, Melville, USA

2010-now *Reports of Mathematical Physics*, Warsaw, Poland

2012-now *Advances in Mathematical Physics*, New York, USA

2016-now *Modern Physics Letters A*, World Scientific, Singapore

2017-now *International Journal of Modern Physics B*, World Scientific, Singapore

2014-now *Advances in Applied Clifford Algebras*, Springer, Heidelberg, Germany

2015-now *Hindawi Publishing Co.*, London, UK

2018-now *Symmetry*, Basel, Switzerland

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

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 America, Encyclopedia of Modern Ukraine, Mathematical Portal (Math-Net), MathSciNet (American Mathematical Society), Academic Genealogy of Theoretical Physicists, Mathematics Genealogy Project, Wikipedia (UA), Google Scholar, Microsoft Academics, Scopus, Semantic Scholar, Zmath, ORCID, SciProfiles.

CONFERENCE ORGANIZING

2017 December Workshop *Supergeometry And Applications* (Luxembourg), as a member of Advisory Board

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 **30** international conferences, workshops, schools and seminars in USA, Germany, France, UK, Poland, Spain, Czech Republic, Russia, China, Ukraine.

VISITS & TALKS (names)

S. Adler, H. Arodz, M.A. Aukhadiev, J. Bagger, M. Bianchi, L. Bonora, B. Broda, C. Burdik, R. Casalbuoni, S. Catto, Jiejing Cheng, M. Ciric, A. Comtet, J. Cuntz, M. Dabrowski, C. Delizia, A. Douglas, B. Dragovich, W. Dudek, G. Esposito, P. Etingof, A.M. Gal'mak, D.V. Gal'tsov, G.A. Goldin, S.A. Grigoryan, H. Grosse, D. Grumiller, Qiang Guo, U. Günther, L. Kauffman, R. Kotiuga, M.I. Krivoruchenko, J. Kupsch, M. Lapidus, M.I. Levchuk, Fang Li, Kang Li, E. Lomon, J. Lukierski, L. Lusanna, W. Marcinek, A. Martsinkovsky, M. Mulase, F. Müller-Hoissen, Chi-Keung Ng, W. Von Oertzen, J. Okninski, N. Poncin, A.Ya. Radyno, M. Schlichenmaier, A. Schwarz, M. Shifman, W. Siegel, G.L. Stavraki, C. Ringel, V. Rittenberg, W. Rühl, J. Stasheff, X. Tata, M. Tonin, P. Urbanski, A. Vilenkin, K. Wali, J. Wess, G. Wolschin, S. Woronowicz, R. Wulkenhaar, Yun-Long Xu, Zheng Yu, C. Zachos, M. Zirnbauer, M. Znojil.

RESEARCH INTERESTS

Cryptography and signal processing.

Quantum computing and quantum information.

Coding theory and algebraic structures.

Polyadic algebraic structures and their applications in cryptography.

Mathematical methods in secure communication systems.

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

Quantum groups and supergroups; weak Hopf algebras and Yang-Baxter equation; representations of quantized algebras, new actions of quantum algebras on quantum spaces.

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

Constrained systems and gauge theories, quantum chromodynamics and gravity.

Secondary:

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

SCIENTIFIC RESULTS AND INNOVATIVE IDEAS

with direct clickable links to articles

https://www.researchgate.net/publication/385046446_Abstract_of_my_life

https://www.uni-muenster.de/IT.StepanDouplii/Duplij_SciRes2026.pdf

SKILLS

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

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

PC platforms: MS-DOS, Windows, 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

<https://www.uni-muenster.de/IT.StepanDouplii/old/TV-RADIO>

Scientific program “Logos” (interviews at the Central Kharkov radio station).

Articles about S. Duplij: in USA (SCOOP USA, Gazette, Library of Congress); in Germany, in Ukrainian press.

Alexander von Humboldt Fellows meetings/workshops.

LITERARY & MUSICAL ACTIVITY

Writing poetry and prose

More than [200 publications](#) in USA/UK professional literary magazines in English, German, French, Spanish, etc. (the full list is on homepage), and **14** literary books (available on [Amazon](#), [Barnes&Noble](#), etc.). Literary presentations:

<https://www.uni-muenster.de/IT.StepanDouplii/old/duplij-presentations.htm>

Playing guitar and composing songs

Professional CD audio albums of songs (for mp3's see [Music Site](#)):

“Blitz” (Heidelberg, 1995), “Motifs of years” (Heidelberg, 1996),

“Supermanifold of life” (Houston, 2007),

MC audio album of songs: “Blitz” (GEMA, Berlin, 1996).