**CURRICULUM VITAE**

**Prof. Dr. Sergey V. Chervon**

**Date of Birth:**  **17 June 1953; RussiaCitizenship:** **RussianMarital Status:** **Married**

***Education:***

1998: **Doctor of Science.** Theoretical Physics, 1998.   
Department of Theoretical Physics, Tomsk State University, Tomsk, Russia.

Title: “Non-linear fields in the theory of gravity and cosmology. Geometrical methods of the investigations and exact solutions.”

1986: **Ph.D.** Theoretical and Mathematical Physics, 1986.

Department of General Relativity and Gravitation, Kazan State University, Kazan, USSR.

Title: “Exact solutions of non-linear sigma models coupled to a gravitational field”.

Advisors: Profs. Kaigorodov V.R., Ivanov G.G.

1979: **M.Sc.** in Physics, Kazan State University, Physics Faculty, Department of General Relativity and Gravitation, Kazan, USSR.

Title: “Self-gravitating non-linear scalar fields in General Relativity”.

Advisor: Prof. Ivanov G.G.

***Research field:***

GRAVITATION, COSMOLOGY, ASTROPHYSICS.

General Relativity; Modified gravity; Braneworld Gravity and Cosmology; Isometric Embedding and Harmonic Maps; Black Holes and Wormholes; Early and Later Inflation; Present Acceleration of the Universe; Cosmological Perturbations; Power Spectrum and Large Scale Structure; Dark Matter and σCDM model; Dark Energy and Chiral Cosmological Model; Gravitational Lenzing.

***Professional experience:***

2009- Present: Full Professor of Ulyanovsk State Pedagogical University (USPU),  
 Department of Physics and Technical Disciplins.2009- 2014: Head of the Laboratory of Theoretical Physics of USPU.2014- Present: Head of the Laboratory of Gravitation, Cosmology, Astrophysics of USPU.

2013- Present: Honorary Research Professor of KwaZulu-Natal University, Durban, South   
 Africa.

Jan.2014-

March 2015: Research Professor of I. Kant Baltic Federal University, Kaliningrad, Russia.

Feb. - May. 2017: Visiting Professor of KwaZulu-Natal University, Durban, South Africa.

Feb. - May. 2016: Visiting Professor of KwaZulu-Natal University, Durban, South Africa.

Feb. - Apr. 2015: Visiting Professor of KwaZulu-Natal University, Durban, South Africa.

Oct. - Nov. 2014: Visiting Professor of KwaZulu-Natal University, Durban, South Africa.

Oct. - Dec. 2013: Visiting Professor of KwaZulu-Natal University, Durban, South Africa.

Sep. - Nov. 2012: Visiting Professor of KwaZulu-Natal University, Durban, South Africa.

Oct. - Dec. 2011: Visiting Professor of KwaZulu-Natal University, Durban, South Africa.

Mar. - May 2009: Visiting Professor of Centre of Theoretical Physics, Jamia Millia University,

New Delhi, India.

Jun. - Sept.2008: Visiting Professor of KwaZulu-Natal University, Durban, South Africa.

Nov. 2007- Feb. 2008: Visiting Professor of Inter-University Centre for Astronomy and   
 Astrophysics, Pune, India.2003 – 2004: Visiting Professor at the Universidade Federal da Paraiba, Joao Pessoa, Brazil.

1998 - 2009: Full Professor of Ulyanovsk State University, Department of Theoretical Physics.1998 - 2000: Dean of Physical-Technical Faculty,   
 Director of Russian-German Institute of Ulyanovsk State University (UlSU).

1996 - 1998: Associate Professor of Ulyanovsk State University   
 (renamed from Moscow State University in Ulyanovsk),   
 Department of Theoretical and Mathematical Physics.

1989 - 1996: Associate Professor of Moscow State University (MSU) in Ulyanovsk,   
 Department of Theoretical and Mathematical Physics.1992 - 1994: Visiting Scientist of Inter-University Centre for Astronomy and Astrophysics,   
 Pune, India.1990 - 1991: Chairman of the Department of Physics and Mathematics, MSU.1981 - 1989: Lecturer, Department of Mathematics, Kazan Chemical-Technology Institute,   
 Kazan.

1979 - 1981: Lecturer, Department of Physics, Kazan State Medical Institute, Kazan.

***Teaching record:***

***Ulyanovsk State Pedagogical University***

*September 2009 –June 2018:*

Mathematical Physics

Thermodynamics and Statistical Physics

Quantum Mechanics

Theory of Real Variable Function

Singularity and Black Holes (Special master’s course)

Astrophysics (Special master’s course)

Cosmology (Special master’s course)

General Relativity (Special master’s course)

Group-invariant methods for resolving equations (Special master’s course)

***Ulyanovsk State University***

*September 2004 –June 2011:*

Theory of complex variable functions (Physics faculty)

Thermodynamics and Statistical Physics (Physics Faculty)

Astrophysics (Physics Faculty)

Astrophysics and Cosmology (Physics Faculty)

General Relativity (Post-graduate course)

Relativistic Astrophysics and Cosmology (Post-graduate course)

Physics of cosmic plasma (Post-graduate course)

Cosmology (Post-graduate course)

***Universidade Federal da Paraiba,***

***Joao Pessoa, Brazil***

*September 2003 –June 2004:*

Quantum mechanics (Post-graduate course)

***Moscow State University in Ulyanovsk –   
Ulyanovsk State University (since 1996)***

*February 1994 –June 2003:*

Thermodynamics and Statistical Physics (Physics Faculty) Astrophysics and Cosmology (Physics Faculty)

Electrodynamics (Physics Faculty)

Mathematical Analysis (Physics Faculty) Mathematical Physics (Physics Faculty)

Theoretical Physics (Mathematics Faculty)

Cosmological Perturbations and Large Scale Structure formation

(Post-graduate course/special seminar) (Physics Faculty)

Inflationary Cosmology (Post-graduate course/special seminar) (Physics Faculty)

***Poona University, Pune, India***

*December 1993 - January 1994:*

Quantum Mechanics, (M.Phil course, Physics Faculty)

Classical Mechanics (M.Phil course, Physics Faculty)

***Moscow State University in Ulyanovsk***

*September 1989 - May 1993:*

Mathematical Physics (Physics Faculty)

Quantum Mechanics (Mathematics Faculty)

Differential Geometry and Tensor's Analysis (Physics Faculty)

Differential Geometry and Topology (Mathematics Faculty)

Mathematical Analysis (Physics Faculty)

Mathematical Physics (Physics Faculty)

Mathematical Analysis (Mathematics Faculty)

Groups-Theoretical Methods in Non-linear Field Theories

(Post-graduate course/special seminar)

***Kazan Chemical-Technology Institute***

*February 1981 – February 1989:*

Assisting in courses on Mathematical Analysis,

Linear Algebra and Analytical Geometry, Differential Equations, Complex Analysis.

***Kazan State Medical Institute***

*September 1979 – February 1981:*

Assisting in courses on General Physics and Mathematics.

***Awards and Distinctions.***

1997: The First Prise of Scientific Council of Ulyanovsk State University.

1997: Vice-Chairman of International OC of Ulyanovsk international School-Seminar   
 “Problems of Theoretical Cosmology **UISS-97**”. Editor of Abstracts of the UISS-97.  
1998 - Present: The member of the Editorial Board of International quarterly Journal   
 “Gravitation and Cosmology.”

2000: Branch Award: The Gratitude of the Ministry of Education of Russian Federation.

2000: Vice-Chairman of International OC and Chairman of LOC of the Second Ulyanovsk   
 International School-Seminar “Problems of Theoretical Cosmology **UISS-2000**”.

Editor of Abstracts of the UISS-2000.

1997-2000: The Scientific Leader of the Project “Investigation of an effective non-linear sigma   
 model in cosmology of the Early Universe” supported by Russian Foundation for Basic  
 Research

2002: Member of the International OC of the International School-Seminar on Dark Matter,   
 Dark Energy and Gravitational Lenzing. Moscow, Russia, June 19-23, 2002.  
1999-2001: The Scientific Leader of the Project «String Gravity, it as dark matter and  
 opportunity of observation” supported by Federal Program “Universities of Russia – Basic  
 Research”.

2000-2003: The Scientific Leader of the Project “Cosmological models of global evolution of the   
 Universe and computer simulation of co-moving matter's evolution and structure of   
 substance” supported by RFBR.

2003: Co-Chairman of International OC and Chairman of LOC of The Third Ulyanovsk   
 International School-Seminar “Problems of Theoretical and Observational Cosmology   
 **UISS-2003**”.

2006-2007: The Scientific Leader of the Project "Translation of the book by R. Wald "General  
 Relativity" into Russian" supported by RFBR.

2008- 2017: Associate Editor (in Gravitation, Cosmology and Astrophysics) of the International  
 Journal “Advanced Science Letters”. (http://www.aspbs.com/science)

2008-2009: The Scientific Leader of the Joint Russian-Indian Project “Brane world cosmology  
 with quintessence, phantom fields, dark matter and dark energy, effectively described by   
 non-linear sigma models“ supported by RFBR.

2008: Branch Award: The Gratitude Diploma Ministry of Education of Russian Federation.

2011: The Scientific Leader of RFBR project, № 11-02-06052: “Organization and holding

14- Russian Gravitational Conference - International Conference on Gravitation,   
 Cosmology and Astrophysics “RUSGRAV-2011".

2011: The Scientific Leader of RFBR project, № 11-02-06806: “Organization and holding 4-the   
 international school-seminar "Problems of theoretical and observational cosmology  
 “UISS-2016".

2012- 2017: Associate Editor (in Gravitation, Cosmology and Astrophysics) of the International  
 Journal “Quantum Matter”. (http://www.aspbs.com/science)

2012, October. Government Award: Honorary Educationalists of Higher Professional Education  
 of Russian Federation.

2013: Honorary Research Professor of of KwaZulu-Natal University, Durban, South Africa.

2014: Research Professor of I. Kant Baltic Federal University, Kaliningrad, Russia.

2013: The Scientific Leader of the project № 2.7621.2013 of the State order MES RF: “Self-  
 gravitating scalar fields: new methods of investigations and exact solutions”.

2014-2016: The Scientific Leader of the project № 2014/391 of the State order MES RF: “The  
 coupling chiral cosmological fields as the source of Universe accelerated expansion”.

2016: The Scientific Leader of RFBR project, № 16-02-20329: “Organization and holding 4-the   
 international school-seminar “Problems of theoretical and observational cosmology   
 “UISS- 2016”.

***Addresses:****(i) Permanent address:*

Department of Physics and Technical Disciplines,

Faculty of Physical-Mathematical and Technological Education,

Ulyanovsk State Pedagogical University,

100 years V.I. Lenin’s Birthday Square, 4,

Ulyanovsk 432071, Russia

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*(ii) Residence:*

Radishchev Str., 30-4,

Ulyanovsk, 432011, Russia.

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**List of Chosen Publications 2012-2017**

**Dr. Sc., Prof. Sergey V. Chervon**

**Research Publications**

(E: English; R: Russian)

1. Exact and approximate solutions in the Friedmann cosmology (Co-author: I.V. Fomin). Russian Phys. J., NY, v.60, issue 30, pp. 427-440, 2017.

2. Exact solutions for scalar field cosmology in f(R) gravity (Co-authors: S.D. Maharaj, R. Goswami, A.V. Nikolaev). Modern Physics Letters A, v.32, No 30, p. 1750164, 2017.

3. A new approach to exact solutions constructions in scalar cosmology with a Gauss-Bonnet term (Co-author: I.V. Fomin). Modern Physics Letters A, v.32, No 30, p. 1750129, 2017.

4. Erratum to development of Zeldovcih's approach for cosmological distances measurement in the Friedmann Universe (Co-author: A.V. Nikolaev). Eur. Phys. J. C, v.77, No 7, p.446, 2017.

5. New exact solutions for a chiral cosmological model in 5D EGB Gravity (Co-authors: S.D. Maharaj, A. Beesham, A.S. Kubasov). Gravitation and Cosmology, v. 23, No.4, pp. 375-380, 2017.

6. Exact inflation in Einstein-Gauss-Bonnet Gravity (Co-author: I.V. Fomin). Gravitation and Cosmology, v. 23, No.4, pp. 367-374, 2017.

7. Realistic cosmological measurement of distances in the Friedmann universe (Co-author: A.V. Nikolaev). Int. Journal of Modern Physics A, v. 31, Nos. 2 & 3, 1641013 (8 pages), 2016.

DOI: 10.1142/S0217751X1641013X

8. The effect of universe inhomogeneities on cosmological distance measurements (Co-author: A.V. Nikolaev). Gravitation and Cosmology, v.22, No. 2, pp. 208-211, 2016;

DOI: 10.1134/S0202289316020122

9. Development of Zeldovich’s approach for cosmological distances measurement in the Friedmann Universe (Co-author: A.V. Nikolaev). Eur. Phys. J. C (2015) 75:411

DOI 10.1140/epjc/s10052-015-3614-3

10. σCDM coupled to radiation: Dark energy and Universe acceleration (Co-authors: R.R. Abbyazov, V. Mueller). Modern Physics Letters A. - World Scientific Publishing Co., v. 30,

No. 26, 1550114 (11 pages), 2015;

DOI: 10.1142/S021773231550114X .

11(R). Dynamics of chiral cosmological fields in phantonical model (Co-authors: R.R. Abbyazov, S.V. Krjukov). Izv. Vuz. Fiz., Tomsk, v. 58, No.5, pp. 13-19, 2015.

11(E). Dynamics of chiral cosmological fields in phantonical model (Co-authors: R.R. Abbyazov, S.V. Krjukov). Russian Phys.J., NY, v.58, issue 5, p.597-605.

12. Exact Inflationary Solutions Inspired by the Emergent Universe Scenario (Co-authors: A. Beesham, S.D. Maharaj, A.S. Kubasov). International Journal of Theoretical Physics, 54:884-895, 2015;

DOI 10.1007/s10773-014-2284-5.

13(R). Scalar and Chiral Fields in Cosmology (Monography, co-authors: I.V. Fomin, A.S. Kubasov). Ulyanovsk, Ulyanovsk State Pedagogical University, 2015 – 216 P.

14. New exact cosmologies on the brane (Co-authors: A.V. Astashenok, A.V. Yurov, E.V. Shabanov, M. Sami). Astrophys. Space Sci. 353:319-328, 2014;

DOI 10.1007/s10509-014-2083-8.

15. Emergent Universe Supported by Chiral Cosmological Fields in 5D Einstein-Gauss-Bonnet Gravity (Co-authors: A. Beesham, S.D. Maharaj, A.S. Kubasov). Gravitation & Cosmology, v.20, No. 3, pp.176-181, 2014.

16. New class of cosmological solutions for a self-interacting scalar field (Co-author: A.A. Chaadaev). Russian Phys. J., New York, v.56, No.7, December, p. 725-730, 2013.

17. Unified Dark Matter and Dark Energy Description in a Chiral Cosmological Model (Co-author: R.R. Abbyazov). Modern Physics Letters A. - World Scientific Publishing Co., v. 28,

No. 8, 1350024 (19 pages), 2013;

DOI: 10.1142/S0217732313500247.

18. An emergent universe with dark sector fields in a chiral cosmological model. (Co-authors: A. Beesham, S. D. Maharaj, A.S. Kubasov). Quantum Matter, v.2, 388-395, 2013.

19. Chiral cosmological models: dark sector field description. Quantum Matter, v.2, 71-82, 2013.

20(R). Chiral Cosmological Model including Dark Energy and Dark Matter (Co-author: R.R. Abbyazov). Journal “Vestnik RUDN”, № 2, 125-138, 2013.

21(R). Methods of exact solutions construction in the two-component chiral cosmological model (Co-author: A.S. Kubasov). Proceedings of International Seminar “Nonlinear fields in the theory of gravitation and cosmology” and Russian School “Mathematics and computer modeling of fundamental objects and phenomenon”, Kazan, pp. 224-237, 2013.

22. Interaction of chiral fields of the dark sector with cold dark matter (Co-author: R.R. Abbyazov). Gravitation & Cosmology, v.18, No.4, p. 262-269, 2012.

**Educational and Methodical Publications**

23(R). Theory of functions of complex variables. (Classbooc, co-author: S.L. Velmisova) Ulyanovsk State University, Ulyanovsk, 2012. - 79 P.

24(R). Theoretical basis of the chiral cosmological model. (Classbook, co-author: R.R. Abbyazov). Ulyanovsk State Pedagogical University, Ulyanovsk, 2014. - 76 P.

25(R). The basis of f(R) theory of gravitation. (Classbook, co-authors: A.V. Nikolaev, N.A. Koshelev). Ulyanovsk State Pedagogical University, Ulyanovsk, 2015. - 38 P.

26(R). Mathematical apparatus of physics. (Textbook, co-authors: E.V. Foliadova, S.L. Velmisova, N.V. Glukhova, S.A. Grishina). Ulyanovsk, Ulyanovsk State Pedagogical University, 2016 – 275 P.