

Curriculum Vitae

Personal

Name: **Armen NERSESSIAN**

Date and place of birth: May 30, 1964, Hadrut, Armenia, USSR

Citizenship: Armenia

Marital status: married and have three daughters

Address (home): 20-10, Davidashen-2, Yerevan, 0054, Armenia

Mailing address: Yerevan State University, Department of Theoretical Physics,
A. Manoogian St., 1, Yerevan, 0025, Armenia

Position: Leading Researcher, Yerevan State University, Laboratory of Theoretical Physics,
Alex Manoogian St., 1, Yerevan 0025, Armenia

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E-mails: arnerses@ysu.am, arnerses@gmail.com

Languages spoken : Armenian, Russian, English

Education and degrees

2005 Doctor of Science in Physics (Habilitation), Yerevan State University
Thesis: "Hamiltonian and quantum mechanics inspired by field theory"

1991 Ph.D, Yerevan Physics Institute
Thesis: "Supersymmetric mechanics with even and odd Poisson brackets"
Adviser: O.M.Khudaverdian

1987 - 1989 postgraduate student, Yerevan State University, Faculty of Physics

1986 Master of Science, Yerevan State University
Thesis: "The Hamiltonian formulation of the systems with degenerate quadratic Lagrangians"
Adviser: O.M.Khudaverdian

1985 BSc, Yerevan State University
Thesis: "Axially-symmetric static multi-soliton solutions for the Einstein equations"
Adviser: V.V.Papoyan

1981 - 1986 student, Yerevan State University, Faculty of Physics, Yerevan.

Professional employment

- since 2006 Leading Researcher, Laboratory of Theoretical Physics, Yerevan State University
- 2002 - 2005 Senior Researcher, Department of Theoretical Physics, Yerevan State University
- 1995 - 2001 Senior Researcher, Bogoliubov Laboratory of Theoretical Physics,
Joint Institute for Nuclear Research, Dubna, Moscow Region, Russia
- 1992 - 1995 Researcher, Bogoliubov Laboratory of Theoretical Physics,
Joint Institute for Nuclear Research, Dubna, Moscow Region, Russia
- 1990 - 1991 Junior Researcher, Department of Theoretical Physics, Yerevan State University,
Yerevan, Armenia

Associate positions

- since 2014 Professor, Department of Mathematical Physics, Tomsk Polytechnic University, Tomsk, Russia
- 2011-2016 ICTP Senior Associate, International Centre of Theoretical Physics, Trieste, Italy
- 2005 -2009 Professor, Department of Physics, Artsakh State University, Stepanakert
- 2002 - 2007 Senior Researcher, Theory Department, Yerevan Physics Institute, Yerevan

Awards, Prizes

- **President Prize in Physics for 2010** (group leader), 02.05.2011
- “**Anania Shirakatsi**” medal, Republic of Armenia, 19.09.2008
- First Prize in Physics, XXIII All-Union Student Scientific Conference (7-11.04.1985, Novosibirsk, USSR)

Present and past interests of research

- Supersymmetric quantum mechanics
- Non-commutative quantum mechanics
- Integrable systems of classical and quantum mechanics in external gauge fields
- The systems with higher-derivative Lagrangians
- Supergeometry in equivariant cohomology and BRST quantization

Thesis advise

- **PhD Thesis**
Armen Saghatelian (2014, Yerevan Physics Institute), Vahagn Yeghikyan (2010, Yerevan Physics Institute)
- **Master Thesis**
A. Saghatelian (2011, Yerevan State University), E. Sarkissian (2008, Artsakh State University),
V. Yeghikyan (2008, Yerevan State University), H. Azatkhanian (2007, Artsakh State University),
A. Nersisyan (2006, Artsakh State University), M. Alexanian (2006, Artsakh State University)
- **Bachelor Thesis**
E. Khastyan (2015, Yerevan State University), E. Gevorgyan (2013, Yerevan State University),
D. Arustamyan (2009, Artsakh State University), D. Aghamalyan (2008, Yerevan State University),
G. Gabrielyan (2008, Artsakh State University)

Principal collaborators

O. Lechtenfeld, *Leibnitz Universität Hannover*
A. Saghatelian, *Yerevan State University*
T. Hakobyan, *Yerevan State University & Yerevan Physics Institute*
V. Yeghikyan, *Yerevan State University & Laboratori Nazionale di Frascati*
S. Krivonos, *Joint Institute for Nuclear Research, Dubna*
L. Mardoyan, *Yerevan State University*
A. Yeranyan, *Yerevan State University & Laboratori Nazionale di Frascati*
S. Bellucci, *INFN-Laboratori Nazionale di Frascati, Italy*
V. Ter-Antonyan, *Yerevan State University & Joint Institute for Nuclear Research*
O. Khudaverdian, *Manchester University & Yerevan State University*

Short-term research visits

- International Center for Theoretical Physics, Trieste, Italy
23.04-04.06.15; 07.01-01.02.14; 07.11-07.12.08; 23.10-22.12.06; 21.08-24.09.02; 30.09-01.11.00;
19.04-31.05.98; 01.07-31.07.96; 31.05-01.07.94
- Leibniz Universität Hannover
21.03-19.04.2014; 11.10-06.11.2013; 05-25.01.2012; 05-25.10.2011; 07-31.01.2010; 08-21.12.2009
- Universidade Federal de Juiz de Fora, Brazil, 22.11-20.12.2012
- Sungkyunkwan University, Suwon, Korea, 15-30.04.2012
- Joint Institute for Nuclear Research, Dubna, Russia
16-30.07.2011, 02.06-28.07.09, 22-30.01.09, 10.04-22.04.08, 30.07-12.08.06, 10.05-10.07.03
- CBPF-Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro
08.01.-07.02.08
- INFN-Laboratori Nazionali di Frascati, Italy
20.07-10.08.2014; 24.11-08.12.2010; 12-27.09.10; 14-28.04.10;
27.05-17.06.06; 21.12.05-20.01.06; 15.02-01.04.05; 27.07-12.11.04;
20.05-07.07.04; 05.12-05.02.04; 20.05-20.07.03; 24.09-21.12.02;
25.03-04.05.02; 17.09-17.10.01; 01.02-03.03.01; 01.11-01.12.00
- Leipzig University, Germany,
10.04-20.05.04; 03.03-01.06.01
- University of Kaiserslautern, Germany
15.04-30.04.00; 30.09-15.10.99
- CERN, Theory Division, Geneva, Switzerland
10.09-10.10.96
- Uppsala University, Sweden
20.11-20.12.96; 13.03-13.05.95

Grants

Active

- State Committee of Science of Armenia
Supersymmetric integrable models in low dimensions
15RF-039(2015) (Principal Investigator)

Novel integrable systems in quantum mechanics
13-1C114(2013) (Principal Investigator)
- Volkswagen Stiftung
Regional Training Center in Theoretical Physics:Bonn-Tbilisi-Yerevan
Contract nr. 86 260 (2012) (Armenian team leader)
- ICTP Network
Novel approaches to mesoscopic phenomena (Armenia-Georgia-Iran-Morocco-Turkey-Ukraine)
NET-68(2012) (Coordinator)

Expired

- Volkswagen Stiftung
Algebraic and geometric properties of (conformal) mechanics with extended supersymmetry
I/84 496 (2009) (Co-Investigator)
- State Committee of Science of Armenia

Supersymmetric integrable systems in quantum mechanics, field theory and gravity
13RF-018 (2013) (Principal Investigator)
Geometric models of two- and one-dimensional integrable systems
11-1c258 (2011) (Principal Investigator)
Mathematical models for low-dimensional quantum structures in external fields
11AB-001 (2011) (Principal Investigator)
- ANSEF - Armenian National Science and Education Foundation in New York (U.S.A.)

Spherical systems related to the rational Calogero models
PS 3501 (2014)
Conformal mechanics, Calogero models and related spherical systems
PS2908 (2012)
Geometry of curves in physics of macromolecules
PS2567 (2011)
Geometric properties of novel supersymmetric mechanics systems
PS2229 (2010) (Principal Investigator)
Geometric quantum mechanical models for nanostructures,
PS1730(2009) (Principal Investigator)

- Conventional and noncommutative quantum mechanics in the presence of magnetic field,*
 PS81(2003) (Principal Investigator)
- Quantum mechanical superintegrable systems on spaces with constant curvatures and their supersymmetrization*
 PS124-01 (2002)
- CRDF - U.S. Civilian Research and Development Foundation & NFSAT - National Foundation for Science and Advanced Technology
- Algebraic and geometric studies for condensed matter physics*
 UC 06/07 (2007)
- Quantum mechanical models for the higher-dimensional Hall effect*
 ARP1-3228-YE-04 (2005) (Co-Investigator)
- Artsakh Ministry of Education and Science
Quantum mechanics models for condensed matter physics (2007)(YSU team leader)
 - INTAS - The International Association for the Promotion of Co-operation with Scientists from the New Independent States of the Former Soviet Union
- Extended supersymmetry, strings and noncommutativity in field theory,*
 INTAS-05-7928 (YSU team leader);
- Quantization of general gauge theories,*
 INTAS-00-00262 (Dubna team leader);
- Geometry and Algebraic Structure of Gauge Systems: Theory and Applications,*
 INTAS-RFBR-95-0829 (Dubna team leader);
- Infinite Symmetries, Integrability and Superstring Theory,*
 INTAS-96-538
- Supersymmetry and quantum symmetries*
 INTAS-93-127
- “Academician University” (Tomsk State University-JINR), 1997(Co-Investigator)
 - ICFPM-International Center for Fundamental Physics in Moscow
 Prize for young scientists, 1995, 1996
 - ISF - International Science Foundation: M2I000 (1993)

Organization of conferences, workshops, advanced schools

- Workshop and School on *Selected Topics of Theoretical High Energy Physics*, 21-25.09.2015, Tbilisi
- ICTP Conference on *Recent Progress on Quantum Field Theory and String Theory*, 14-19.09.2015, Yerevan
- Workshop on Quantum Field Theory and Condensed Matter Physics, 27-28.02.2015, Yerevan (Chairman)
- Workshops on *Supersymmetry in Integrable Systems(SIS)*(Co-chairman)
9-13.09.2015, Yerevan
11-13.09.2014, Dubna
28-30.12.2013, Hannover
27-30.08.2012, Yerevan
1-4.08.2011, Hannover
25-29.08.2010 Yerevan
- *School on High Energy Physics and Quantum Field Theory*, 6-10.10.2014, Yerevan (Co-chairman)
- Workshop on *Frontiers in field and string theory*, 22-26.09.2014, Yerevan
- 2nd Symposium on *Optics & Applications*, 1-4.09.2014, Yerevan
- Armenia-Dubna Workshops on *Problems of Integrable Systems*, Dubna (Co-Chairman)
24-26.12.2013; 24-25.12.2012
- Workshop on *Quantum Aspects of Black Holes and its Recent Progress*, 24-26.09. 2013, Yerevan (Local Organizer)
- The First Autumn School and Workshop of the Regional Training Network in Theoretical Physics, 23-28.09.2013, Tbilisi
- 3rd Conference on *Statistical Mechanics and Dynamical Systems*, 27.08 -02.09.2012, Turunc-Marmaris (Turkey)
- XXVII Colloquium on *Group-Theoretical Methods in Physics*, 11-17.08.2008, Yerevan
- Workshops on *Supersymmetries and Quantum Symmetries*, Dubna 22-26.06, 1998; 26-30.07, 1995

Publications in mass-media

- Golos Armenii ("The Voice of Armenia") newspaper, 5 March 2015
<http://www.golosarmenii.am/article/26952/ya-veryu-tolko-v-samoorganizaciyu-nauchnogo-soobshhestva->
- Golos Armenii ("The Voice of Armenia") newspaper, 9 July 2013, No. 73 (20246)
<http://www.golosarmenii.am/ru/20426/society/27951/>
- Golos Armenii ("The Voice of Armenia") newspaper, 28 March 2013, No. 31 (20384)
<http://www.golosarmenii.am/ru/20384/society/25660/>
- Golos Armenii ("The Voice of Armenia") newspaper, 2 October 2012, No. 103(20316)
<http://golosarmenii.am/ru/20316/society/21738>
- "Situation with science in Armenia is much more complicated and dramatic..."(in Russian) 13 September 2012
<http://news.am/rus/news/120729.html>

Citation issues

Total number of citations in *INSPIRE* Database, 01.01.2015: **1348**
h-index in *INSPIRE* Database, 01.01.2015: **22**

Total number of citations in *Google Scholar* Database, 01.01.2015: **1475**
h-index in *Google Scholar* Database, 01.01.2015: **23**

Total number of citations in *Web of Science* Database, 01.01.2014: **832**
h-index in *Web of Science* Database, 01.01.2014: **17**

Total number of citations in *SAO/NASA ADS* Database, 01.01.2015: **980**
h-index in *SAO/NASA ADS* Database, 01.01.2015: **18**

Since 2004 my name appears in the list of high-citing Russian scientists (see <http://scientific.ru> database)

Top cite papers (SLAC-SPIRES database, 01.01.2015)

- S. Bellucci, A. Nersessian, C. Sochichiu, “Two phases of the non-commutative quantum mechanics”, *Phys. Lett.* **B522** (2001), 345 (**115** citations)
- A. Nersessian, G. Pogosyan, “On the relation of the oscillator and Coulomb systems on (pseudo)spheres”, *Phys. Rev.* **A63** (2001), 020103(R) (**67** citations)
- O. M. Khudaverdian, A. P. Nersessian, “On the geometry of the Batalin-Vilkovisky formalism”, *Mod. Phys. Lett.* **A8** (1993), 2377 (**63** citations)
- S. Bellucci, A. Nersessian, “Phases in noncommutative quantum mechanics on (pseudo)sphere”, *Phys. Lett.* **B542** (2002), 295 (**53** citations)

Talks

a) Conferences, Workshops

- Workshops on *Supersymmetries and Quantum Symmetries*, Dubna, Russia
3-8.09.2015; 29.07-03.08.2013; 18-23.07.2011; 30.07-04.08.2007; 24-27.07.2003; 22-26.06.1998; 26-30.07.1995;
26-31.07.1994
- IX International Symposium on *Quantum Theory and Symmetries*, 13-18.07. 2015, Yerevan
- Workshops on *Supersymmetry in Integrable Systems*,
11-15.09.2014, Dubna; 28-30.12.2013, 01-04.08.2011, Hannover
- Armenia-Dubna Workshops on *Problems of (supersymmetric) Integrable Systems*
24-26.12.2013, 24-25.12.2012, Dubna
- Inaugural Workshop of the Regional Training Network in Theoretical Physics, 14-15.03.2013, Tbilisi
- Workshop on *Aspects of Integrable Systems and AdS/CFT*, 1 November 2012, Tehran
- Workshop on *Advances and Perspectives of Basic Sciences in Caucasus and Central Asian Region* 1-3.11, 2011, Tbilisi
- Workshop on *Recent Advances in Quantum Field and String Theory* 26-30.09, 2011, Tbilisi
- Conference on *Nanoscience & Nanotechnology*, 20-23.09.2010, Frascati, Italy
- XIX, XVIII, XVI and IX Colloquia on *Integrable Systems and Quantum Symmetries*,
19-21.06.2009, 19-21.06.2008, 14-16.06.2007, 23-25.06.2000, Prague
- XXVII and XXIII Colloquia on *Group-theoretical methods in Physics*,
11-17.08.2008, Yerevan;
31.07-05.08.2000, Dubna, Russia
- Advanced School on *Integrable systems and Quantum Symmetries*
7-13.06.2007 Prague (discussion leader)
- Workshop on *Classical and Quantum Integrable Systems*,
22-25.01.2007, Dubna, Russia
- Workshops on *Symmetry Methods in Physics*,
03-08.07.2006; 13-18.08.2003; 03-08.06.2001, Yerevan, Armenia;
28.07-02.08, 1997; 10.07-16.07, 1995; 06-10.07, 1993, Dubna, Russia
- Winter School on *Modern Trends in Supersymmetric Mechanics*,
07-14.03. 2005, Frascati, Italy (lecturer)
- Conference on *Higher Dimensional Quantum Hall Effect, Chern-Simons Theory and Non-Commutative Geometry in Condensed Matter Physics & Field Theory*, 01-04.03. 2005 Trieste, Italy
- III Sakharov Conference on Physics, 25-29.06.2002, Moscow, Russia
- IX Conference on *Supersymmetry and Unification of Fundamental Interactions*,
11-17.06.2001, Dubna, Russia
- D.V.Volkov Memorial Conference on *Supersymmetry and Quantum Field Theory*,
24-29.07, 2000, Kharkiv, Ukraine

- E.S.Fradkin Memorial Conference on *Quantization, Gauge theory and Strings*, 05-10.06, 2000, Moscow
- Workshop on *Physical Variables in Gauge Theories*, 21-25.09, 1999, Dubna, Russia
- III and I Meetings on *Constrained Dynamics and Quantum Gravity*, 13-18.09, 1999, Villasimius, Italy; 05.07-07.07, 1995, Dubna, Russia
- VI Wigner Symposium, 16-22.08, 1999, K.Polis, Turkey
- IX Regional Conference on Mathematical Physics, 09-15.08, 1999, K.Polis, Turkey
- XIV Workshop on *Problems of High Energy Physics and Quantum Field Theory*, 27.05-02.06, 1999, Moscow
- XI and X Conferences on *Problems of Quantum Field Theory*, 13-17.07, 1998, Dubna, Russia; 13-18.05, 1996, Alushta, Ukraine
- V Conference on *Path Integrals from meV to MeV* 27-31.05, 1996, Dubna, Russia
- NATO ASI on *Hamiltonian Mechanics: Integrability and Chaotic Behavior* 28.06-02.07, 1993, Torun', Poland
- Workshop on *Supersymmetry*, 10.11-14.11, 1991, Dubna, USSR
- Conference on *Problems of Modern Quantum Field Theory*, 25.06-01.07, 1990 Tomsk, USSR,
- *The VII Soviet Gravitational Conference*, 18.10-21.10, 1988 Tsakhkadzor, Armenia
- *The Session of the Nuclear Physics Branch of the Soviet Academy of Science*, 12.01-18.01, 1988 Moscow

b) Seminars

- ICTP-International Centre for Theoretical Physics, 2015
- INFN-Laboratori Nazionali di Frascati, Italy, 2015, 2012, 2011, 2010, 2008, 2007, 2006
- Tomsk Polytechnic University, 2014
- Bonn University, 2013
- Universidade Federal de Juiz de Fora, Brazil, 2012
- Sogang University, Seoul, 2012
- Sungkyunkwan University, Suwon, Korea, 2012
- University Roma 2 "Tor Vergata", 2010
- Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, 2008
- Joint Institute for Nuclear Research, Dubna, Russia, 2008, 2006, 2003
- Lebedev Physics Institute, Moscow, 2007, 1999, 1996
- Tours University, France, 2006
- Napoli University, Italy, 2005
- Leipzig University, Germany, 2001, 2000
- Kaiserslautern University, Germany, 2000, 1999
- Salerno University, Italy, 1998

List of publications

1. **“Integrability and separation of variables in Calogero-Coulomb-Stark and two-center Calogero-Coulomb systems”**
T. Hakobyan and A. Nersessian.
arXiv:1509.01077 [math-ph]
2. **“Runge-Lenz vector for Calogero-Coulomb problem”**
T. Hakobyan and A. Nersessian
Phys. Rev. A **91** (2015) [arXiv:1504.00760][hep-th]
3. **“Superintegrability of generalized Calogero model with oscillator or Coulomb potential”**
T. Hakobyan, O. Lechtenfeld, A. Nersessian
Phys. Rev. D **90** (2014) 101701(R) [arXiv:1409.8288][hep-th]
4. **“Spherical mechanics for a particle near the horizon of extremal black hole”**
A. Galajinsky, A. Nersessian and A. Saghatelian
Physics of Particles and Nuclei Letters, **11**, No.7 (2014) 890-893
Proc. of Workshop on Supersymmetries and Quantum Symmetries, Dubna, 29 July-03 August 2013
5. **“Higher-derivative $\mathcal{N} = 4$ superparticle in three-dimensional spacetime”**
O. Lechtenfeld, N. Kozyrev, S. Krivonos, A. Nersessian
Phys. Rev. D **89**(2014) 045013[arXiv:1311.4540][hep-th]
6. **“Action-angle variables for spherical mechanics related to near horizon extremal MyersPerry black holes”**
A. Galajinsky, A. Nersessian and A. Saghatelian
J. Phys. Conf. Ser. **474**(2013), 012019
Proc. of XXI Colloquium on Integrable Systems and Quantum Symmetries, 12-16.06.2013, Prague
7. **“Landau problem on the ellipsoid, hyperboloid and paraboloid of revolution”**
E. Gevorgyan, A. Nersessian, V. Ohanyan and E. Tolkachev.
Mod. Phys. Lett. A **29**(2014) 1450148 [arXiv:1304.3221][math-ph]
8. **“Superintegrable models related to near horizon extremal Myers-Perry black hole in arbitrary dimension”**
A. Galajinsky, A. Nersessian and A. Saghatelian
JHEP **1306** (2013) 002 [arXiv:1303.4901][hep-th]
9. **“Rigid particle revisited: extrinsic curvature yields the Dirac equation”**
A. Deriglazov and A. Nersessian
Phys. Lett. A **378** (2014)1224-1227 [arXiv:1303.0483][hep-th]
10. **“Isospin particle systems on quaternionic projective spaces”**
S. Bellucci, S. Krivonos, A. Nersessian and V. Yeghikyan
Phys. Rev. D **87** (2013), 045005 [arXiv:1212.1663][hep-th]
11. **“Action-angle variables and novel superintegrable systems”**
T. Hakobyan, O. Lechtenfeld, A. Nersessian, A. Saghatelian and V. Yeghikyan
Physics of Particles and Nuclei, **43** (2012), 577-582
Proc. of Workshop on Supersymmetries and Quantum Symmetries, Dubna, 18-23 July 2011
12. **“Action-angle variables for the particle near extreme Kerr throat”**
S. Bellucci, A. Nersessian and V. Yeghikyan
Mod. Phys. Lett. A **27** (2012) 1250191 [arXiv:1112.4713]
13. **“The spherical sector of the Calogero model as a reduced matrix model”**
T. Hakobyan, O. Lechtenfeld and A. Nersessian
Nucl. Phys. **B858** (2012) 250-266 [arXiv:1110.5253][math-ph]

14. **“Integrable generalizations of oscillator and Coulomb systems via action-angle variables”**
T. Hakobyan, O. Lechtenfeld, A. Nersessian, A. Saghatelian and V. Yeghikyan
Phys. Lett. **A376** (2012) 679686 [arXiv:1108.5189][math-ph]
15. **“Conformal mechanics inspired by extremal black holes in $d = 4$ ”**
A. Galajinsky and A. Nersessian
JHEP **1111** (2011) 135 [arXiv:1108.3394][hep-th]
16. **“Differential Geometry in DNA molecules”**
S. Bellucci, Y. Mamasakhlisov and A. Nersessian
Nanoscience & Nanotechnology Letters **3** No. 6 (2011) 922-926
Proceedings of Conference on Nanoscience & Nanotechnology, 20-23.09.2010, Frascati, Italy
17. **“External field influence on semiflexible macromolecules: geometric coupling”**
S. Bellucci, Y. Mamasakhlisov and A. Nersessian
Mod. Phys. Lett. **B25** (2011) 1809-1819 [arXiv:1011.0644][cond-mat.soft]
18. **“Invariants of the spherical sector in conformal mechanics”**
T. Hakobyan, O. Lechtenfeld, A. Nersessian and A. Saghatelian
J. Phys. **A44** (2011) 055205 [arXiv:1008.2912][math-ph]
19. **“Hopf maps and Wigner’s little groups”**
R. Mkrtchyan, A. Nersessian and V. Yeghikyan
Mod. Phys. Lett. **A26** No.19 (2011) 1393-1405 [arXiv:1008.2589][hep-th]
20. **“Quantum ring models and action-angle variables”**
S. Bellucci, A. Nersessian, A. Saghatelian and V. Yeghikyan
J. Comp. Theor. Nanoscience, **8** (2011) 769-775 [arXiv:1008.3865][cond-mat.mtrl-sci].
21. **“Action-angle variables for dihedral systems on the circle”**
O. Lechtenfeld, A. Nersessian and V. Yeghikyan
Phys. Lett. **A374** (2010) 4647-4652 [arXiv:1005.0464][hep-th]
22. **“Hidden symmetries of integrable conformal mechanical systems”**
T. Hakobyan, S. Krivonos, O. Lechtenfeld and A. Nersessian
Phys. Lett. **A374**(2010), No. 5, 801-806 [arXiv:0908.3290]
23. **“Second Hopf map and supersymmetric mechanics with Yang monopole ”**
M. Gonzales, Zh. Kuznetsova, A. Nersessian, F. Toppan and V. Yeghikyan
Phys. Rev. **D80**(2009) 025022 (13 pages) [arXiv:0902.2682]
24. **“Remarks on multi-dimensional conformal mechanics”**
Č. Burdík and A. Nersessian
SIGMA **5**(2009) 004 [arXiv:0901.1644]
Proc. of XVIII Colloquium on Integrable Systems and Quantum Symmetries, 19-21.06.2008, Prague
25. **“Higher-derivative Lagrangians for spinning light”**
D. Aghamalyan and A. Nersessian
Phys. Atom. Nucl. **73** No.2 (2010), 247-250
Proc. of XXVII Colloquium on Group-theoretical methods in Physics, 11-17.08.2008, Yerevan
26. **“Cuboctahedric Higgs oscillator from the Calogero model”**
T. Hakobyan, A. Nersessian and V. Yeghikyan
J. Phys. **A42** (2009) 205206 [arXiv:0808:0430]
27. **“Lobachevsky geometry of (super)conformal mechanics”**
T. Hakobyan and A. Nersessian
Phys. Lett. **A373** (2009) 1001-1004 [arXiv:0803.1293].

28. **“Generalizations of MICZ-Kepler system”**
A. Nersessian
Phys. Atom. Nucl., **73** (2010) No.3, 479-483 [arXiv:0711.1037]
Proc. of XXVII Colloquium on Group-theoretical methods in Physics, 11-17.08.2008, Yerevan
29. **“Anisotropic Higgs oscillator”**
A. Nersessian and V. Yeghikyan
Proc. of Workshop on Supersymmetries and Quantum Symmetries, Dubna, July 30- August 4, 2007, Ed. E. Ivanov, S. Fedoruk, pp.242-246, JINR Publ.2008, [arXiv:0711.1033]
30. **“Anisotropic inharmonic Higgs oscillator and related (MICZ-)Kepler-like systems”**
A. Nersessian and V. Yeghikyan
J. Phys. **A41** (2008) 155203 [arXiv:0710.5001]
31. **“Multi-center MICZ-Kepler systems”**
A. Nersessian and V. Ohanyan
Theor. Math. Phys. **155** (2008) 618-626 [arXiv:0705.0727]
Talk given at Conference on Classical and Quantum Integrable Systems Dubna, Russia, 24-28 January, 2007
32. **“Multi-center MICZ-Kepler system, supersymmetry and integrability”**
S. Krivonos, A. Nersessian and V. Ohanyan
Phys. Rev. **D75** (2007) 085002 (5 pages) [arXiv:hep-th/0611268]
33. **“Relationship between quantum mechanical systems with and without monopoles”**
L. Mardoyan, A. Nersessian and A.Yeranyan
Phys. Lett. **A366** (2007) 30-35 [arXiv:hep-th/0610301]
34. **“Dipole transitions and Stark effect in the charge-dyon system”**
L. Mardoyan, A. Nersessian, H. Sarkisyan and V. Yeghikyan
J. Phys. **A40** (2007) 5973-5980 [arXiv:cond-mat/0609768]
35. **“Hamiltonian reduction and supersymmetric mechanics with Dirac monopole”**
S. Bellucci, A. Nersessian and A. Yeranyan
Phys. Rev. **D74** (2006) 065022 (7 pages) [arXiv:hep-th/0606152]
36. **“Instanton, oscillator, hyperboloid”**
S. Bellucci, L. Mardoyan and A. Nersessian
Phys. Lett. **B636** (2006) 137-141 [arXiv:hep-th/0602231]
37. **“Nonlinear chiral supermultiplet: freedom in the fermion-boson coupling”**
S. Bellucci and A. Nersessian
Phys. Rev. **D73** (2006) 107701 [arXiv:hep-th/0512165]
38. **“Oscillator potential for the four-dimensional Hall effect”**
L. Mardoyan and A. Nersessian
Phys. Rev. **B72** (2005) 233303 (4 pages) [arXiv:hep-th/0508062]
39. **“Elements of (super-)Hamiltonian Formalism”**
A. Nersessian
Lect. Notes Phys. **698** (2006) 139-188 [arXiv:hep-th/0506170]
Proc. of Winter School on Modern Trends in Supersymmetric Mechanics 07-14.03. 2005, Frascati, Italy
40. **“ $\mathcal{N} = 4$ supersymmetric mechanics with nonlinear chiral multiplet”**
S. Bellucci, A. Beylin, S. Krivonos, A. Nersessian and E. Orazi
Phys. Lett. **B616** (2005) 228-232 [arXiv:hep-th/0503244]
41. **“ $2k$ -dimensional $\mathcal{N} = 8$ supersymmetric quantum mechanics”**
S. Bellucci, S. Krivonos, A. Nersessian and A. Shcherbakov
Talk given at 11th Colloquium on Quantum Groups and Integrable Systems, Prague, 22-24 June 2004 [arXiv:hep-th/0410073]

42. **“ $\mathcal{N} = 8$ supersymmetric mechanics on special Kaehler manifolds”**
S. Bellucci, S. Krivonos and A. Nersessian
Phys. Lett. **B605** (2005), 181-184 [arXiv:hep-th/0410029]
43. **“A note on the supersymplectic structure of triplectic formalism”**
B. Geyer, P. Lavrov and A. Nersessian
[arXiv:hep-th/0406201]
44. **“Quantum oscillator on CP^n in the constant magnetic field ”**
S. Bellucci, A. Nersessian and A. Yeranyan
Phys. Rev. **D70** (2004), 065013 (7 pages) [arXiv:hep-th/0406184]
45. **“Supersymmetric Kähler oscillator in a constant magnetic field”.**
S. Bellucci and A. Nersessian
Proc. of Workshop on Supersymmetries and Quantum Symmetries, Dubna, 24-29 July, pp.370-384, 2003, JINR Publ. [arXiv:hep-th/0401232]
46. **“Quantum mechanics model on Kähler conifold ”**
S. Bellucci, A. Nersessian and A. Yeranyan
Phys. Rev. **D70** (2004), 045006 (5 pages) [arXiv:hep-th/031232]
47. **“3D oscillator and Coulomb systems reduced from Kahler spaces”**
A. Nersessian and A. Yeranyan
J. Phys. **A37** (2004), 2791-2801 [arXiv:hep-th/0309196]
48. **“Four-dimensional Hall mechanics as a particle on CP^3 ”**
S. Bellucci, P. Y. Casteill and A. Nersessian
Phys. Lett. **B574** (2003), 121-128 [arXiv:hep-th/0306277]
49. **“The Stark effect in the charge-dyon system”**
L. Mardoyan, A. Nersessian and M. Petrosyan
Theor. Math. Phys., **140** (2004), 958-964 [arXiv:quant-ph/0305027]
50. **“Extended BRST quantization in general coordinates”**
B. Geyer, P. Lavrov and A. Nersessian
Proc. of 3rd Sakharov Conference on Physics, Moscow, 24-29 June 2002, v.2, pp. 94-103, Scientific World, 2003 [arXiv:hep-th/0211128]
51. **“(Super)Oscillator on CP^N and constant magnetic field”**
S. Bellucci and A. Nersessian
Phys. Rev. **D67** (2003), 065013 (8 pages), Erratum: Phys. Rev. **D71**(2005), 089901(E) [arXiv:hep-th/0211070]
52. **“Noncommutative quantum mechanics in the presence of magnetic field.”**
S. Bellucci, A. Nersessian and C. Sochichiu
Particles and Nuclei **34** S13-S18 (2003)
Proc. of IX Conference on Symmetry Methods in Physics, Yerevan, 3-8 July, 2001.
53. **“Phases in noncommutative quantum mechanics on (pseudo)sphere”**
S. Bellucci and A. Nersessian
Phys. Lett. **B542** (2002), 295-300 [arXiv:hep-th/0205024]
54. **“Two phases of the non-commutative quantum mechanics”**
S. Bellucci, A. Nersessian and C. Sochichiu
Phys. Lett. **B522** (2001), 345-349 [arXiv:hep-th/0106138]
55. **“Integration measure and extended BRST covariant quantization”**
B. Geyer, P. Lavrov and A. Nersessian
Int. J. Mod. Phys. **A17** (2002), 1183-1197 [arXiv:hep-th/0105215]

56. **“Poisson structures in BRST-antiBRST invariant Lagrangian formalism”**
 B. Geyer, P. Lavrov and A. Nersessian
 Phys. Lett. **B512** (2001), 211-216 [arXiv:hep-th/0104189]
57. **“Hamiltonian model of N=4 SUSY mechanics”**
 S. Bellucci and A. Nersessian
Proc. of 9th Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY01), Dubna, 11-17 June 2001, pp. 395-397, World Scientific, 2003
58. **“Kähler geometry and SUSY mechanics”**
 S. Bellucci and A. Nersessian
 Nucl. Phys. (Proc. Suppl.) **102** (2001), 227-232 [arXiv:hep-th/0103005]
Proc. of Volkov Memorial Conference on Supersymmetry and Quantum Field Theory, Kharkov, 25-29 Jul 2000
59. **“A note on N = 4 supersymmetric mechanics on Kähler manifolds”**
 S. Bellucci and A. Nersessian
 Phys. Rev. **D64** (2001), 021702(R) (5 pages) [arXiv:hep-th/0101065]
60. **“How to relate the oscillator and Coulomb systems on spheres and pseudospheres?”**
 A. Nersessian
 Phys. Atom. Nucl. **65** (2002), 1070-1075 [arXiv:math-ph/0010049]
Talk given at XXIII Colloquium on Group Theoretical Methods in Physics, Dubna, 31 July- 5 August 2000
61. **“D-dimensional massless particle with extended gauge invariance”**
 A. Nersessian
 Czech. J. Phys. **50** (2000), 1309-1315 [arXiv:hep-th/0009216]
Proc. of 9th Colloquium on Quantum Groups and Integrable Systems, Prague, 22-24 June 2000
62. **“Lagrangian model of a massless particle on space-like curves”**
 A. P. Nersessian
 Theor. Math. Phys. **126** (2001), 147-195
63. **“Massless particles and space-like curves”**
 A. Nersessian,
Proc. of Fradkin Memorial Conference on Quantization, Gauge Theory and Strings, Moscow, 5-10 June, 2000, v. **2**, 51-56, Scientific World, Moscow, 2001
64. **“On the relation of the oscillator and Coulomb systems on (pseudo)spheres”**
 A. Nersessian and G. Pogosyan
 Phys. Rev. **A63** (2001), 020103(R) (4 pages) [arXiv:quant-ph/0006118]
65. **“Particle with torsion on 3d null-curves”**
 A. Nersessian, R. Manvelyan and H. J. Muller-Kirsten
 Nucl. Phys. (Proc. Suppl.) **88** (2000), 381-384 [arXiv:hep-th/9912061]
Proc. of 3rd Meeting on Constrained Dynamics and Quantum Gravity, Villasimius, Sardinia, 14-18 Sep 1999
66. **“Massive 4d particle with torsion and conformal mechanics”**
 A. Nersessian
 Phys. Lett. **B473** (2000), 94-101 [arXiv:hep-th/9904192]
67. **“How to generalize Kustaanheimo-Stiefel transformation?”**
 A. Nersessian
Proc. of VI Wigner Symposium, K.Police, Turkey, 16-22 August, 1999, **2**, 81-87, Bogazici University Press
68. **“Massless particles and the geometry of curves: Classical picture”**
 A. Nersessian
Proc. of 14th Workshop on High Energy Physics and Quantum Field Theory, Moscow, 27 May - 2 June 1999, 646-652, MSU-Press [arXiv:hep-th/9911020]

69. **“A geometrical particle model for anyons”**
A. Nersessian and E. Ramos
Mod. Phys. Lett. **A14** (1999), 2033-2038 [arXiv:hep-th/9812077]
70. **“Supergeometry in equivariant cohomology”**
A. Nersessian
Lect. Notes on Phys. **524** (1997), 90-96 [arXiv:hep-th/9811110]
Proc. of Int. Seminar on Supersymmetries and Quantum Symmetries Dubna, 22-26 Jul 1997
71. **“The model of massless rigid particle.”**
A. Nersessian
Proc. of XI Conf. on Problems of Quantum Field Theory, Dubna, 13-17 July, 1998, 276-281, JINR Publ.
72. **“Massive spinning particles and the geometry of null curves”**
A. Nersessian and E. Ramos
Phys. Lett. **B445** (1998), 123-128 [arXiv:hep-th/9807143]
73. **“Hamiltonian formalism for particles with a generalized rigidity”**
A. Nersessian
Theor. Math. Phys. **117** (1998), 1214-1222 [arXiv:hep-th/9805009]
74. **“Anyons, monopole and Coulomb problem”**
A. Nersessian and V. M. Ter-Antonian
Phys. Atom. Nucl. **61** (1998), 1756-1761 [arXiv:physics/9712027]
Talk given at VIII Conference on Symmetry Methods in Physics Dubna, 28 July - 2 August 1997
75. **“On the geometry of relativistic anyon”**
A. Nersessian
Mod. Phys. Lett. **A12** (1997), 1783-1789 [arXiv:hep-th/9704182]
76. **“A note on quantum Bohlin transformation”**
A. Nersessian, V. Ter-Antonian and M. M. Tsulaia
Mod. Phys. Lett. **A11** (1996), 1605-1610 [arXiv:hep-th/9604197]
77. **“Antibrackets and non-Abelian equivariant cohomology”**
A. Nersessian
Mod. Phys. Lett. **A10** (1995), 3043-3049 [arXiv:hep-th/9511081]
78. **“Quantum oscillator and a bound system of two dyons”**
V. M. Ter-Antonian and A. Nersessian
Mod. Phys. Lett. **A10** (1995), 2633-2638 [arXiv:hep-th/9508137]
79. **“Batalin-Vilkovisky formalism and integration theory on manifolds”**
O. M. Khudaverdian and A. P. Nersessian
J. Math. Phys. **37** (1996), 3713-3724 [arXiv:hep-th/9507026]
80. **“Comments on the covariant $Sp(2)$ symmetric Lagrangian BRST formalism”**
A. Nersessian and P. H. Damgaard
Phys. Lett. **B355** (1995), 150-156 [arXiv:hep-th/9505009]
81. **“From antibracket to equivariant characteristic classes”**
A. Nersessian
Turk. J. Phys. **24** (2000), 429-433 [arXiv:hep-th/9409137]
Proc. of IX Regional Conference on Mathematical Physics, K.Police, Turkey, 09-15 August, 1999
82. **“‘Charge-dyon’ system as the reduced oscillator”**
A. Nersessian and V. Ter-Antonian
Mod. Phys. Lett. **A9** (1994), 2431-2435 [arXiv:hep-th/9406130]

83. **“Equivariant localization: BV geometry and supersymmetric dynamics”**
 A. Nersessian
Proc. of Workshop on Physical Variables in Gauge Theories, Dubna, 21-25 September, 1999, 139-147, JINR Publ. [arXiv:hep-th/9310013]
84. **“BV-geometry on Kählerian supermanifolds”**
 A. Nersessian
Proc. of IV Workshop on Symmetry Methods in Physics, Dubna, 6-10 July, 1993, 2, 369-374, JINR Publ.
85. **“Antibrackets And Supersymmetric Mechanics”**
 A. Nersessian
 NATO ASI Series B:Physics, **331** (1994), 353-360 [arXiv:hep-th/9306111]
Proc. of Workshop on “Hamiltonian Mechanics: Integrability and Chaotic Behavior”, Toruń, Poland, 28 June -02 July 1993
86. **“Antibrackets and localization Of (path) integrals”**
 A. P. Nersessian
 JETP Lett. **58** (1993), 66-70 [arXiv:hep-th/9305181]
87. **“On the geometry of the Batalin-Vilkovsky formalism”**
 O. M. Khudaverdian and A. P. Nersessian
 Mod. Phys. Lett. **A8** (1993), 2377-2386 [arXiv:hep-th/9303136]
88. **“Even and odd symplectic and Kahlerian structures on projective superspaces”**
 O. M. Khudaverdian and A. P. Nersessian
 J. Math. Phys. **34** (1993), 5533-5548 [arXiv:hep-th/9210091]
89. **“On the geometry of supermanifolds with even and odd Kahlerian structures”**
 A. N. Nersessian
 Theor. Math. Phys. **96** (1993), 866-871
90. **“Canonical Poisson brackets of different gradings and strange superalgebras”**
 O. M. Khudaverdian and A. P. Nersessian
 J. Math. Phys. **32** (1991), 1938-1941
91. **“Supergeneralizations of CP(N) as the reduced phase spaces of super-Hamiltonian systems”**
 O. M. Khudaverdian and A. P. Nersessian
 Sov. J. Contemp. Phys. **25** (1990), 23-29
92. **“Superspaces with odd and even canonical two-forms and the strange superalgebra $\widetilde{UQ}(N)$.”**
 O. M. Khudaverdian and A. P. Nersessian
 Sov. J. Contemp. Phys. **24** (1989), 22-27
93. **“Formulation of Hamiltonian mechanics with even and odd Poisson brackets”**
 O. M. Khudaverdian and A. P. Nersessian
 Preprint of the Yerevan Physics Institute, EFI-1031-81-87-YEREVAN (1988)