

# CURRICULUM VITAE

## PERSONAL DETAILS

Name Victor A. Eremeyev

Affiliation: Rzeszów University of Technology, Rzeszów, Poland

H-index: 18 (Web of Science), 18 (Scopus), 29 (Google Scholar)

Citations: ~ 800 (Web of Science); > 800 citations (Scopus); >1800 (Google Scholar).

E-mail: [eremeyev.victor@gmail.com](mailto:eremeyev.victor@gmail.com)

Web: <http://www.researcherid.com/rid/B-1478-2010>;

<http://www.mmcs.sfedu.ru/faculty/staff/100-eremeyev> (in Russian)

Scopus Author ID 12795763700 (<http://www.scopus.com/authid/detail.url?authorId=12795763700>)

Birth: March 7, 1963, v. Piliponovka, Ukraine, USSR

Personal: Married, with two sons and daughter

Languages: Russian (mother tongue); English (fluent spoken and written); Polish (fluent spoken); German (spoken and written), French (basics)

## ACADEMIC BACKGROUND

2004 Awarded Dr. hab. (Habilitation to professorship – Doctor of science of Physics & Mathematics) at Institute of Problems of Mechanical Engineering of RASci, Saint-Petersburg (Dissertation title: *Mechanics of two-phase bodies with microstructure under finite deformations*)

1996 Diploma of Associate Professor (Docent) (Department of Informatics and Computer Science, Rostov State University, Russia)

1990 Awarded PhD (Candidate of Physics & Mathematics) at Rostov State University (Thesis title: *The stability of two-phase nonlinear thermo-elastic bodies*)

1985-1989 Fellowship for Candidate of Science in Physics and Mathematics (=Ph.D.) (Department of Elasticity of Rostov State University)

1980-1985 Diploma in Mechanics (Department of Mechanics and Mathematics, Rostov State University, Russia)

## MEMBERSHIP in Professional Organizations

2014-present American Mathematical Society

2007-2014 GAMM

2012-present Member of International Research Center on Mathematics and Mechanics of Complex Systems (M&MoCS) <http://memocs.univaq.it/>

## EMPLOYMENT HISTORY

Over 25 years of work experience. Associated Professor, Professor of Divisions of Computer Science, Elasticity and Mathematical Modeling of Department of Mechanics & Mathematics of Rostov State University/South Federal University, head of the laboratory of smart materials in Southern Scientific center of Russian Academy of Science. Researcher at Martin Luther University Halle-Wittenberg and -von-Guericke-University Magdeburg, Germany.

Technical authority in Applied Mathematics and Mechanics of Solids. Experience includes Education, Teaching, Programming.

**Experience**

At *Rzeszów University of Technology*, Poland

2015-present Professor

At *Otto-von-Guericke-University Magdeburg*, Germany

2011- 2015 Research Worker (wissenschaftlicher Mitarbeiter)

At *Martin Luther University Halle-Wittenberg*, Germany:

2010- 2011 Research Worker (wissenschaftlicher Mitarbeiter)

At *Southern Scientific Center of the Russian Academy of Science*:

2004- present Head of the Laboratory of Smart Materials

At *Rostov State University* (after 2007 - *Southern Federal University*):

2005-2015 Professor of Chair of Mathematical Modeling

1998-2004 Associate Professor (Docent) of Chair of Mathematical Modeling

1996-1998 Associate Professor (Docent) of Chair of Informatics and Computer Science and Division of Elasticity

1988-1996 Assistant Professor, Senior Lecturer of Chair of Informatics and Computer Science

At *Research Institute of Mechanics and Applied Mathematics at Rostov State University*:

1985-1998 Research Worker, Senior Research Worker

At *Rostov State Civil Engineering University*:

1997-1998 Associate Professor of Division of Resistance of Materials

At *Institute of Problems of Mechanical Engineering of Russian Academy of Science* (Saint Petersburg, Russia):

2000-2004 Senior Research Worker of the Laboratory of Mathematical Methods in Mechanics of Materials

**Scientific visits**

2003, 2005,

2008, 2009 Gdansk, Poland, Institute of Fluid-Flow Machinery of the Polish Academy of Sciences

2007, 2008, 2009,

2010 Halle, Germany, Martin-Luther University Halle-Wittenberg

2008, 2012 Colombia, National University of Colombia, Bogota

2011, 2012 Lublin, Poland, Politechnika Lubelska

2014 Cisterna di Latina, Italy, International Research Center for Mathematics & Mechanics of Complex Systems (M&MoCS);

2015 Visiting Professor for research activities at Sapienza University of Rome, Italy

2015 Visiting Professor for research activities at Université Paris-Est Créteil Val de Marne, France

**Member of Scientific Committee of following Conferences:**

- The 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> conferences “Shell Structures: Theory and Applications (SSTA2005, SSTA2009, SSTA2013)”. (Gdansk (Jurata), 2005, 2009, 2013);
- “Advanced Problems in Mechanics (APM)”, (Saint-Petersburg, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015).
- Euromech Colloquium 527. Shell-like structures (**Co-chair**), Wittenberg, Germany, 2011.
- Euromech Colloquium 563. Generalized Continua and their Application to the Design of Composites and Metamaterials. Cisterna di Latina, Italy, 2014
- Minisymposium «Surface-related phenomena in mechanics: from nano- to macroscale» during 9th European Solid Mechanics Conference, Madrid, Spain (**Co-chair**), 2015.
- Advanced Seminar *Generalized Continua as Models for Materials with Multi-scale-Effects or under Multi-field-Actions*, Magdeburg, (**Scientific Secretary**), 2015

**Coordinator of two CISM-Courses for young Scientists in Udine (Italy)** on Generalized Continua (2011), Shell-like Structures – Advanced Theories and Applications (2014), more than 40 students each.

**Member of Editorial boards:**

- ZAMM
- World Journal of Mechanics.
- Notices of South Sci Center of RASci.
- Co-editor and member of Scientific Committee of Gabrio Piola Edition. The complete works of Gabrio Piola: Volume I. Commented English Translation. Francesco dell’Isola, Giulio Maier, Umberto Perego, Ugo Andreaus, Raffaele Esposito, Samuel Forest (Eds). Advanced Structured Materials. Vol. 38, Springer, 2014, 816 pp.
- Bulletin of PNRPU
- Co-editor (guest) of Continuum Mechanics and Thermodynamics, Springer 2014-2015; Mathematics and Mechanics of Solids (MMS), SAGE Journals 2014; International Journal of Engineering Science, Elsevier 2014; ZAMM, Wiley 2009, 2010, 2011, 2014; Technische Mechanik, 2009.
- Reviewer for: International Journal of Non-Linear Mechanics, Archive of Mechanics, Archive of Applied Mechanics, Journal of Engineering Mechanics, Soft Materials, Nonlinear Dynamics, Continuum Mechanics and Thermodynamics, Acta Mechanica, European Journal of Mechanics/A, Solids, International Journal of Engineering Science, International Journal of Solids and Structures, Mathematics and Mechanics of Solids, Research in Nondestructive Evaluation, Mechanical Systems and Signal Processing, Journal of Sound and Vibration, Physics of Fluids, Zeitschrift für Angewandte Mathematik und Mechanik (ZAMM), Meccanica, Technische Mechanik, Mechanics of Solids, Journal of Applied Mathematics and Mechanics (PMM).

**Grants**

Participated in grants of International Science Foundations (ISF), Russian Foundation of Basic Research (RFBR), CRDF, Jozef Mianowski fund, DFG, DAAD, Competition Center of Saint-Petersburg State University and Science program "Universities of Russia", 7th Framework Programme of European Union, Italian MIUR "PRIN 2012-2015 unit MeMoCS", Progetto ATENEO LA SAPIENZA 2013, Visiting Professorship award 2015 La Sapienza.

**My area of interest is**

- General theory of elastic and inelastic shells and its applications. Theory of plates and shells made of functionally graded material, foams, etc. Modelling of the phase transitions in shells and films.
- Theory of continuum media with microstructures such as micropolar fluids, nematic liquid crystals, Cosserat media, fine powders, soils, porous media, foams, nanostructures, biomembranes.
- Nonlinear elasticity.
- Nonlinear mechanics of elastic and inelastic media with phase transformations. Mathematical modeling of shape memory alloys, martensite phase transitions.
- Nanomechanics.

**University lecture courses given:**

Mechanics (bachelor level), Analytical Mechanics (master level) (in Polish);  
 Technische Mechanik (bachelor level), (in German);  
 Numerical methods of linear algebra; Nonlinear problems of elasticity and plasticity;  
 Continuum mechanics; Computer science; Actual problems of mathematics and informatics

## Selected Publications

### Books

- B1. Eremeyev V.A., Lebedev L.P., Altenbach H. *Foundations of Micropolar Mechanics*. SpringerBriefs in Applied Sciences and Technology. SpringerBriefs in Continuum Mechanics. Springer, Heidelberg et al. 2013.
- B2. Altenbach H., Eremeyev V.A. (Eds). *Generalized Continua: from the Theory to Engineering Applications*. Series: CISM International Centre for Mechanical Sciences, Vol. 541. Springer, Wien et al. 2013. 402 p.
- B3. Eremeyev V.A., Lebedev L.P., Rendon L. A. *Elementos de mecanica matematica. Temas de matematicas aplicadas* (in Spanish). Universidad Nacional de Colombia, Bogota, 2013. 197 p. ISBN 978-958-761-388-9
- B4. Lebedev L.P., Cloud M.J, Eremeyev V.A. *Advanced Engineering Analysis: Calculus of Variations and Functional Analysis with Applications in Mechanics*. World Scientific, New Jersey et al. 2012.
- B5. Altenbach H., Eremeyev V.A. (Eds). *Shell-like Structures: Non-classical Theories and Applications. Advanced Structured Materials*. Volume 15. Springer, Berlin et al. 2011.
- B6. Lebedev L.P., Cloud M. J., Eremeyev V.A. *Tensor Analysis with Applications in Mechanics*. World Scientific Publishing Co., New Jersey. 2010.
- B7. Eremeyev V.A., Zubov L.M. *Principles of Viscoelastic Micropolar Fluid Mechanics* (in Russian). Rostov on Don, South Scientific Center of RASci, 2009.
- B8. Eremeyev V.A., Zubov L.M. *Mechanics of Elastic Shells* (in Russian). Moscow, Nauka, 2008.

### Papers in journals

- 1. Yeremeyev, V.A., Zubov, L.M. Equilibrium and stability of non-linearly elastic bodies with cavities containing fluid. *J. Applied Mathematics and Mechanics*. 1987. **51**. No 3. 353-356.
- 2. Yeremeyev, V.A., Zubov, L.M. The theory of elastic and viscoelastic micropolar liquids. *J. Applied Mathematics and Mechanics*. 1999. **63**. No 5. 755-767.
- 3. Eremeyev, V.A. Local stability of hydrostatic compression states of non-linearly thermo-visco-elastic bodies of differential type. *J. Applied Mathematics and Mechanics*, 1991. **55**. No 2. 259-265.
- 4. Belokon', A.V., Eremeyev, V.A., Nasedkin, A.V., Solov'yev, A.N. Partitioned schemes of the finite-element method for dynamic problems of acoustoelectroelasticity. *J Applied Mathematics and Mechanics*, 2000. **64**, No 3. 367-377.
- 5. Yeremeyev, V.A., Zubov, L.M. Conditions of phase-equilibrium in nonlinear elastic media with microstructure. *Doklady Akademii Nauk*. 1992. **322**. No 6. 1052-1056.
- 6. Eremeev, V.A., Zubov, L.M., Karyakin, M.I., et al. Cavitation in nonlinear elastic bodies with dislocations and disclinations. *Doklady Akademii Nauk*. 1992. **326**, No 6 968-971.
- 7. Eremeev, V.A., Nikitin, E.S. Phase transformations in elastic bodies with dislocations and disclinations. *Doklady Akademii Nauk*. 1995. **345**, No 2. 188-192.
- 8. Zubov, L.M., Eremeev, V.A. The equations of viscoelastic micropolar fluid. *Doklady Akademii Nauk*. 1996. **351**, No 4. 472-475.
- 9. Eremeev, V.A., Freidin, A.B., Sharipova, L.L. Nonuniqueness and stability in problems of equilibrium of elastic two-phase bodies. *Doklady Physics*. 2003. **48**, 7. 359-363.
- 10. Eremeev, V.A. A model of phase transitions in multicomponent elastic media. *Russian Journal of Physical Chemistry*. 2003. **77** No 10. 1642-1644.
- 11. Eremeyev V.A., Pietraszkiewicz W. The nonlinear theory of elastic shells with phase transitions. *J. Elasticity*. 2004. **74**. No. 1. 67–86.
- 12. Eremeyev V. A. Acceleration waves in micropolar elastic media. *Doklady Physics*, 2005, **50**. No. 4. 204–206.

13. Eremeyev V.A., Sukhov D.A. Convective instabilities in thermoviscoelastic micropolar fluids. *Matemáticas: Enseñanza Universitaria*. 2005. **XIII**. No 1. 31–42.
14. Eremeyev V.A. Pietraszkiewicz W. Local symmetry group in the general theory of elastic shells. *J. Elasticity*. 2006. **85**. No 2. P. 125-152.
15. Eremeyev V.A., Lebedev L.P. On the loss of stability of von Mises truss with the effect of pseudo-elasticity. *Matemáticas: Enseñanza Universitaria*. 2006. **XIV**. No 2 Diciembre. 111–118.
16. Eremeyev V. A., Ivanova E. A., Morozov N. F., Soloviev A. N. On the determination of eigenfrequencies for nanometer-size objects. *Doklady Physics*, 2006. **51**. No. 2. 93–97.
17. Eremeyev V. A., Ivanova E. A., Morozov N. F., Soloviev A. N. Method of determining the eigenfrequencies of an ordered system of nanoobjects. *Technical Physics*. 2006. **52**. No. 1. 1–6.
18. Eremeyev V.A., Freidin A.B., Sharipova L.L. The stability of the equilibrium of two-phase elastic solids. *Journal of Applied Mathematics and Mechanics (PMM)*. 2007. **71**. No 1. 61–84.
19. Eremeyev V.A., Zubov L.M. On constitutive inequalities in nonlinear theory of elastic shells. *Z. Angew. Math. Mech. (ZAMM)*. 2007. **87**. No. 2. 94–101.
20. Pietraszkiewicz W., Eremeyev V.A., Konopinska V. Extended non-linear relations of elastic shells undergoing phase transitions. *Z. Angew. Math. Mech. (ZAMM)*. 2007. **87**. No. 2. 150–159.
21. Eremeyev V. A., Freidin A. B., Pavlyuchenko V. N., Ivanchev S. S. Instability of hollow polymeric microspheres upon swelling. *Doklady Physics*. 2007. **52**. No. 1. 37–40.
22. Eremeyev V. A., Ivanova E. A., Morozov N. F., Strochkov S. E. Natural vibrations of nanotubes. *Doklady Physics*. 2007. **52**. No 8. 431–435
23. Eremeyev V. A., Ivanova E. A., Morozov N. F., Strochkov S. E. The spectrum of natural oscillations of an array of micro- or nanospheres on an elastic substrate. *Doklady Physics*. 2007. **52**, No. 12. 699–702.
24. Eremeyev V.A., Lebedev L. P., Rendon L. A. On the propagation of acceleration waves in thermoelastic micropolar medias. *Revista Colombiana de Matematicas*. 2007. **41**. No 2. 397-406.
25. Altenbach H., Eremeyev V.A. Direct approach based analysis of plates composed of functionally graded materials. *Archive of Applied Mechanics*. 2008. **78**, No 10, 775-794.
26. Altenbach H., Eremeyev V.A. Analysis of the viscoelastic behavior of plates made of functionally graded materials. *Z. Angew. Math. Mech. (ZAMM)*. 2008. **88**, No. 5. 332 – 341.
27. Altenbach H., Brigadnov I.A., Eremeyev V.A. Oscillations of a magneto-sensitive elastic sphere. *Z. Angew. Math. Mech. (ZAMM)*. 2008. **88**, No. 6, 497 – 506.
28. Eremeyev V. A., Ivanova E. A., Morozov N. F., Strochkov S. E. Natural vibrations in a system of nanotubes. *Journal of Applied Mechanics and Technical Physics*. 2008. **49**, No. 2. 291–300.
29. Altenbach H., Eremeyev V.A. On the time-dependent behavior of FGM plates. *Key Engineering Materials* 2009. **399**. 63-70
30. Altenbach H., Eremeyev V.A. On the bending of viscoelastic plates made of polymer foams. *Acta Mechanica*. 2008. **204**. No 3-4. Pp. 137–154.
31. Pietraszkiewicz, W., Eremeyev V. A. On natural strain measures of the non-linear micropolar continuum. *International Journal of Solids and Structures*. 2009. **46**. 774–787.
32. Pietraszkiewicz, W., Eremeyev V. A. On vectorially parameterized natural strain measures of the non-linear Cosserat continuum. *International Journal of Solids and Structures*. 2009. **46**. No 11-12. 2477-2480.
33. Eremeyev V. A., Pietraszkiewicz W. Phase transitions in thermoelastic and thermoviscoelastic shells. *Archive of Mechanics*. 2009. **61**, No 1, 41-67.
34. Eremeyev V. A., Altenbach H., Morozov N. F. The influence of surface tension on the effective stiffness of nanosized plates. *Doklady Physics*, 2009, **54**, No. 2, 98–100.
35. Altenbach H., Eremeyev V.A. On the linear theory of micropolar plates. *Z. Angew. Math. Mech. (ZAMM)*. 2009. **89** No. 4. 242 – 256.
36. Altenbach H., Eremeyev V.A. Eigen-vibrations of plates made of functionally graded material. *CMC: Computers, Materials, & Continua*. 2009. **9**. No 2. 153-178.
37. Altenbach H. Eremeyev V.A., Indeitsev D.A., Ivanova E.A., Krivtsov A.M. On the

- Contributions of Pavel Andreevich Zhilin to Mechanic. *Technische Mechanik*, 2009. **29**, No 2. 115 – 134.
38. Altenbach H., Eremeyev V. A., Morozov N. F. Linear theory of shells taking into account surface stresses. *Doklady Physics*, 2009, 54, No. 12. 531–535.
  39. Altenbach J., Altenbach H., Eremeyev V.A. On generalized Cosserat-type theories of plates and shells: a short review and bibliography. *Arch. Appl. Mech.* 2010. 80. No 1. 73-92.
  40. Altenbach H., Eremeyev V.A., Lebedev L. P., Rendon L. A. Acceleration waves and ellipticity in thermoelastic micropolar media. *Arch. Appl. Mech.* 2010. 80. No 3. 217-227.
  41. Altenbach H., Eremeyev V.A., Lebedev L. P. On the existence of solution in the linear elasticity with surface stresses. *Z.Angew. Math. Mech. (ZAMM)*. 2010. **90**. No. 3. Pp. 231–240.
  42. Altenbach H., Eremeyev V.A. On the effective stiffness of plates made of hyperelastic materials with initial stresses. *International Journal of Non-Linear Mechanics*. 2010. **45**. No 10. 976-981. DOI: 10.1016/j.ijnonlinmec.2010.04.007
  43. Eremeyev V. A., Morozov N. F. The effective stiffness of a nanoporous rod. *Doklady Physics*, 2010, **55**, No. 6. 279–282.
  44. Eremeyev V. A., Ivanova E.A., Indeitsev D.A. Wave processes in nanostructures formed by nanotube arrays or nanosize crystals. *Journal of Applied Mechanics and Technical Physics*, 2010, **51**, No. 4, 569–578.
  45. Girchenko A.A., Eremeyev V.A., Morozov, N.F. Modeling of spiral nanofilms with piezoelectric properties, *Physical Mesomechanics*, 2011, **14**, No. 1-2, 10-15.
  46. Altenbach H., Eremeyev V. A., Morozov N. F. On equations of the linear theory of shells with surface stresses taken into account. *Mechanics of Solids*, 2010, **45**, No. 3, 331–342.
  47. Altenbach H., Eremeyev V.A., Kutschke A., Naumenko K. Conservation laws and prediction methods for stress concentration fields. *Acta Mechanica*. 2011. **218**. No 3-4. 349-355. DOI 10.1007/s00707-010-0425-3
  48. Eremeyev V.A., Lebedev L.P. Existence theorems in the linear theory of micropolar shells. *Z.Angew. Math. Mech. (ZAMM)*. 2011, **91**, No. 6, 468-476.
  49. Altenbach H., Eremeyev V.A., Lebedev L.P. On the spectrum and stiffness of an elastic body with surface stresses. *Z.Angew. Math. Mech. (ZAMM)*. 2011, **91**, No 9, 699-710.
  50. Altenbach H., Eremeyev V.A. On the shell theory on the nanoscale with surface stresses. *International Journal of Engineering Science*. 2011. 2011. **49**. No 12. 1294-1301. doi:10.1016/j.ijengsci.2011.03.011
  51. Eremeyev, V. A., Pietraszkiewicz, W. Thermomechanics of shells undergoing phase transition. *Journal of the Mechanics and Physics of Solids*. 2011. **59**, No 7. 1395-1412.
  52. Bîrsan, M., Altenbach, H., Sadowski, T., Eremeyev, V.A., Pietras, D. Deformation analysis of functionally graded beams by the direct approach. *Composites Part B: Engineering*, 2012. **43**, No 3. 1315-1328.
  53. Altenbach, H., Bîrsan, M., Eremeyev, V.A. On a thermodynamic theory of rods with two temperature fields. *Acta Mechanica*. 2012. **223**. No 8. 1583-1596.
  54. Altenbach, H., Eremeyev, V.A., Morozov, N.F. Surface viscoelasticity and effective properties of thin-walled structures at the nanoscale. *International Journal of Engineering Science*. 2012. **59**. 83-89.
  55. Eremeyev, V. A., Pietraszkiewicz, W. Material symmetry group of the non-linear polar-elastic continuum. *International Journal of Solids and Structures*. 2012. **49**, No 14. 1993-2005.
  56. Girchenko, A.A., Eremeyev, V.A., Altenbach H. Interaction of a helical shell with a nonlinear viscous fluid. *International Journal of Engineering Science*. 2012. **61**. 53-58.
  57. Altenbach H., Eremeyev V.A., Ivanova E.A., Morozov N.F. Bending of three-layer plate with near-zero transverse shear stiffness (in Russian). *Physical Mesomechanics*. 2012. **15**. No 6. 15-19.
  58. Altenbach H., Eremeyev V.A. Large Deformations of Inelastic Shells. *Key Engineering Materials*. 2013. **535-536**. 76-79. doi:10.4028/www.scientific.net/KEM.535-536.76

59. Eremeyev V.A., Lebedev L.P. Existence of weak solutions in elasticity. *Mathematics and Mechanics of Solids*. 2013. **18**. No. 2. 204-217. doi: 10.1177/1081286512462187
60. Rosi G., Giorgio I, Eremeyev V.A. Propagation of linear compression waves through plane interfacial layers and mass adsorption in second gradient fluids. *Z. Angew. Math. Mech. (ZAMM)*. 201393. No 12. 914–927. doi 10.1002/zamm.201200285
61. Nasedkin, A.V., Eremeyev, V.A. Harmonic vibrations of nanosized piezoelectric bodies with surface effects. *Z. Angew. Math. Meh. (ZAMM)*. 2014. Vol. **94**. No. 10, Pp. 878 – 892.
62. Eremeyev, V. A., Pietraszkiewicz, W. Editorial: Refined theories of plates and shells. *Z. Angew. Math. Mech. (ZAMM)*. 2014. 94(1-2). 5-6. DOI: 10.1002/zamm.2013001481-2.
63. Naumenko, K., Eremeyev, V.A. A layer-wise theory for laminated glass and photovoltaic panels. *Composite Structures*, 2014. **112**, 283-291.
64. Eremeyev, V.A., Altenbach, H. Equilibrium of a second-gradient fluid and an elastic solid with surface stresses. *Meccanica*, 2014. **49**. No. 11, Pp. 2635 – 2643
65. Altenbach, H., Eremeyev, V.A. Vibration analysis of non-linear 6-parameter prestressed shells. *Meccanica*, 2014. **49**. No. 8, Pp. 1751 – 17611
66. Eremeyev, V.A., Lebedev, L.P., Ogden, R.W. Leonid M. Zubov: A life devoted to nonlinear mechanics. *International Journal of Engineering Science*, 2014. **80**, Pp. 1 – 3.
67. Altenbach, H., & Eremeyev, V.A.. Strain rate tensors and constitutive equations of inelastic micropolar materials. *International Journal of Plasticity*, 2014, **63**, 3-17.
68. Nasedkin, A.V., Eremeyev, V.A. Modeling of nanosized piezoelectric and magnetoelectric bodies with surface effects. *AIP Conference Proceedings*, 2014, **1627**, pp. 70 – 75
69. Eremeyev, V.A., Ivanova, E.A., Morozov, N.F. On free oscillations of an elastic solids with ordered arrays of nano-sized objects. *Continuum Mechanics and Thermodynamics*, 2014. DOI 10.1007/s00161-014-0343-z
70. Auffray N., dell'Isola F., Eremeyev V., Madeo A., Rosi G. Analytical continuum mechanics à la Hamilton-Piola: least action principle for second gradient continua and capillary fluids. *Mathematics and Mechanics of Solids*. 2015. **20**. No 4. 375–417.
71. Eremeyev, V.A., Naumenko, K. A relationship between effective work of adhesion and peel force for thin hyperelastic films undergoing large deformation. *Mechanics Research Communications*. 2015. **69**. 24-26.
72. Eremeyev, V.A., Lebedev, L.P., Cloud, M.J. The Rayleigh and Courant variational principles in the six-parameter shell theory. *Mathematics and Mechanics of Solids*. 2015. **20**. No 7. 806-822.
73. Altenbach, H., Eremeyev, V.A., Naumenko, K. On the use of the first order shear deformation plate theory for the analysis of three-layer plates with thin soft core layer. *Z. Angew. Math. Mech. (ZAMM)*. 2015. 95. No 10, 1004 – 1011.
74. Eremeyev, V. A., Pietraszkiewicz, W. Material symmetry group and constitutive equations of micropolar anisotropic elastic solids. *Mathematics and Mechanics of Solids*. 2015. 1 – 12. DOI:10.1177 /1081286515582862
75. Eremeyev, V.A., Lebedev, L.P. Mathematical study of boundary-value problems within the framework of Steigmann – Ogden model of surface elasticity. *Continuum Mechanics and Thermodynamics*. 2015 DOI: 10.1007/s00161-015-0439-0
76. dell'Isola, F., Eremeyev, V.A., Schiavone, P. A special issue in honor of Prof. David Steigmann. *Continuum Mechanics and Thermodynamics*. 2015. DOI 10.1007/s00161-015-0455-0
77. Eremeyev, V.A. On effective properties of materials at the nano– and microscales considering surface effects. *Acta Mechanica*. 2015. DOI: 10.1007/s00707-015-1427-y

### Chapters in books

1. Eremeyev V.A. Nonlinear micropolar shells: theory and applications. *Shell Structures: Theory and Applications*. W. Pietraszkiewicz and C. Szymczak (eds.). London et al., Taylor & Francis, 2005. 11–18.
2. Altenbach H., Eremeyev V.A. On the applications of Zhilin's theory of simple shells to plates made of functionally graded materials. *Proc. XXXVI Summer school-conf. "Advanced Problems in Mechanics" (APM 2008)*. July, 6-11, Saint-Petersburg. 2008. 8-49.
3. Altenbach H., Eremeyev V.A. Effective properties of plates made of functionally graded materials. *Proc. EUROMECH Colloquium 498. Nonlinear Dynamics and Smart Structures*. Eds. J. Warminski, M.P. Cartmell, J. Latalski. Lublin, 2008. 67-70.
4. Eremeyev V.A., Altenbach H. On the eigenfrequencies of an ordered system of nanoobjects. *Proc. IUTAM Symposium on Nanomodelling Materials and Nanosystems*. 19-22.05.2008. Aalborg, Denmark. IUTAM Bookseries, Vol. 13. Springer 2009. R. Pyrz, J.C. Rauhe, Eds, 123-132.
5. Eremeyev V.A., Altenbach H. Configurational forces in the theory of two-phase plates. *Proc. IUTAM Symposium on Progress in the Theory and Numerics of Configurational Mechanics*. 20-24.10.2008. Erlangen-Nurnberg, Germany. IUTAM Bookseries, Vol. 17. Springer, 2009. P. Steinmann, Ed., 121-130.
6. Eremeyev V.A., Pietraszkiewicz W. On tension of a two-phase elastic tube. *Shell Structures. Theory and Applications*. Vol. 2. W. Pietraszkiewicz, I. Kreja, Eds. Boca Raton, CRC Press, 2010. 63-66.
7. Altenbach H., Eremeyev V.A. On the shell and plate theories with surface stresses. *Shell Structures. Theory and Applications*. Vol. 2. W. Pietraszkiewicz, I. Kreja, Eds. Boca Raton, CRC Press, 2010. 47-50.
8. Zubov L. M., Eremeyev V.A. Nonlinear Saint-Venant problem of torsion and tension of the cylindrical shell. *Shell Structures. Theory and Applications*. Vol. 2. W. Pietraszkiewicz, I. Kreja, Eds. Boca Raton, CRC Press, 2010. 103-106.
9. Altenbach H., Eremeyev V.A. On the theories of plates based on the Cosserat approach. *Advances in Mechanics and Mathematics*. Vol. 21. Mechanics of Generalized Mechanics of Generalized Continua, First One Hundred Years After the Cosserats. Gérard A. Maugin and Andrei V. Metrikine (eds). New York: Springer, 2010. 27-35.
10. Pietraszkiewicz W., Eremeyev V.A. Natural Lagrangian strain measures of the non-linear Cosserat continuum. *Advances in Mechanics and Mathematics*. Vol. 21. Mechanics of Generalized Mechanics of Generalized Continua, First One Hundred Years After the Cosserats. Gérard A. Maugin and Andrei V. Metrikine (eds). New York: Springer, 2010. 79-86.
11. Altenbach H., Eremeyev V.A. Thin-walled structures made of foams. Cellular and Porous Materials: Modeling - Testing - Application. CISM Courses and Lecture Notes. Vol. 521. H.Altenbach and A.Oechsner (eds), Springer-Verlag, Wien, 2010. 167-242.
12. Altenbach H., Eremeyev V.A. Mechanics of Viscoelastic Plates Made of FGMs. *Computational Modelling and Advanced Simulations. Computational Methods in Applied Sciences*, J. Murín, V. Kompiš, V. Kutiš (Eds). Springer Science+Business Media, Dordrecht, 2011, Volume 24, 33-48.
13. Altenbach H., Eremeyev V.A., Lebedev L.P. Micropolar Shells as Two-dimensional Generalized Continua Models. In: *Advanced Structured Materials*, Vol. 7, H. Altenbach et al. (eds.), *Mechanics of Generalized Continua*, Springer, Berlin, Heidelberg, 2011, 23-55.
14. Eremeyev V.A., Pietraszkiewicz W. On the nonlinear theory of two-phase shells. In: *Shell-like Structures: Non-classical Theories and Applications. Advanced Structured Materials*, Vol. 15, H. Altenbach, V.A. Eremeyev (eds.), Springer, Berlin, Heidelberg, 2011, 219-232.
15. Meenen J., Altenbach H., Eremeyev V., Naumenko K. A variationally consistent derivation of microcontinuum theories. In: *Shell-like Structures: Non-classical Theories and Applications*.



- Advanced Structured Materials*, Vol. 15, H. Altenbach, V.A. Eremeyev (eds.), Springer, Berlin, Heidelberg, 2011, 571-584
16. Altenbach, H.; Eremeyev, V.A. On the inelastic constitutive equations of plates and shells made of foams. In: *Engineering Plasticity and Its Applications*, J. Li, Z. Li, X.-T. Feng, W.B. Lee & H. Zhou (eds). World Scientific, Singapore, 2011. 86-90.
  17. Altenbach, H.; Eremeyev, V.A. Morozov, N.F. Mechanical properties of materials considering surface effects. In: *IUTAM Symposium on Surface Effects in the Mechanics of Nanomaterials and Heterostructures*. IUTAM Bookseries (closed), Springer, 2013, Volume 31, 105-115.
  18. Altenbach H., Eremeyev V.A. Surface Viscoelasticity and Effective Properties of Materials and Structures. In: *Advanced Materials Modelling for Structures, Advanced Structured Materials*, Vol. 19, Altenbach, H. and Kruch, S. (Eds.), Springer, Berlin, Heidelberg, 2013, pp. 9-16.
  19. Altenbach H., Eremeyev V.A., Lebedev L.P. Mathematical Study of Boundary-Value Problems of Linear Elasticity with Surface Stresses. In: *Surface Effects in Solid Mechanics, Advanced Structured Materials*, Vol. 30, Altenbach, H. and Morozov, N.F. (Eds.), Springer, Berlin, Heidelberg, 2013, pp. 1-19.
  20. Altenbach H., Eremeyev V.A., Morozov N.F. On the Influence of Residual Surface Stresses on the Properties of Structures at the Nanoscale. In: *Surface Effects in Solid Mechanics, Advanced Structured Materials*, Vol. 30, Altenbach, H. and Morozov, N.F. (Eds.), Springer, Berlin, Heidelberg, 2013, pp. 21-32.
  21. Nasedkin A.V., Eremeyev V.A. Spectral Properties of Piezoelectric Bodies with Surface Effects. In: *Surface Effects in Solid Mechanics, Advanced Structured Materials*, Vol. 30, Altenbach, H. and Morozov, N.F. (Eds.), Springer, Berlin, Heidelberg, 2013, pp. 105-121.
  22. Altenbach H., Eremeyev V.A. On the Continuum Mechanics Approach in Modeling Nanosized Structural Elements. In: *New Frontiers of Nanoparticles and Nanocomposite Materials, Advanced Structured Materials*, Vol. 4, Öchsner, A. and Shokuhfar, A. (Eds.), Springer, Berlin, Heidelberg, 2013, pp. 351-371.
  23. Altenbach H., Eremeyev V.A. Shells and Plates with Surface Effects. In: *Generalized Continua as Models for Materials with Multi-scale Effects or Under Multi-field Actions, Advanced Structured Materials*, Vol. 22, Altenbach, H., Forest, S., and Krivtsov, A. (Eds.), Springer, Berlin, Heidelberg, 2013, pp. 1-15.
  24. Eremeyev V.A., Pietraszkiewicz W. Material Symmetry Group and Consistently Reduced Constitutive Equations of the Elastic Cosserat Continuum. In: *Generalized Continua as Models for Materials with Multi-scale Effects or Under Multi-field Actions, Advanced Structured Materials*, Vol. 22, Altenbach, H., Forest, S., and Krivtsov, A. (Eds.), Springer, Berlin, Heidelberg, 2013, pp. 77-90.
  25. Eremeyev, V.A., Altenbach, H.: Rayleigh variational principle and vibrations of prestressed shells. In: W. Pietraszkiewicz, J.Gorski (eds.) *Shell Structures: Theory and Applications*, vol. 3, 285-288 pp. Taylor & Francis, London (2014)
  26. Eremeyev, V.A., Ivanova, E. A., Altenbach, H., Morozov N. F. On effective stiffness of a three-layered plate with a core filled by a capillary fluid. In: W. Pietraszkiewicz, J.Gorski (eds.) *Shell Structures: Theory and Applications*, vol. 3, 85-88 pp. Taylor & Francis, London (2014)
  27. Altenbach, H., Eremeyev, V.A. Actual Developments in the Nonlinear Shell Theory— State of the Art and New Applications of the Six-Parameter Shell Theory. In: W. Pietraszkiewicz, J.Gorski (eds.) *Shell Structures: Theory and Applications*, vol. 3, 3-12 pp.. Taylor & Francis, London (2014)
  28. Altenbach, H., Eremeyev, V.A. Basic equations of continuum mechanics. In: H. Altenbach and A. Öchsner (eds.), *Plasticity of Pressure-Sensitive Materials, Engineering Materials*, DOI: 10.1007/978-3-642-40945-5\_1, Springer-Verlag, Berlin, Heidelberg, 2014, pp. 1-47.

29. Eremeyev, V.A., Pietraszkiewicz, W. Phase Transitions in Thermoviscoelastic Shells. In: *Encyclopedia of Thermal Stresses*. Hetnarski, R. B. (Ed.) Springer, 2014, LXXXIII, 6643 p. In 11 volumes. ISBN 978-94-007-2738-0. Pp. 3667-3673.
30. Eremeyev, V.A. Acceleration Waves in Nonlinear Thermoelastic Micropolar Media. In: *Encyclopedia of Thermal Stresses*. Hetnarski, R. B. (Ed.) Springer, 2014, LXXXIII, 6643 p. In 11 volumes. ISBN 978-94-007-2738-0, pp. 21-27.
31. Eremeyev, V.A. Ellipticity Condition and Acceleration Waves in Nonlinear Thermoelastic Solids. In: *Encyclopedia of Thermal Stresses*. Hetnarski, R. B. (Ed.) Springer, 2014, LXXXIII, 6643 p. In 11 volumes. ISBN 978-94-007-2738-0, pp. 1243-1247.
32. Auffray, N., dell'Isola, F., Eremeyev V., Madeo, A., Placidi, L., Rosi, G. Least action principle for second gradient continua and capillary fluids: a Lagrangian approach following Piola's point of view. In: *The complete works of Gabrio Piola: Volume I. Commented English Translation*. Francesco dell'Isola, Giulio Maier, Umberto Perego, Ugo Andreaus, Raffaele Esposito, Samuel Forest (Eds). Advanced Structured Materials. Vol. 38, Springer, 2014, 816 pp. Pp. 606 – 694.
33. Eremeyev, V.A., Altenbach H. On the Direct Approach in the Theory of Second Gradient Plates. In: *Shell and Membrane Theories in Mechanics and Biology. Advanced Structured Materials*. Vol. 45, Altenbach, H., Mikhasev, G. (Eds.). 2015, pp. 147 – 154.
34. Altenbach H., Eremeyev, V.A. On the Theories of Plates and Shells at the Nanoscale. In: *Shell and Membrane Theories in Mechanics and Biology. Advanced Structured Materials*. Vol. 45, Altenbach, H., Mikhasev, G. (Eds.). 2015, pp. 25 – 57.
35. Eremeyev, V.A. On the effective properties of elastic materials and structures at the micro- and nanoscale considering various models of surface elasticity. In: *Materials with internal structures. Multiscale and Multifield Modelling and Simulation*. Trovalusci, P. (Ed.) Springer Tracts in Mechanical Engineering. Springer Switzerland, Cham Heidelberg New York Dordrecht London, 2016, pp. 29 – 41.