CURRICULUM VITAE

Surname:	Kovtunenko
First Name:	Victor
Middle Name:	Anatol'evich
Birth:	July 21, 1966, Karaganda
Citizenship:	Russia, Austria
Marital Status:	Married, 3 children
Languages:	Russian, German, English
SV Number:	6442 210766

Education: Novosibirsk State University,
Diploma in Applied Mathematics, 1990

Degrees:
- Candidate of Physical and Mathematical Sciences (PhD), 1994
- Docent (Associate Professor), 1998
- Doctor of Physical and Mathematical Sciences (Habilitation), 2007

Present Address

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Scopus:	https://www.scopus.com/authid/detail.uri?authorId=56234606000
Web of Science:	https://www.webofscience.com/wos/author/record/169203
eLIBRARY.RU:	https://www.elibrary.ru/author_items.asp?authorid=10645

Publications:	2 dissertations, 2 books, 100 articles in journals 9 chapters in books, 10 proceedings, 6 non-refereed issues;
Participation:	129 conferences (76 contributions, 10 plenary/keynote lectures) 7 program/organizing committees, 12 coorganized minisymposiums 26 short-term visits (17 invited lectures), 1 activity group
Projects:	9 individual projects, 14 collaborative
Editorial:	3 editorial boards, 1 guest edition, referee for 2 theses, 3 foundations, 55 journals
Supervision:	1 PhD student

Research Interests

- Analysis: hemi/variational inequalities, shape/topology optimization
- Scientific computing: nonsmooth constrained optimization, GFEM
- Applications: singular/inverse/asymptotic problems, PDE, cracks

Scientific Career

1990– *Postgraduate*, 1993– *Junior Researcher*, 1995– *Researcher*, 1997– *Senior Researcher*, 2020–present: *Leading Researcher*, Lavrent'ev Institute of Hydrodynamics, Siberian Division of the Russian Academy of Sciences, Novosibirsk, Russia

1994 : Diploma of Candidate of Physical and Mathematical Sciences (PhD), Moscow

1998–2000: *Research Fellow* of the Alexander von Humboldt Foundation, Mathematical Institute A, University of Stuttgart, Germany

2002–2004: *Lise Meitner Fellow* of the Austrian Science Fund (FWF),

2004–2005: *Senior Postdoc* of the Special Research Center (SFB) F003 "Optimization and Control", University of Graz, Austria

2008 : Diploma of Doctor of Physical and Mathematical Sciences (Habilitation), Moscow

2006–2012: *Project Leader*, Institute for Mathematics and Scientific Computing, University of Graz, Austria

2013–2014: *University Project Assistant* (1/2 Position), Institute for Statistics, Graz University of Technology, Austria

2016–2018: *Senior Postdoc*, Austrian Academy of Sciences (ÖAW)

2014–2019: *Project Leader*, Institute for Mathematics and Scientific Computing, University of Graz, Austria

2021 : *Senior Postdoc*, European Research Council (ERC) Programme OCLOC, University of Graz, Austria

Individual Projects:

1. *Problems in solid mechanics with friction at a crack*, Grant of the Siberian Division of the Russian Academy of Sciences, 1997–1998
2. *Unilateral constrained problems with boundary singularities*, Advisor W.L. Wendland, Fellowship of the Alexander von Humboldt Foundation, Germany, 1998–2000
3. *Shape optimization approach to the propagation of cracks*, Advisors W.L. Wendland and V.M. Titov, Fellowship YSF-01/33 of INTAS Foundation, Belgium, 2001-2002
4. *Variational methods in application to crack problems*, Advisor K. Kunisch, Lise Meitner Fellowship M 622/ M 737 of the FWF, Austria, 2002–2004

5. *Primal-dual constrained optimization and tribology of cracks*, Research Project P18267-N12 of the FWF, Austria, 2006–2009
6. *Topology optimization for cracks*, Research Project P21411-N13 of the FWF, Austria, 2009–2012
7. *Object identification problems: numerical analysis*, Research Project P26147-N26 of the FWF, Austria, 2014–2019
8. ÖAD Scientific & Technical Cooperation WTZ CZ 18/2020, Principal Investigators with G.A. Monteiro (Czech Academy of Sciences, Prague) 2020-2022
9. ÖAD Multilateral Scientific & Technical Cooperation in the Danube Region MULT 06/2023, Principal Investigators with A. Petrov (Université de Lyon) and G.A. Monteiro (Czech Academy of Sciences, Prague) 2023-2025

Collaborative Projects:

- Russian Foundation for Basic Research, Grant 96-01-01645, Project Leader I.Yu. Zvelodub, 1996–1998; Grants 97-01-00896, 00-01-00842, 03-01-00124, 06-01-00209, 10-01-00054 Projects Leader A.M. Khludnev, 1997–2012; Grant 18-29-10007, Project Leader E.M. Rudoy, 2020–2021
- Ministry of Education of the Russian Federation, Grant 2000.4.19, Project Leader A.M. Khludnev, 2000–2001
- Special Research Center (SFB) F003 "Optimization and Control", Austria, Speaker F. Kappel, 2004–2005
- INTAS Project 03-51-6046, Speaker H.-J. Christ (University of Siegen, Germany), 2005–2006
- FWF Research Project P24302, Leaders R. Tichy, I. Berkes (TU Graz), 2013–2014
- ÖAD Scientific & Technical Cooperation WTZ CZ 01/2016, Principal Investigators E. Bauer (TU Graz), P. Krejčí (Czech Academy of Sciences, Prague) 2016–2017
- RFBR - JSPS Joint Project 19-51-50004, Leaders E.M. Rudoy (Lavrent'ev Institute of Hydrodynamics), H. Itou (Tokyo University of Science), 2019–2020
- ERC under the European Union's Horizon 2020 Research and Innovation Programme advanced grant 668998: "From Open to Closed Loop Optimal Control of PDEs" (OCLOC), Leader K. Kunisch, 2021

Awards:

- *I.N. Vekua Prize*, Siberian Division of the Russian Academy of Sciences, 1995
- *State Fellowship for Young Scientists*, Russian Academy of Sciences,

1997–1998
- *Fellow of the Wessex Institute of Technology*, 2004
- *2nd Most Read Article*, Applicable Analysis, 2015
- *IOP Outstanding Reviewer for Inverse Problems*, 2017
- *2nd Most Read Article*, Math. Mech. Solids, 2018
- *Wiley Top Downloaded Paper 2018–2019*, Math. Methods Appl. Sci.
- *Best Papers*, Math. Models Methods Appl. Sci., 2019–2021
- *Top Downloaded Article*, J. Elasticity, 2021

Editorial Boards:
- Abstract and Applied Analysis (Hindawi Publishing, Egypt), 2012– `https://www.hindawi.com/journals/aaa/editors/`
- Technologies (MDPI, Switzerland), 2020– `https://www.mdpi.com/journal/technologies/editors`
- Applications in Engineering Science (Elsevier, Netherlands), 2020– `https://www.journals.elsevier.com/applications-in-engineering-science/editorial-board`

Guest Editor:
- Philosophical Transactions A: Special Issue on *Non-smooth Variational Problems and Applications* **2236** (Royal Society, UK), 2022 `https://royalsocietypublishing.org/toc/rsta/2022/380/2236`

Referee of Theses:
O.V. Sadovskaya (PhD, Lavrent'ev Institute of Hydrodynamics, 01.01.2001)
V. Kulvait (PhD, Charles University in Prague, 1.09.2017)

Referee for Science Foundations:
National Science Centre in Poland (Narodowe Centrum Nauki - NCN); Israel Science Foundation (ISF); Österreichischer Austauschdienst (OeAD)

Referee in Scientific Journals:
AIMS Commun. Pure Appl. Anal.; AIMS Discrete Cont. Dyn. Syst. Ser. S; AIP Conf. Proc.; Anal. Math. Phys.; Appl. Math.; Appl. Math. Opt.; Bound. Value Probl.; Comm. Math. Sci.; Complex Var. Elliptic Equ.; Georgian Math. J., Int. J. Solids Struct.; Inverse Probl.; Inverse Probl. Sci. Eng.; Iranian J. Math. Sci. Inform.; J. Appl. Math.; J. Appl. Mech. Tech. Phys. (Prikl. Mekh. Tekhn. Fiz.); J. Appl. Numer. Optim.; J. Comput. Appl. Math.; J. Engineering Math.; J. Inverse Ill-Posed Probl.; J. Optim. Theory Appl.; J. Sib. Fed. Univ. Math. Phys.; Lecture Notes Appl. Comp. Mech.; Mathematics; Math. Comput. Simulat.; Math. Control Related Fields; Math. Mech.

Solids; Math. Methods Appl. Sci.; Math. Nachrichten; Math. Programming; Math. Review; Mech. Adv. Materials Struct.; Nonlinear Anal. Real World Appl.; Numer. Funct. Anal. Optim.; Numerische Math.; Optimization; Optim. Meth. Software; Publ. Math. Debrecen; Quarterly Appl. Math.; Science China Mathematics; SIAM J. Control Optim.; SIAM J. Numer. Anal.; SIAM J. Optimiz.; Siberian Electron. Math. Rep.; Siberian J. Industrial Math. (Sibirsk. Zh. Ind. Mat.); Siberian J. Numer. Math. (Sibirsk. Zh. Vych. Mat.); Siberian J. Pure Appl. Math. (Vestnik NGU); Siberian Math. J. (Sibirsk. Mat. Zh.); Springer Proc. Math. Stat.; Springer Ser. Math. Ind.; Symmetry; Technologies; TWMS J. App. Eng. Math.; Z. Angew. Math. Mech.; Z. Angew. Math. Phys.

Academic Career

1993–1994: *Assistant* (1/2 Position), Specialized Physical and Mathematical School at the Novosibirsk State University, Russia
1997–1998: *Assistant* (1/2 Position), Chair of Mathematics, Novosibirsk High Military School
1992– *Assistant*, 1996–1998: *Associate Professor* (1/2 Position), Chair of Theoretical Mechanics, Novosibirsk State University
1995–1998: *Deputy Dean*, Department of Mathematics, Novosibirsk State University
1998 : *Diploma of Docent (Associate Professor)*, Moscow, Russia
2012–2016: *University Assistant* (2014: 1/2 Position), Institute for Mathematics and Scientific Computing, University of Graz, Austria
2019 : *University Assistant*, Institute of Analysis and Number Theory, Graz University of Technology, Austria
2019– : *University Assistant*, Institute for Mathematics and Scientific Computing, University of Graz, Austria

Courses Taught

at Novosibirsk State University and High Schools:
- *Elementary Mathematics*, basic course, seminars (1993-94)
- *Advanced Mathematics*, basic course, lectures and seminars (1997-98)
- *Theoretical Mechanics*, basic course, seminars (1992-93,95-98)
- *Calculus of Variations*, basic course, seminars (1994)
- *Nonlinear Problems of Solid Mechanics*, magister lectures (1998)

at Karl-Franzens University of Graz:
- *Partial Differential Equations*, seminars (SS09, SS10)
- *Mathematical Modeling*, seminars (SS10, SS11)
- *Introduction in Numerical Mathematics*, lectures (SS11)

- *Advanced Mathematics I,II*, seminars (WS12/13,SS13)
- *Scientific Computing*, lectures and seminars (WS12/13)
- *Optimization II*, seminars (SS13)
- *Analysis 1,2*, tutorium (SS14,WS14/15,SS15,WS15/16)
- *Analysis 1,2*, seminars (WS16/17,WS17/18,WS18/19,SS19,WS22/23)
- *Applied Mathematics*, bachelor seminar (SS17,SS18,SS20,SS21, SS22, WS22/23,SS23,WS23/24,SS24)
- *Applied Mathematics*, magister seminar (WS16/17,WS17/18)
- *Advances in Applied Mathematics*, doctoral seminar (SS15,SS16,WS16/17, SS17,WS17/18,SS/18,WS18/19, WS19/20, SS20, WS20/21,SS21,WS21/22, SS22,WS22/23,SS23,WS23/24,SS24)
- *Advanced Topics in Discrete Mathematics*, doctoral seminar (WS16/17)
- *Mathematics 1,2*, doctoral seminar (SS15,SS16,WS16/17,SS17,WS17/18, SS18,WS18/19,WS19/20,SS20,WS20/21,SS21,WS21/22, SS22,WS22/23, SS23,WS23/24,SS24)
- *Numerics of Partial Differential Equations*, seminars (SS20)
- *Numerics of Partial Differential Equations*, lectures (SS17,SS18,SS20, SS22,SS23,SS24)
- *Nonlinear Optimisation*, lectures (WS20/21,WS21/22)
- *Numerical Mathematics 2*, seminars (WS23/24)
- *Numerical Mathematics 2*, lectures (WS23/24)

Supervision

2014–2019 *PhD:* Anna V. Buchynskaja (Zubkova) (graduated 6.03.2019)

Activities

2006– Activity group *Mathematical Aspects of Continuum Mechanics (MACM, former CoMFoS)* of the Japan Society for Industrial and Applied Mathematics (JSIAM)

Publications

PhD Thesis:

[1] V.A. Kovtunenko, *Numerical Solutions of Variational Inequalities for Contact Elastoplastic Problems*, Novosibirsk State University, 1994, 80pp. (in Russian)

Habilitation Thesis:

[2] V.A. Kovtunenko, *Variational Methods in Theory of Cracks with Constraints*, Novosibirsk, 2007, 371pp. (in Russian)

Books:

[1] A.M. Khludnev and V.A. Kovtunenko, *Analysis of Cracks in Solids*, International Series on Advances in Fracture Mechanics **6**, WIT-Press, Southampton, Boston 2000, 408pp, ISBN: 9781853126253.

[2] H. Itou, S. Hirano, M. Kimura, V.A. Kovtunenko and A.M. Khludnev (Eds.), *Mathematical Analysis of Continuum Mechanics and Industrial Applications III: Proceedings of the International Conference CoMFoS18*, Mathematics for Industry **34**, Springer, Singapore 2020, doi:10.1007/978-981-15-6062-0.

Articles in Journals:

[1] V.A. Kovtunenko, Convergence of solutions of variational inequalities in a contact problem for a plate with point constraints, in *Dinamika Sploshnoi Sredy* **103**, 55–64, Novosibirsk, 1991, ISSN: 0420-0497. (in Russian)

[2] V.A. Kovtunenko, An iterative method for solving variational inequalities in a contact elastoplastic problem using the penalty method, *Comput. Math. Math. Phys.* **33** (1993), 9, 1245–1249, Mi: zvmmf2671. (translated from *Zh. Vychisl. Mat. i Mat. Fiz.*)

[3] V.A. Kovtunenko, Numerical solution of a contact problem for an elastoplastic beam by the penalty method, in *Dinamika Sploshnoi Sredy* **109**, 27–33, Novosibirsk, 1994, ISSN: 0420-0497. (in Russian)

[4] V.A. Kovtunenko, Convergence of solutions of variational inequalities in the problem of the contact of a plate with a nonsmooth stamp, *Differential Equations* **30** (1994), 3, 452-456, Mi: de8327. (translated from *Differentsial'nye Uravneniya*)

[5] V.A. Kovtunenko, An iterative penalty method for variational inequalities with strongly monotone operators, *Siberian Math. J.* **35** (1994), 4, 735–738, doi:10.1007/BF02106616. (translated from *Sibirsk. Mat. Zh.*)

[6] V.A. Kovtunenko, Numerical method of solving the problem of the contact of an elastic plate with an obstacle, *J. Appl. Mech. Tech. Phys.* **35** (1994), 5, 776–780, doi:10.1007/BF02369560. (translated from *Prikl. Mekh. Tekhn. Fiz.*)

[7] V.A. Kovtunenko, Iteration penalty method for the contact elastoplastic problem, *Control Cybernet.* **23** (1994), 4, 803–808, ISSN: 03248569.

[8] V.A. Kovtunenko, Numerical solution of a contact problem for the Timoshenko bar model, *Izvestiya RAN. Mekhanika Tverdogo Tela* (1996), 5, 79–84, ISSN: 1934-7936. (in Russian)

[9] V.A. Kovtunenko, An iterative penalty method for a problem with constraints on the interior boundary, *Siberian Math. J.* **37** (1996),

3, 508–512, doi:10.1007/BF02104853. (translated from *Sibirsk. Mat. Zh.*)

[10] V.A. Kovtunenko, Solution of the problem for a beam with a cut, *J. Appl. Mech. Tech. Phys.* **37** (1996), 4, 595–600, doi:10.1007/BF02369739. (translated from *Prikl. Mekh. Tekhn. Fiz.*)

[11] V. Kovtunenko, Analytical solution of a variational inequality for a cutted bar, *Control Cybernet.* **25** (1996), 4, 801–808, ISSN: 03248569.

[12] V. Kovtunenko, Iterative approximations of penalty operators, *Numer. Funct. Anal. Optim.* **18** (1997), 3&4, 383–387, doi:10.1080/01630569708816766.

[13] V. Kovtunenko, Iterative penalty method for plate with a crack, *Adv. Math. Sci. Appl.* **7** (1997), 2, 667–674, ISSN: 1343-4373.

[14] V.A. Kovtunenko, Variational and boundary value problems in the presence of friction on the inner boundary, *Siberian Math. J.* **39** (1998), 5, 1060–1073, doi:10.1007/BF02672913. (translated from *Sibirsk. Mat. Zh.*)

[15] V.A. Kovtunenko, A.N. Leont'ev and A.M. Khludnev, Equilibrium problem of a plate with an oblique cut, *J. Appl. Mech. Tech. Phys.* **39** (1998), 2, 302–311, doi:10.1007/BF02468098. (translated from *Prikl. Mekh. Tekhn. Fiz.*)

[16] V.A. Kovtunenko, Solution of the problem of the optimal cut in an elastic beam, *J. Appl. Mech. Tech. Phys.* **40** (1999), 5, 908–916, doi:10.1007/BF02468476. (translated from *Prikl. Mekh. Tekhn. Fiz.*)

[17] V.A. Kovtunenko, Crack in a solid under Coulomb friction law, *Appl. Math.* **45** (2000), 4, 265–290, doi:10.1023/A:1022319428441.

[18] M. Bach, A.M. Khludnev and V.A. Kovtunenko, Derivatives of the energy functional for 2D-problems with a crack under Signorini and friction conditions, *Math. Meth. Appl. Sci.* **23** (2000), 6, 515–534, doi:10.1002/(SICI)1099-1476(200004)23:6<515::AID-MMA122>3.0.CO;2-S.

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[20] V.A. Kovtunenko, Sensitivity of interfacial cracks to non-linear crack front perturbations, *J. Appl. Math. Mech. (Z. angew. Math. Mech.)* **82** (2002), 6, 387–398, doi:10.1002/1521-4001(200206)82:6<387::AID-ZAMM387>3.0.CO;2-I.

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[22] V.A. Kovtunenko, Shape sensitivity of a plane crack front, *Math. Meth. Appl. Sci.* **26** (2003), 5, 359–374, doi:10.1002/mma.341.

[23] V.A. Kovtunenko, Shape sensitivity of curvilinear cracks on interface to non-linear perturbations, *J. Appl. Math. Phys. (Z. angew. Math. Phys.)* **54** (2003), 3, 410–423, doi:10.1007/s00033-003-0143-y.

[24] V.A. Kovtunenko, Invariant energy integrals for the non-linear crack problem with possible contact of the crack surfaces, *J. Appl. Maths. Mechs.* **67** (2003), 1, 99–110, doi:10.1016/S0021-8928(03)00021-2. (translated from *Prikl. Mat. Mekh.*)

[25] I.I. Argatov, M. Bach and V.A. Kovtunenko, Propagation of a mode-1 crack under the Irwin and Khristianovich-Barenblatt criteria, *Materials Science* **39** (2003), 3, 365–370, doi:10.1023/B:MASC.0000010741.06016.71. (translated from *Phys.-Chemical Mech. Materials*)

[26] V.A. Kovtunenko, Numerical simulation of the non-linear crack problem with non-penetration, *Math. Meth. Appl. Sci.* **27** (2004), 2, 163–179, doi:10.1002/mma.449.

[27] M. Hintermüller, V.A. Kovtunenko and K. Kunisch, The primal-dual active set method for a crack problem with non-penetration, *IMA J. Appl. Math.* **69** (2004), 1–26, doi:10.1093/imamat/69.1.1.

[28] M. Hintermüller, V.A. Kovtunenko and K. Kunisch, Semismooth Newton methods for a class of unilaterally constrained variational problems, *Adv. Math. Sci. Appl.* **14** (2004), 2, 513–535, ISSN: 1343-4373.

[29] M. Hintermüller, V.A. Kovtunenko and K. Kunisch, Generalized Newton methods for crack problems with non-penetration condition, *Numer. Methods Partial Differential Equations* **21** (2005), 3, 586–610, doi:10.1002/num.20053.

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[32] V.A. Kovtunenko, Primal-dual sensitivity analysis of active sets for mixed boundary-value contact problems, *J. Engineering Math.* **55** (2006), 151–166, doi:10.1007/s10665-005-9024-z.

[33] V.A. Kovtunenko and I.V. Sukhorukov, Optimization formulation of the evolutionary problem of crack propagation under quasibrittle fracture, *J. Appl. Mech. Tech. Phys.* **47** (2006), 5, 704–713, doi:10.1007/s10808-006-0107-z. (translated from *Prikl. Mekh. Tekhn. Fiz.*)

[34] V.A. Kovtunenko, Primal-dual methods of shape sensitivity analysis for curvilinear cracks with non-penetration, *IMA J. Appl. Math.* **71** (2006), 635–657, doi:10.1093/imamat/hxl014.

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[36] V.A. Kovtunenko and K. Kunisch, Problem of crack perturbation based on level sets and velocities, *J. Appl. Math. Mech. (Z. angew. Math. Mech.)* **87** (2007), 11&12, 809–830, doi:10.1002/zamm.200510354.

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[38] M. Hintermüller, V.A. Kovtunenko and K. Kunisch, A Papkovich–Neuber-based numerical approach to cracks with contact in 3D, *IMA J. Appl. Math.* **74** (2009), 3, 325–343, doi:10.1093/imamat/hxp017.

[39] V.A. Kovtunenko, K. Kunisch and W. Ring, Propagation and bifurcation of cracks based on implicit surfaces and discontinuous velocities, *Comput. Visual Sci.* **12** (2009), 8, 397–408, doi:10.1007/s00791-008-0125-x.

[40] I.I. Argatov and V.A. Kovtunenko, A kinking crack: generalization of the concept of the topological derivative, *2009 Ann. Bull. Australian Inst. High Energetic Materials* **1** (2010), 124–130, ISBN: 9780980681130.

[41] A.M. Khludnev, V.A. Kovtunenko and A. Tani, On the topological derivative due to kink of a crack with non-penetration. Anti-plane model, *J. Math. Pures Appl.*, **94** (2010), 6, 571–596, doi:10.1016/j.matpur.2010.06.002.

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[43] H. Itou, V.A. Kovtunenko and A. Tani, The interface crack with Coulomb friction between two bonded dissimilar elastic media, *Appl. Math.* **56** (2011), 1, 69–97, doi:10.1007/s10492-011-0010-7.

[44] M. Hintermüller, V.A. Kovtunenko and K. Kunisch, Obstacle problems with cohesion: A hemi-variational inequality approach and its efficient numerical solution, *SIAM J. Optim.* **21** (2011), 2, 491–516, doi:10.1137/10078299.

[45] M. Hintermüller and V.A. Kovtunenko, From shape variation to topology changes in constrained minimization: a velocity method based concept, *Optim. Methods Softw.* **26** (2011), 4&5, 513–532, doi:10.1080/10556788.2011.559548.

[46] V.A. Kovtunenko and K. Kunisch, High precision identification of an

object: optimality conditions based concept of imaging, *SIAM J.Control Optim.* **52** (2014), 1, 773–796, doi:10.1137/13091172X.

[47] K. Fellner and V.A. Kovtunenko, A singularly perturbed nonlinear Poisson–Boltzmann equation: uniform and super-asymptotic expansions, *Math. Meth. Appl. Sci.* **38** (2015), 16, 3575–3586, doi:10.1002/mma.3593.

[48] V.A. Kovtunenko and G. Leugering, A shape-topological control problem for nonlinear crack - defect interaction: the anti-plane variational model, *SIAM J.Control Optim.* **54** (2016), 3, 1329–1351, doi:10.1137/151003209.

[49] V.A. Kovtunenko and G. Leugering, A shape-topological control of variational inequalities, *Eurasian Math. J.* **7** (2016), 3, 41–52, Mi: emj232.

[50] K. Fellner and V.A. Kovtunenko, A discontinuous Poisson–Boltzmann equation with interfacial transfer: homogenisation and residual error estimate, *Appl. Anal.* **95** (2016), 12, 2661–2682, doi:10.1080/00036811.2015.1105962.

[51] V.A. Kovtunenko and A.V. Zubkova, On generalized Poisson–Nernst–Planck equations with inhomogeneous boundary conditions: a-priori estimates and stability, *Math. Meth. Appl. Sci.* **40** (2017), 6, 2284–2299, doi:10.1002/mma.4140.

[52] H. Itou, V.A. Kovtunenko and K.R. Rajagopal, Nonlinear elasticity with limiting small strain for cracks subject to non-penetration, *Math. Mech. Solids* **22** (2017), 6, 1334–1346, doi:10.1177/1081286516632380.

[53] H. Itou, V.A. Kovtunenko and K.R. Rajagopal, Contacting crack faces within the context of bodies exhibiting limiting strains, *JSIAM Letters* **9** (2017), 61–64, doi:10.14495/jsiaml.9.61.

[54] V.A. Kovtunenko and A.V. Zubkova, Mathematical modeling of a discontinuous solution of the generalized Poisson–Nernst–Planck problem in a two-phase medium, *Kinet. Relat. Mod.* **11** (2018), 1, 119–135, doi:10.3934/KRM.2018007.

[55] F. Cakoni and V.A. Kovtunenko, Topological optimality condition for the identification of the center of an inhomogeneity, *Inverse Probl.* **34** (2018), 3, 035009, doi:10.1088/1361-6420/aaa997.

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[3] Minisemester on *Parametric and Shape Optimization*, Banach Center, Warsaw, Poland, 8.03–9.04.1993. (contribution)

[4] 13 Inter-regional Conference on *Numerical Methods for Solution of Elasticity and Plasticity Problems*, Novosibirsk, Russia, 22–24.06.1993. (contribution)

[5] Siberian School-Seminar on *Mechanics*, Institute of Hydrodynamics, Novosibirsk, Russia, 12.1997. (contribution)

[6] *Humboldt Colloquium*, St.Petersburg, Russia, 15–17.05.1998.

[7] III Siberian Congress on *Industrial and Applied Mathematics (INPRIM)*, Novosibirsk, Russia, 22–27.06.1998. (poster "Problem of the solid with Coulomb friction on crack")

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[11] Advanced Course on *Material Instabilities in Elastic and Plastic Solids*, International Centre for Mechanical Sciences (CISM), Udine, Italy, 13–17.09.1999.

[12] International Conference on *Multifield Problems*, University of Stuttgart, Germany, 6–8.10.1999. (contribution "Sensitivity analysis of 2D-cracks in solids")

[13] Workshop on *Models of Fracture*, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 1–12.11.1999. (contribution "Sensitivity of cracks in 2D-elastic solids")

[14] 6.GAMM/GACM Seminar on *Bruch- und Schädigungsmechanik*, University of Erlangen-Nürnberg, Germany, 9–10.03.2000. (contribution "Sensitivity of plane crack")

[15] Conference on *Shape Optimization*, Institut Elie Cartan, Universite Henri Poincare, Nancy, France, 13–14.04.2000. (contribution "Shape optimization of crack form")

[16] International Workshop on *3D-Singularities in Elasticity - Theory, Numerics, Applications*, University of Karlsruhe, Germany, 22–24.11.2000. (contribution "Shape optimization approach to quasi-static crack propagation")

[17] Workshop on *Applied Mathematics*, University of Stuttgart, 12.10.2001.

[18] Workshop on *Pseudodifferential Operators and Cracks*, University of Stuttgart, Germany, 16.10.2001.

[19] Workshop on *The Treatment of Corners in Layered Structures (Plates and Composites)*, University of Karlsruhe, Germany, 18.12.2001. (contribution "Numerics of crack propagation in bonded solids")

[20] International Conference on *Multifield Problems*, University of Stuttgart, Germany, 8–10.04.2002. (**Section Chair**; contribution "Quasi-static

propagation of cracks")

[21] 277.-WE Heraeus Seminar on *Contact and Fracture Problems*, Physikzentrum Bad Honnef, Germany, 27–29.05.2002. (contribution "Modelling of cracks and their quasistatic propagation")

[22] IV Brazilian Workshop on *Continuous Optimization*, IMPA, Rio de Janeiro, Brazil, 15–20.07.2002. (contribution "Shape sensitivity and optimization in crack problems")

[23] International Conference on *Scientific Computation and Differential Equations*, NTNU, Trondheim, Norway, 29.06–4.07.2003. (contribution "Shape optimization and computation of non-linear crack problems")

[24] 3rd Annual McMaster Optimization Conference: *Theory and Applications*, McMaster University, Hamilton, Ontario, Canada, 30.07–1.08.2003. (contribution "Shape optimization and inverse crack problems")

[25] Workshop on *Advances in Numerical Algorithms*, University of Graz, Austria, 10–13.09.2003.

[26] SIAM Conference on *Analysis of Partial Differential Equations*, Doubletree Hotel Houston-Post Oak, Houston, Texas, USA, 6–8.12.2004. (contribution "Primal-dual variational analysis of constrained problems with cracks")

[27] Annual Meeting of *Japan Society for Industrial and Applied Mathematics*, University of Tsukuba, Japan, 16–18.9.2006. (contribution "Optimization approach to quasi-static crack propagation")

[28] International Conference on *Differential Equation, Theory of Functions, and Applications (I.N.Vekua-100)*, Novosibirsk, Russia, 28.05–2.06.2007. (contribution "Nonlinear evolutionary problem for crack propagation")

[29] Inter-regional Conference on *Computational Mathematics*, Novosibirsk, Russia, 18–20.06.2007. (contribution "Numerical methods of optimization for crack problems")

[30] International Congress on *Industrial and Applied Mathematics (ICIAM 07)*, Zürich, Swiss, 16–20.07.2007. (**Co-organizer** of Minisymposium on "Mathematical modeling and numerical analysis of fracture phenomena"; **Section Chair**; contribution "Optimization in constrained crack problems")

[31] International Conference on *Inverse and Ill-Posed Problems of Mathematical Physics (M.M.Lavrentiev-75)*, Novosibirsk, Russia, 20–25.08.2007. (contribution "Inverse and optimization problems for cracks")

[32] International Conference *ENUMATH-07*, Graz, Austria, 10–14.09.2007.

(**Organizing Committee**; contribution "PDAS method for a hemivariational inequality")

[33] Workshop on *Destruction: Mathematical Modeling of Tsunami Waves and Crack Propagation*, Keio University, Yokohama, Japan, 20–23.11.2007. (contribution "Problem of crack under quasibrittle fracture")

[34] 7th CoMFoS Session on *Shape Optimization and Shape Sensitivity*, Hiroshima Kokusai Gakuin University, Japan, 25–27.11.2007. (**2 Lectures** on "Shape sensitivity of cracks")

[35] International Workshop on *Advances in Shape and Topology Optimization*, University of Graz, Austria, 25–27.09.2008. (contribution "Shape optimization problems for cracks with contact and kink")

[36] VIII Brazilian Workshop on *Continuous Optimization* celebrating A.Iusem's 60th birthday, Mambucaba-Rio de Janeiro, Brazil, 12–18.07.2009. (contribution "Semismooth methods for a hemivariational inequality")

[37] Interdisciplinary Conference on *Chemical, Mechanical and Materials Engineering* with Virtual Participation (2009 ICCMME) Melbourne, Australia, 7–20.12.2009.

[38] Workshop on *COMSOL Multiphysics*, Trend Hotel Europe Graz, Austria, 4.05.2010.

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[40] International Conference on *Applied Mathematics and Informatics* (ICAMI 2010), San Andres, Colombia, 28.11–3.12.2010. (**Program Committee**; **Organizer** of Minisymposium on "Topological Methods of Optimization, Application to Cracks"; **Section Chair**; contribution "On topological methods in crack problems")

[41] 82nd Annual Meeting of *GAMM*, Graz, Austria, 18–21.04.2011. (**Section Chair**; contribution "On topological methods of optimization")

[42] International SFB-Workshop on *Control and Optimization of PDES*, Bildungshaus Mariatrost, Graz, Austria, 10–14.10.2011.

[43] Workshop on *Wave Propagation and Scattering, Inverse Problems and Applications in Energy and the Environment* during Special Semester on Multiscale Simulation & Analysis in Energy and the Environment, Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria, 21–25.11.2011. (poster "Variational methods for the identification of objects")

[44] *Graz-Wien Bio-PDE day*, Karl-Franzens University of Graz, Austria, 8.05.2012. (contribution "High resolution identification of objects")

[45] International SFB-Workshop on *Efficient Solvers in Biomedical Applications*, Bildungshaus Mariatrost, Graz, Austria, 2–5.07.2012.

[46] International Colloquium on *Trends in Optimization and Control* on the occasion of the 60th birthday of K.Kunisch, Meerscheinschlössl, Graz, Austria, 21–22.09.2012.

[47] 9th *Austrian Numerical Analysis Day*, TU-Graz, Austria, 11–12.04.2013.

[48] *NAWI Graz Informationsveranstaltung*, TU-Graz, Austria, 30.09.2013.

[49] International Conference on *Applied Mathematics and Informatics* (ICAMI 2013), San Andres, Colombia, 24–29.11.2013. (**Program Committee**; **Section Chair**; **Plenary Lecture** "Topics in nonlinear optimization")

[50] Workshop on *Mathematical Models in Biology*, Karl-Franzens University of Graz, Austria, 29.01.2014.

[51] Conference on *Nonlinear Phenomena in Biology, Physics and Mechanics* in honour of Messoud Efendiev on the occasion of his 60th birthday, Helmholtz Zentrum Munich, Neuherberg, Germany, 3–7.03.2014 (**Plenary Lecture** "Nonlinear Poisson–Nernst-Planck systems: singular perturbation and homogenization").

[52] Mini-Workshop on *Industrial Shape Optimization*, Graz University of Technology, Austria, 16.04.2014.

[53] 7th International Conference on *Inverse Problems: Modeling & Simulation*, Ölüdeniz, Fethiye, Turkey, 26–31.05.2014 (contribution "Non-iterative identification of an object based on optimality conditions. Helmholtz problem").

[54] International SFB-Workshop on *Imaging with Modulated/Incomplete Data*, Bildungshaus Mariatrost, Graz, Austria, 3–5.07.2014 (contribution "High precision identification of an object: optimality conditions based concept of imaging").

[55] *10 years NAWI Graz*, Kasematten Schlossberg Graz, Austria, 10.07.2014.

[56] 25 International Workshop on *Operator Theory and its Applications* (IWOTA 2014), VU University, Amsterdam, Netherlands, 14-18.07.2014 (contribution "Optimization theory in inverse problems of object identification: variational methods by inverse scattering").

[57] International SFB-Workshop on *Modelling and Simulation in Biomechanics*, Bildungshaus Mariatrost, Graz, Austria, 15–17.09.2014.

[58] 6.International Conference on *Computational Methods in Applied Mathematics*, BIfEB, St.Wolfgang, Austria, 28.9–4.10.2014 (contribution "A Petrov–Galerkin enrichment based generalized FEM: forward and inverse problems for Helmholtz equation").

[59] Workshop on *Shape and Topological Optimization* during Special Semester on New Trends in Calculus of Variations, Radon Institute for

Computational and Applied Mathematics (RICAM), Linz, Austria, 13–17.10.2014. (**Plenary Lecture** "Object identification based on optimality conditions. Helmholtz problem")

[60] *8.Tag der Naturwissenschaftlichen Fakultät*, Karl-Franzens University of Graz, Austria, 28.11.2014.

[61] Final Meeting on *Advanced 3D Fuel Cell Analysis and Condition Diagnostics* (A3-FALCON), TU-Graz, Austria, 19.03.2015.

[62] Workshop on *Mathematics in Industry*, Karl-Franzens University of Graz, Austria, 25.03.2015.

[63] Workshop on *Emerging Mathematical Topics in Biology and Life Sciences*, Karl-Franzens University of Graz, Austria, 7.05.2015.

[64] 8th *Applied Inverse Problems* Conference (AIP 2015), Helsinki, Finland, 25–29.05.2015. (contribution "Optimization methods for Helmholtz problem")

[65] 7th ECCOMAS Thematic Conference on *Smart Structures and Materials* (SMART2015), Ponta Delgada, Azores, Portugal, 3–6.06.2015. (contribution "Electro-kinetic structure models with interfacial reactions")

[66] Humboldt Kolleg on *Science in Georgia: Perspectives of development and the role of Humboldt Foundation*, Tbilisi, Georgia, 4–6.07.2015.

[67] 26 International Workshop on *Operator Theory and its Applications* (IWOTA 2015), Tbilisi, Georgia, 6–10.07.2015. (**Co-organizer** of Thematic Session on "Variational Methods and Applications"; contribution "Topology optimization for Helmholtz problems in 2d")

[68] VI Annual Conference of *Georgian Mathematical Union*, Batumi, Georgia, 12–16.07.2015. (**Co-organizer** of Thematic Session on "Variational Methods and Applications"; **Section Chair**; **Plenary Lecture** "On generalized Poisson–Nernst–Planck equations"; contribution "Nonlinear optimization and hemi-variational inequalities for unilateral crack problems")

[69] *Geburtstagskolloquium für Harald Fripertinger*, Karl-Franzens University of Graz, Austria, 26.09.2015.

[70] CoMFoS International Conference on *Mathematical Analysis of Continuum Mechanics and Industrial Applications*, Kyushu University, Fukuoku, Japan, 16–18.11.2015. (**2 Keynote Lectures** "High-order topological expansions for forward and inverse Helmholtz problems")

[71] *Graz Science Discussions: Imaging*, Institute of Chemistry, Karl-Franzens University of Graz, Austria, 4.04.2016.

[72] *Colloquium in Applied Mathematics in honor of Gunther H. Peichl*,

Karl-Franzens University of Graz, Austria, 30.06.2016.

[73] SFB Workshop on *Imaging with Modulated/Incomplete Data 2016*, TU-Graz, Austria, 22–24.09.2016.

[74] *10 years NAWI Graz Studien*, TU-Graz, Austria, 19.10.2016.

[75] Adventkolloqium, TU-Graz, Austria, 30.11.2016.

[76] Mini-Workshop on *Dynamical Systems and Nonlinear Evolutions*, Karl-Franzens University of Graz, Austria, 28.03.2017.

[77] IAE Workshop on *Highlights of international fuel cell research 2017*, Annex 31 & 35 IEA AFC Technology Collaboration Programme, TU-Graz, Austria, 15.05.2017.

[78] International Conference on *Elliptic and Parabolic Problems*, Gaeta Latina, Italy, 22–26.05.2017. (**Co-organizer** of Mynisumposium on "Variational Methods in Mechanics dedicated to 65th anniversary of Alexandr Khludnev"; **Section Chair**; contribution "Variational problems with limiting small strain and contacting crack faces")

[79] Czechoslovak Conference *Equadiff 2017*, Bratislava, Slovakia, 24–28.07.2017. (contribution "Limiting small strain problems with cracks")

[80] Final ERC-CZ MORE Conference on *Implicitly Constituted Materials: Modeling, Analysis and Computing*, Roztoky u Prahy, Czech Republic, 31.07–4.08.2017. **(Invited Lecture** "On the states of stress and strain adjacent to a crack in a strain limiting viscoelastic body")

[81] Symposium of *Montclair State University - Karl-Franzens University*, Meerscheinschlössl, Graz, Austria, 5–6.10.2017. (poster "Homogenization of the generalized Poisson–Nernst–Planck problem in a two-phase medium")

[82] Festkolloquium zum Anlass des *60.Geburtstages von Prof.Dr. Robert Tichy*, TU-Graz, Austria, 19–20.10.2017.

[83] International SFB-Workshop on *Modelling and Simulation in Biomedical Applications*, Bildungshaus Mariatrost, Graz, Austria, 24–25.10.2017. (contribution "Homogenization of the generalized Poisson–Nernst–Planck problem in a two-phase medium")

[84] Festkolloquium zum Anlass des *50. Geburtstages von Herrn Univ.-Prof. Dr. Olaf Steinbach*, TU-Graz, Austria, 10.11.2017.

[85] International Conference on *Applied Mathematics and Informatics* (ICAMI 2017), San Andres, Colombia, 27.11–1.12.2017. (**Program Committee**; contribution "Inverse scattering using topological optimality condition for identification of object center")

[86] SFB F32 MOBIS "Mathematical Optimization and Applications in Biomedical Sciences" *Closing Event*, Bildungshaus Mariatrost, Graz,

Austria, 4.04.2018.

[87] Workshop on *Regularity Theory for Elliptic and Parabolic Systems and Problems in Continuum Mechanics*, Telč, Czech Republic, 2–5.05.2018. (contribution "On solution of initial boundary value problems in hypoplasticity")

[88] 9th International Conference on *Inverse Problems: Modeling & Simulation*, Paradise-Bay Hotel, Malta, 21–25.05.2018 (**Co-organizer** of Mynisumposium on "Inverse and Control Problems in Mechanics"; **Section Chair**; contribution "Inverse scattering using topological optimality condition for identification of object")

[89] CoMFoS International Conference on *Mathematical Analysis of Continuum Mechanics*, Shirankaikan Annex, Kyoto, Japan, 13–15.06.2018. (**Organizing Committee**; contribution "Shape differentiability of Lagrangians and applications")

[90] Workshop on *Applied Mathematics and Simulation for Semiconductors (AMaSiS 2018)*, WIAS Berlin, Germany, 8–10.10.2018. (contribution "Entropy method for generalized Poisson–Nernst–Planck equations")

[91] International Conference on *Modern Treatment of Symmetries, Differential Equations and Applications (Symmetry 2019)* dedicated to 100th birthday of Lev Vasilievich Ovsiannikov (1919-2014), Suranaree University of Technology, Nakhon Ratchasima, Thailand, 14–18.01.2019. (contribution "Entropy method for generalized Poisson–Nernst–Planck equations")

[92] 36th International JVE Conference on *Vibration and Acoustics in Civil Engineering and Fault Diagnostics*, Dubai, United Arab Emirates, 15–17.03.2019. (**Section Chair**; contribution "Mathematical model of crack diagnosis: inverse acoustic scattering problem and its high-precision numerical solution")

[93] 15th *Austrian Numerical Analysis Day*, TU-Graz, Austria, 9–10.05.2019. (contribution "Numerical identification of inhomogeneities by inverse scattering using topological optimality condition")

[94] International Conference on *Elliptic and Parabolic Problems*, Gaeta Latina, Italy, 20–24.05.2019. (**Co-organizer** of Mynisumposium on "Variational Methods in Mechanics"; **Section Chair**; contribution "Variational problems for non-penetrating cracks in elastic bodies whose material moduli depend on the mean normal stress")

[95] *15 years NAWI Graz*, Karl-Franzens University of Graz, Austria, 1.07.2019.

[96] IGDK-1754 Mini-Workshop on *Mathematics in Industry*, Karl-Franzens University of Graz, Austria, 18.10.2019.

[97] Workshop on *Feedback Control* during Special Semester on Optimization, Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria, 28–30.11.2019. (poster "Variational methods for the identification of objects")

[98] Online International Workshop on *Advanced Topics in Dynamical Systems*, University of Kufa, Iraq, 20-22.05.2020.

[99] Online Workshop on *Reaction, Diffusion, and Molecular Communication*, Karl-Franzens University of Graz, Austria, 25.05.2020.

[100] *Doctoral Academy Day 2020*, Karl-Franzens University of Graz, Austria, 12.11.2020 (online).

[101] The 2nd Russia-Japan Workshop on *Mathematical analysis of fracture phenomena for elastic structures and its applications - 20th Conference of Continuum Mechanics Focusing on Singularities (CoMFoS20)*, Novosibirsk-Tokyo, 15–17.12.2020. (**Section Chair**; online contribution "On solution of initial boundary value problems in hypoplasticity")

[102] *Tag der Mathematik*, PH Steiermark, Austria, 4.02.2021 (online).

[103] 3rd International Workshop on *Advanced Topics in Dynamical Systems*, University of Kufa, Iraq, 1.03.2021 (online).

[104] 9th Internatıonal Conference on *Applied Analysis and Mathematical Modelling (ICAAMM2021)*, Biruni University, Istanbul, Turkey, 11–13.06.2021. (online contribution "Shape differentiability of semilinear equilibrium-constrained optimization")

[105] 8th *European Congress of Mathematics (8ECM)*, Portorož, Slovenia, 20–26.06.2021. (**Organizer** of Mynisumposium on "Nonsmooth Variational Methods for PDEs and Applications in Mechanics"; **Section Chair**; online contribution "Shape differentiability of semilinear equilibrium-constrained optimization")

[106] XXVII Conference on *Numerical Methods for Solving Problems in the Elasticity and Plasticity Theory* dedicated to the 100th birth anniversary of Nikolai Nikolaevich Yanenko (EPPS 2021), Siberian Federal University, Krasnoyarsk, Russia, 5–9.07.2021. (**Program Committee**; online contribution "On solution of initial boundary value problems in hypoplasticity")

[107] Workshop on *Recent Advances in Gradient Flows, Kinetic Theory, and Reaction-Diffusion Equations (GKR-21)*, University of Vienna, Austria, 13–16.07.2021 (online).

[108] Virtual Conference on *Analytical and Numerical Methods in Differential Equations (ANMDE 2021)* on occasion of the 100th birthday

of Academician Nikolai N. Yanenko, Suranaree University of Technology, Nakhon Ratchasima, Thailand, 23–26.08.2021. (contribution "Shape gradient method of equilibrium-constrained optimization for semi-linear Stokes-Brinkman-Forchheimer's equation")

[109] XI Annual International Conference of *Georgian Mathematical Union*, Shota Rustaveli State University, Batumi, Georgia, 23–28.08.2021. (**Section Chair**; online contribution "Shape differentiability of semilinear equilibrium-constrained optimization")

[110] Workshop on *Modelling Diffusive Systems: Theory & Biological Applications (MoDiS)*, International Centre for Mathematical Sciences, Edinburgh, UK, 6–9.09.2021(online).

[111] Workshop on *Applied Mathematics and Simulation for Semiconductors (AMaSiS 2021 ONLINE)*, WIAS Berlin, Germany, 6–9.09.2021. (poster "Study of voltage cycling conditions on Pt oxidation and dissolution in polymer electrolyte fuel cells")

[112] The 3rd Russia-Japan Workshop on *Mathematical analysis of fracture phenomena for elastic structures and its applications - 21st Conference of Continuum Mechanics Focusing on Singularities (CoMFoS21)*, Novosibirsk-Tokyo, 14–16.12.2021 (online). (**Organizing Committee**; **Section Chair**; contribution "Poroelastic medium with non-penetrating crack driven by hydraulic fracture")

[113] 1st COLIBRI Focus Workshop on *Mathematical Modeling and Machine Learning in Computational Medicine*, Hotel Weitzer, University of Graz, Austria, 14–15.02.2022.

[114] XXIII International Symposium of *Mathematical Methods Applied to Sciences (SIMMAC)*, Center for Research in Pure and Applied Mathematics (CIMPA), University of Costa Rica (UCR), 21–25.02.2022. (**Co-organizer** of Workshop dedicated to Prof. Alexandr Khludnev 70th anniversary "Modeling and Optimization Methods for PDEs and Applications"; online contribution "Poroelastic medium with non- penetrating crack driven by hydraulic fracture")

[115] 16th *Austrian Numerical Analysis Day*, Radon Institute for Computational and Applied Mathematics (RICAM), Linz, Austria, 4–6.05.2022.

[116] 10th International Conference on *Inverse Problems: Modeling & Simulation*, Paradise-Bay Resortl, Malta, 22–28.05.2022 (**Co-organizer** of Mynisumposium on "Inverse Obstacle and Control Problems in Mechanics"; **Section Chair**; contribution "Shape optimal control of equilibrium constrained optimization problems")

[117] Czechoslovak Conference *Equadiff 15*, Masaryk University, Brno, Czech

Republic, 11–15.07.2022. (**Organizer** of Minisymposium on "Evolution Differential Equations with Application to Physics and Biology I"; **Keynote Lecture** "On solution of initial boundary value problems in hypoplasticity")

[118] XII Annual International Conference of *Georgian Mathematical Union*, Shota Rustaveli State University, Batumi, Georgia, 29.08–3.09.2022. (online contribution "Poroelastic medium with non- penetrating crack driven by hydraulic fracture")

[119] Workshop on *Mathematical Data Science, Control and Optimization - On the occasion of the 70th birthday of Karl Kunisch*, Karl-Franzens University of Graz, Austria, 30.09–1.10.2022. (poster "Variational methods for the identification of objects")

[120] Miniworkshop on *Space-Time Methods*, Institute of Applied Mathematics, TU-Graz, Austria, 21.11.2022.

[121] Workshop on *Topics in Multiple Time Scale Dynamics (22w5057)*, Banff International Research Station, Alberta, Canada, 27.11–2.12.2022 (online).

[122] CoMFoS Workshop on *Mathematical Aspects of Continuum Mechanics*, Tokyo-Kanazawa, Japan, 6–7.12.2022. (online contribution "Poroelastic medium with non- penetrating crack driven by hydraulic fracture: shape derivative and singular solution")

[123] International Conference on *Modern Achievements in Symmetries of Differential Equations (Symmetry 2022)*, Suranaree University of Technology, Nakhon Ratchasima, Thailand, 13–16.12.2022. (online contribution "Poroelastic medium with non-penetrating crack driven by hydraulic fracture")

[124] 4th International Workshop on *Dynamics and Combination (IWATDS 2023)*, University of Kufa, Iraq, 5–6.03.2023 (online).

[125] Conference on *Mathematical Methods of Mechanics dedicated to the anniversary of academician A. G. Kulikovskii*, Steklov Mathematical Institute, Moscow, Russia, 20–24.03.2023 (online).

[126] International Conference on *Elliptic and Parabolic Problems*, Accademia Pontaniana, Napoli, Italy, 22–24.05.2023 (online).

[127] 10th *International Congress on Industrial and Applied Mathematics (ICIAM)*, Waseda University, Tokyo, Japan, 20–25.08.2023. (**Organizer** of Mynisumposium on "Singular Problems in Mechanics"; **Section Chair**; contribution "Asymptotic series solution of variational Stokes problems in planar domain with crack-like singularity")

[128] XIII Annual International Conference of *Georgian Mathematical Union*,

Shota Rustaveli State University, Batumi, Georgia, 4–9.09.2023. (**Plenary Talk** "Poroelastic problem of a non-penetrating crack with cohesive contact for fluid-driven fracture" (online))

[129] International Conference on *Advances in Applications of Analytical Methods for Solving Differential Equations (Symmetry 2024) in honor of academician L.V. Ovsyannikov's 105 birth anniversary*, Suranaree University of Technology, Nakhon Ratchasima, Thailand, 22–26.01.2024. (online contribution "Poroelastic problem of a non-penetrating crack with cohesive contact for fluid-driven fracture")

Scientific Visits

[1] *Seminar am Institut für Numerische Mathematik*, TU Dresden, Germany, 23.11.1999. (lecture "Iteration penalty method with application in mechanics")

[2] *Seminar an der CAESAR-Stiftung* , Bonn, Germany, 14.12.1999. (lecture "Sensitivity of crack in elastic bodies via material derivatives")

[3] *Seminar at the Deparetment of Mathematics*, Keio University, Yokohama, Japan, 20–21.09.2006. (lectures "Primal-dual shape sensitivity analysis of constrained crack problems" and "Quasi-static crack propagation via global optimization approach")

[4] *Seminar at the Chair of Mechanics of Composites of the Department of Mechanics and Mathematics*, Moscow State University, Russia, 12.03.2007. (lecture "Variational methods in the theory of cracks with constraints")

[5] *L.A. Galin Seminar on Continuum Mechanics*, Institute for Problems in Mechanics, Moscow, Russia, 16.03.2007. (lecture "Variational methods in the theory of cracks with constraints")

[6] *Seminar at the Chair of Elasticity of Departments of Mathematics and Mechanics*, St.-Petersburg State University, Russia, 14.06.2007. (lecture "Variational methods in the theory of cracks with constraints")

[7] *Keio University*, Yokohama, Japan, 20–24 and 28–30.11.2007.

[8] *Gunma University* in Kiryu, and *Keio University* in Yokohama, Japan, 20.02–02.03.2010.

[9] *Universidad Tecnologica de Pereira*, Pereira, Colombia, 19–24.11.2013. (3 lectures "Mini-course on (classic) solution of PDEs")

[10] *Kolloquium Angewandte Mathematik*, Department of Mathematics, Friedrich-Alexander University of Erlangen-Nürenberg, Germany, 23–25.04.2014. (lecture "A nonlinear crack - defect interaction")

[11] *Oberseminar Dynamische Systeme: Mathematische Grundlagen und Anwendungen*, Department of Mathematics, TU Munich, Germany, 19–20.01.2015. (lecture "On generalized Poisson-Nernst-Planck equations")

[12] *Kolloquium Angewandte Mathematik*, Institut für Mathematik und Bauinformatik, Universität der Bundeswehr München, Germany, 23–24.04.2015. (lecture "Nonlinear optimization and hemi-variational inequalities for unilateral crack problems")

[13] *Tokyo University of Sciences*, Japan, 19–20.11.2015.

[14] *Oberseminar Dynamische Systeme: Mathematische Grundlagen und Anwendungen*, Department of Mathematics, TU Munich, Germany, 25–26.01.2016. (lecture "Analysis of nonlinear elasticity models with limiting strain for cracks subject to non-penetration")

[15] *Charles University and Czech Academy of Sciences*, Prague, Czech Republic, 18–23.02.2016. (2 lectures: "Nonlinear optimization and hemi-variational inequalities for unilateral crack problems" at *ERC MORE seminar*, and "On generalized Poisson–Nernst–Planck equations" at *J. Nečas seminar on Continuum Mechanics*)

[16] *Institute of Computational Biology*, Helmholtz Zentrum München, Germany, 1–6, 22–25.08.2016.

[17] *Department of Evolution Differential Equations*, Institute of Mathematics of the Czech Academy of Sciences, Prague, 17–20.08.2016.

[18] *Department of Evolution Differential Equations*, Institute of Mathematics of the Czech Academy of Sciences, Prague, 1–6.03.2017.

[19] *Matemáticas y Coloquio de Ecuaciones Diferenciales Parciales*, Universidad Tecnológica de Pereira, Pereira, Colombia, 24–25.11.2017. (2 lectures "Petrov-Galerkin based generalized FEM for Helmholtz equation", "Variational methods for nonlinear crack problems")

[20] *Department of Evolution Differential Equations*, Institute of Mathematics of the Czech Academy of Sciences, Prague, 14–18.12.2017.

[21] *Department of Evolution Differential Equations*, Institute of Mathematics of the Czech Academy of Sciences, Prague, 13–17.09.2021.

[22] *Department of Evolution Differential Equations*, Institute of Mathematics of the Czech Academy of Sciences, Prague, 6–11.12.2021.

[23] *Department of Evolution Differential Equations*, Institute of Mathematics of the Czech Academy of Sciences, Prague, 15–19.08.2022.

[24] *Department of Evolution Differential Equations*, Institute of Mathematics of the Czech Academy of Sciences, Prague, 5–12.12.2022.

[25] *Oberseminar Analysis und Angewandte Mathematik*, Institute of Mathematics at the University of Kassel, Germany, 19–23.12.2022. (lecture "Poroelastic medium with non-penetrating crack driven by hydraulic fracture")

[26] *Department of Evolution Differential Equations*, Institute of Mathematics of the Czech Academy of Sciences, Prague, 25–29.11.2023.