

## CURRICULUM VITAE

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**Born:** July 17, 1961, Sachkhere, Georgia

**Marital status:** married to Ia Giorgobiani

**Children:** Two sons, Giorgi (born 1997) and Nodari (born 1999)

**Citizenship:** Georgia

### **Education and scientific degrees:**

- 1978 - 1983, undergraduate study at the Faculty of Mechanics and Mathematics at the Tbilisi State University, Tbilisi, Georgia;
- 1983 Honors diploma of Mathematician (M.S.), Speciality- Mathematical Analysis;
- 1983 - 1987, post-graduate student of A. Razmadze Mathematical Institute of the Georgian Academy of Sciences, Tbilisi, Georgia;
- 1988, the academic degree of Candidate of Physical and Mathematical Sciences (Ph.D. equivalent) awarded by supreme certification commission under council of Ministry of the USSR by the decision of the Board under Tbilisi State University;

**Thesis title:** Fractional maximal functions and potentials in weighted spaces (Russian). Tbilisi State University 1988.

**Professional experiences:**

- September 2018 - up to now, Research Fellow at the Department of Abstract Analysis of the Institute of Mathematics of the Czech Academy of Sciences;
- July 2010 - August 2018, Research Fellow at the Department of Topology and Functional Analysis of the Institute of Mathematics of the Czech Academy of Sciences;
- October 2000 - June 2010, Research Fellow at the Department of Qualitative Methods of Mathematical Analysis of the Institute of Mathematics of the Academy of Sciences of the Czech Republic;
- October 1998 - September 2000, Visiting Professor at the Institute of Mathematics of the Academy of Sciences of the Czech Republic;
- June 1997 - May 1998, NATO and The Royal Society Postdoctoral Fellowship at the School of Mathematics of the University of Wales, Cardiff, UK;
- February 1997 - June 1997, External lecturer at the Department of Applied Mathematics, Georgian Technical University, Tbilisi;
- May 1992 - October 2006 Senior scientific researcher of the Department of Mathematical Analysis of the A. Razmadze Mathematical Institute of Georgian Academy of Sciences, Tbilisi;
- September 1987 - April 1992, Scientific researcher at the Department of Mathematical Analysis of the A. Razmadze Mathematical Institute of Georgian Academy of Sciences, Tbilisi.

**Research interest:**

- real and functional analysis, harmonic analysis, function spaces, interpolation, weighted inequalities, integral operators, Sobolev embeddings and application to PDE's.

**Awards:**

- 1987, The Prize of the A. Razmadze Mathematical Institute of Georgian Academy of Sciences for the young mathematician.

### **Publishing activity:**

- **133** publications including: 2 monographs, 113 original research papers in academic journals, 15 papers in the conference proceedings and 3 preprints.

**117** publications cited **1060** times by **464** authors, **h-index: 17** (Math Sci Net, 30 June 2021).

**83** publications cited **1128** times, **h-index: 20** (ISI Web of Knowledge from All Databases, 30 June 2021).

**93** publications cited **1094** times, **h-index: 18** (Scopus, 30 June 2021).

**150** publications cited **2280** times, **h-index: 26**, **i10-index: 52** (Google scholar 30 June 2021).

**169** publications cited **1987** times, (ResearchGate, 30 June 2021).

### **Editorial work:**

- Founding editor of the Tbilisi Mathematical Journal; (2005 -2012)
- Member of the International Editorial Advisory Board of the Transactions of Academy of Sciences of Azerbaijan. Series of Physical-Technical and Mathematical Sciences; 2015 -

### **Conference organizer:**

- Spring School "Nonlinear Analysis, Function Spaces and Applications 7", Prague, 2002;
- Spring School "Nonlinear Analysis, Function Spaces and Applications 8", Prague, 2006;
- Miniconference "Spaces Between Us", Třešť, 2008;
- Spring School "Nonlinear Analysis, Function Spaces and Applications 9", Třešť, 2010,

- International Conference on Fourier Analysis and Approximation Theory, dedicated to the 80th birthday of Academician Levan Zhizhiashvili, Bazaleti (Georgia) October 23-28, 2013,
- International Scientific Conference Weighted Estimates of Differential and Integral Operators and their Applications 2017, Astana, Republic of Kazakhstan, 4-6 May, 2017.
- International conference “Operators in Morrey-type Spaces and Applications” (OMTSA2017), Ahi Evran University, Kirsehir, Turkey, 10-13 July, 2017.
- International Conference on Mathematical Advances and Applications (ICOMAA-2018), Yildiz Technical University, Istanbul, Turkey, 11-13 May, 2018.
- 11<sup>th</sup> International Conference Nonlinear Analysis, Function Spaces and Applications, NAFSA11, Prague, Czech Republic, 9–14 July, 2018.
- 5<sup>th</sup> International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM 2018) Trabzon, TURKEY, 23-27 July, 2018.
- International Conference on Mathematical Studies and Applications (ICMSA2018), Karaman, Turkey, 4-6 October, 2018.
- 2<sup>nd</sup> International Conference on Mathematical Advances and Applications (ICOMAA-2019), Yildiz Technical University, Istanbul, Turkey, 3-5 May, 2019.
- 3<sup>rd</sup> International conference “Operators in Morrey-type Spaces and Applications” (OMTSA2019), Dumlupinar University, Kutahya, Turkey, 16-20 July, 2019.
- International E-Conference on Mathematical Advances and Applications (ICOMAA 2020), Yildiz Technical University, Istanbul, Turkey, 24-27 June, 2020.

### **Supervisor of the PhD student:**

Nino Samashvili (I. Javakhishvili Tbilisi State University) PhD Thesis: Approximation problems in variable Lebesgue spaces. Ph.D. thesis defend 2017

### **Post Doctorate supervising:**

INTAS supervisor of INTAS Postdoctoral Fellow R. Mustafayev, 2007-2009

Supervisor of TUBITAK Postdoctoral Fellow Abdulhamit Küçükaslan 2017-2018

### **Grants:**

1. Project Title: Weighted inequalities for integral operators. project period of time 1997-1999 , awarded by the Georgian Academy of Sciences, grant no. 1.7;
2. Project Title: Function spaces, weighted inequalities and approximation numbers for integral operators, project period of time 2001-2003, awarded by the Leverhulme Trust, Grant No. F/00407/E, UK;
3. Project Title: Weighted inequalities, function spaces, interpolation, extrapolation, approximation and entropy numbers, project period of time 2002-2003, awarded by the NATO-grant reg. No PST. CLG. 978694;
4. Project Title: Function spaces and weighted inequalities for integral operators, project period of time 1.1.2001-31.12.2003, awarded by the Grant Agency of the Czech Republic, grant no. 201/01/0333;
5. Project Title: Function spaces and weighted inequalities for integral operators, project period of time 1.1.2005-31.12.2007, awarded by the Grant Agency of the Czech Republic, grant no. 201/05/2033;
6. Project Title: Functional spaces and applications to partial differential equations, project period of time 2006-2008, awarded by the INTAS, project no. 8157;

7. Project Title: Interpolation approach to embedding involving Sobolev, Besov and Hölder spaces, project period of time 2006 - 2008, awarded by the GRICES (Portugal)/ASCR, collaboration grant;
8. Project Title: Function spaces and interpolations, project period of time 2007-2008, awarded by the AV ČR and VŠ ČR/DAAD SRN, PPP Project No. D 15 - CZ 2/07-08;
9. Project Title: Function spaces and weighted inequalities and interpolation, 1.1.2008 -31.12.2012, awarded by the Grant Agency of the Czech Republic, grant no. 201/08/0383;
10. Project Title: Interpolation approach to embedding involving Sobolev, Besov and Hölder type spaces, project period of time 2009 - 2010, awarded by the FCT(Portugal)/ASCR collaboration grant;
11. Project Title: Inequalities for moduli of smoothness and their applications to the study of the embeddings between Sobolev and Besov type spaces, project period of time 2011, awarded by the FCT(Portugal)/ASCR collaboration grant;
12. Project Title: Geometry of function spaces, interpolation and embedding theorems, project period of time 2012-2014, awarded by Shota Rustaveli National Science Foundation (SRNSF), grant no. 13/06;
13. Project Title: Function spaces and weighted inequalities and interpolation II, project period of time 1.1.2013 -31.12.2017, awarded by the Grant Agency of the Czech Republic, grant no. P201/13/14743S;
14. Project Title: Operators in some function spaces and their applications in Fourier Analysis, project period of time 2013-2016, awarded by Shota Rustaveli National Science Foundation (SRNSF) , grant no. 31/48;
15. Project Title: Function spaces, weighted inequalities for integral operators and problems of summability of Fourier series, project period of time 2014-2017, awarded by Shota Rustaveli National Science Foundation (SRNSF), grant no. DI/9/5-100/13.
16. Project Title: Operators of Fourier analysis in some classical and new function spaces, project period of time 2016-2019, awarded by Shota Rustaveli National Science Foundation (SRNSF), grant no: 217282.

17. Project Title: Function Spaces and Approximation, project period of time 1.1.2018 - 31.12.2020, awarded by the Grant Agency of the Czech Republic, research grant no. 18 - 00580S.
18. Project Title: Function spaces and some problems of Harmonic Analysis, project period of time 20.12.2017-19.12.2020, awarded by Shota Rustaveli National Science Foundation (SRNSF) grant no: FR17\_589.

**Participation in the Conferences and contributed talks:**

- 2020 (25-28 September) 7th International Conference on Recent Advances in Pure and Applied Mathematics, Goddess of Bodrum Isis Hotel, Bodrum/Muğla, TURKE  
 Title of the talk: Some new results related to Lorentz  $GT$ -spaces and interpolation
- 2020 (13-17 September) International workshop QIND60, dedicated to the 60th birthday of Aleš Nekvinda, Špindlerův Mlýn, Czechia ,  
 Title of the talk: Almost-compact and compact embeddings of variable exponent spaces
- 2020 (27-29 July) International Workshop "Analysis and Theoretical Numerics", Siegmundsburg/Thuringia, Germany  
 Title of the poster: Weighted inequalities for discrete iterated Hardy operators
- 2020 (24-27 June), International E-Conference on Mathematical Advances and Applications ICOMAA 2020, Yildiz Technical University, Istanbul, TURKEY. (Invited Speaker, Member of the Scientific Committee)  
 Title of the talk: Weighted inequalities for discrete iterated Hardy operators
- 2019 (5-8 December), Bohemian Day of Function Spaces, Friedrich Schiller University Jena, German, (Invited Speaker)

Title of the talk: Some new results related to Lorentz  $G\Gamma$ -spaces and interpolation.

- 2019 (24-30 November), Latest in Geometric Analysis. Celebration of Pekka Koskela's 59th birthday, Będlewo, Poland, (Invited Speaker)

Title of the talk: Interpolation of Sobolev spaces defined on a metric measure space

- 2019 (23-27 September), Function spaces and PDE's 2019, Małe Ciche, Poland, (Invited Speaker)

Title of the talk: Operators in Generalized Morrey-type Spaces and One Dimensional Inequalities Involving Hardy Operators.

- 2019 (16-20 July), 3<sup>rd</sup> International conference "Operators in General Morrey-type Spaces and Applications, (OMTSA2019) Dumlupinar University, Kutahya, Turkey, (Invited Speaker, Member of the Scientific Committee)

Title of the talk: Boundedness of classical operators in Morrey type spaces and Hardy inequalities.

- 2019 (10-13 July), International Conference on Mathematics and Mathematics Education (ICMME-2019), Selçuk University, Konya, Turkey. (Invited Speaker)

Title of the talk: Some new results related to Lorentz  $G\Gamma$  -spaces and interpolation,

- 2019 (9 July), Analysis Seminar, Department of Mathematics at Pamukkale University, Denizli, Turkey,

Title of the talk: Definition of the generalized Morrey-type spaces modeled on the Banach Function Spaces (local and global)

- 2019 (5 July), Analysis Seminar, Department of Mathematics at Ankara University.

Title of the talk: Embeddings between weighted complementary local Morrey-type spaces and weighted local Morrey-type spaces.



- 2019 (May 26 - June 1), 46<sup>th</sup> Spring School on Analysis, May 26- June 1, 2019, Paseky, Czech Republic

Title of talk: from one-dimensional two weighted inequalities to n-dimensional analog

- 2019 (3-5 May), 2<sup>nd</sup> International Conference on Mathematical Advances and Applications (ICOMAA-2019), Yildiz Technical University, Istanbul, Turkey. (Invited Speaker, Member of the Scientific Committee)

Title of the talk: Characterization of Embeddings of Sobolev-type spaces into Generalized Hölder Spaces

- 2019 (28-31 March), VII School of Analysis in memory of A. Pełczyński, 28.03.2019 - 31.03.2019, Będlewo, Poland

Poster: Interpolation approach of the Sobolev-type spaces embedding into generalized Hölder Spaces

- 2019 (10-14 February), Explorations in Harmonic Analysis and other realms, A conference honoring Alexander Olevskii's 80th birthday, February 10-14, 2019, Weizmann Institute of Science, Rehovot, Israel

- 2018 (30 November), Seminar in Analysis and PDE, Universidade de Coimbra, Coimbra, Portugal,

Title of talk: Generalized weighted Lorentz spaces

- 2018 (4-6 October), International Conference on Mathematical Studies and Applications (ICMSA2018), Karaman, Turkey, (Invited Speaker, Member of the Scientific Committee)

Title of the talk: Strong differentiation of functions from variable Lebesgue spaces  $L^{p(\cdot)}([0, 1]^n)$

- 2018 (23-27 July), 5<sup>th</sup> International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM 2018) Trabzon, TURKEY, (Invited Speaker, Member of the Scientific Committee)

Title of the talk: Weighted Norm Inequalities for Positive Operators Restricted on The Cone of  $\rho$ -Quasiconcave Functions

- 2018 (9-14 July), 11<sup>th</sup> International Conference Nonlinear Analysis, Function Spaces and Applications, Prague, Czech Republic, (Speaker, Member of the Organizing Committee)

Title of the talk: Weighted Norm Inequalities for Positive Operators Restricted on The Cone of  $\rho$ -Quasiconcave Functions

- 2018 (4-8 June), International Conference Harmonic Analysis and Applications, Strobl18, Strobl, AUSTRIA

Title of the poster: Construction of function spaces close to  $L^\infty$  with associate space close to  $L^1$

- 2018 (11-13 May), International Conference on Mathematical Advances and Applications (ICOMAA-2018), Yildiz Technical University, Istanbul, Turkey. (Invited Speaker, Member of the Scientific Committee)

Title of the talk: Construction of variable exponent Lebesgue space  $L^p(\cdot)(\mathbb{T})$  close to  $L^\infty(\mathbb{T})$  with associate space close to  $L^1(\mathbb{T})$

- 2017 (24 November), Seminar in Analysis and PDE, Universidade de Coimbra, Coimbra, Portugal,

Title of talk: Characterization of Interpolation between Grand, small or classical Lebesgue spaces

- 2017 (17-23 September), New Perspectives in the theory of function spaces and applications, Będlewo, Poland, (Speaker)

Title of the talk: Characterization of Interpolation between Grand, small or classical Lebesgue spaces

- 2017 (29-31 August), Siegmundsburg Seminar on Analysis & Theoretical Numerics, Siegmundsburg/Thuringia, Germany. (Invited Speaker)

Title of the talk: The extrapolation theorems for weighted generalized Morrey spaces

- 2017(10-13 July), International conference "Operators in Morrey-type Spaces and Applications", Ahi Evran University, Kirsehir, Turkey. (Invited Speaker)

Title of the talk: The extrapolation theorems for weighted generalized Morrey spaces

- 2017 (29-30 March), International conference in Analysis, University of Poitiers, Futuroscope, France,

Poster: Characterization of Interpolation between Grand, small or classical Lebesgue spaces

- 2016 (4-9 July), Ninth International Conference "Function Spaces, Differential Operators and Nonlinear Analysis" Prague, Czech Republic, July 4-9, 2016, (Speaker),

Title of the talk: Some  $s$ -numbers of an integral operator of Hardy type in Banach function spaces

- 2016 (28 April), Colloquium, University of Poitiers, Poitiers, France

Title of the talk: Generalized weighted Lorentz spaces;

- 2016 (21 March), Analysis Seminar, Ahi Evran University, Kirsehir, Turkey

Title of the talk: Boundedness of Stein's spherical maximal function in variable Lebesgue space and application to the wave equation;

- 2015 (27 November), Analysis Seminar, Friedrich-Schiller-University Jena, Germany,

Title of talk: Characterizations of Sobolev, Besov and Triebel-Lizorkin Spaces via averages on balls;

- 2015 ( 24 - 27 June), Singular PDEs, Analytical Tools and Applications, June 24 - 27, Małe Ciche 2015, Poland, (Invited Speaker)

Title of talk: Weighted iterated Hardy-type inequalities;

- 2015 (28 May), Colloquim del Departamento de Análisis Matemático, Universidad Complutense de Madrid,

Title of talk: Ulyanov-type inequalities between Lorentz-Zygmund spaces

- 2015 (15 May), Seminar in Analysis and PDE, Universidade de Coimbra, Coimbra, Portugal,

Title of talk: Boundedness of Stein's spherical maximal function in variable Lebesgue space and application to the wave equation;

- 2014 (9 - 15 June), School on Nonlinear Analysis, Function Spaces and Applications 10, June 9 - 15, Trest Castle, Czech Republic 2014, (Speaker),

Title of talk: Maximal multiplier operators in  $L^{p(\cdot)}(R^n)$  spaces;

- 2014 (30 May), Talk for all graduates, Beijing Normal University, Beijing, China,

Title of talk: Boundedness of Stein's spherical maximal function in variable Lebesgue space and application to the wave equation;

- 2014 (16 May), Analysis Seminar, Beijing Normal University, Beijing, China,

Title of talk: Sobolev spaces defined on a doubling metric measure spaces and real interpolation;

- 2014 (14 April), Analysis Seminar, Bilkent University, Ankara, Turkey,

Title of talk: The weighted Stieltjes inequality and applications;

- 2013 (21 November), Colloquim del Departamento de Análisis Matemático, Universidad Complutense de Madrid,

Title of talk: Boundedness of Stein's spherical maximal function in variable Lebesgue space and application to the wave equation;

- 2013 (23-28 October), International Conference on Fourier Analysis and Approximation Theory, dedicated to the 80th birthday of Academician Levan Zhizhiashvili, Bazaleti (Georgia) October 23-28, 2013, (member of the organizing committee and Speaker),

Title of talk: Boundedness of Stein's spherical maximal function in variable Lebesgue space and application to the wave equation;

- 2013 (24-31 August), Second international conference, Mathematics in Armenia: Advances and Perspectives, 24-31 August, 2013, Tsaghkadzor, Armenia, Dedicated to the 70th Anniversary of Foundation of Armenian National Academy of Sciences, (Invited Speaker),

Title of talk: Boundedness of Stein's spherical maximal function in variable Lebesgue space and application to the wave equation;
- 2013 (14 May), Analysis Seminar, Kirikkale University, Kirikkale University, Turkey,

Title of talk: Reduction theorems for operators on the cones of monotone functions
- 2012 (4 December), Istituto per le Applicazioni del Calcolo "Mauro Picone" - UOS di Napoli, Seminar in analysis and application,

Title of talk: The weighted Stieltjes inequality and applications;
- 2012 (2-5 October), International Scientific Conference on Functional Analysis and its Application, 2-5 October, Astana, Kazakhstan 2012, (Invited Speaker),

Title of talk: Reduction theorems for operators on the cones of monotone function;
- 2012 (9-13 July), Calculus of Variations and PDEs, satellite conference of the 6th European Congress of Mathematics, Szczawnica, Poland, 9-13 July, 2012, (Speaker),

Title of talk: Reduction theorems for operators on the cones of monotone functions;
- 2012 (4 June), Analysis Seminar, Kirikkale University, Kirikkale University, Turkey,

Title of talk: Some properties of quasi-concave functions;
- 2011 ( 10 October), Barcelona Analysis Seminar, Centre de Recerca Matematica, Bellaterra, Barcelona, Spain,

Title of talk: Sobolev spaces defined on a doubling metric measure spaces and real interpolation;

- 2011 (26-30 September), International Conference on Function Spaces and Variable Exponent Analysis September 26 to 30, 2011, Centre de Recerca Matemàtica (CRM), Bellaterra, Barcelona, Spain, (Invited Speaker),

Title of talk: Embeddings and the growth envelope of Besov spaces involving only slowly varying smoothness;

- 2011 (18-24 September), 8<sup>th</sup> International Conference on Function Spaces, Differential Operators, Nonlinear Analysis (FSDONA-2011) 18-24 September, 2011, in Tabarz/Thür. (Germany) <http://fsdona2011.uni-jena.de/>, (Speaker),

Title of talk: Embeddings of Besov spaces with generalized smoothness into Lorenz spaces;

- 2011 (17 June), Seminar in Analysis and PDE, Universidade de Coimbra, Coimbra, Portugal,

Title of talk: The weighted Stieltjes inequality and applications;

- 2011 (20-27 May), The International Workshop on Operators in Morrey Type Space and Applications - OMTSA 2011, Kirsehir, Turkey, (Invited Speaker),

Title of talk: Characterization of the dual and pre-dual spaces of the local and global Morrey-type spaces;

- 2010 (22-25 September), Workshop in Inequalities and PDEs, Male Ciche, Poland, (Invited Speaker),

Title of talk: Recent development in the theory of the weighted Hardy inequalities;

- 2010 (11-17 September), Nonlinear Analysis, Function Spaces and Applications (NAFSA 9) September 11 - 17, 2010, Trest Castle, Czech Republic member of the organizing committee;

- 2010 (June 28-July 2), The Jozef Marcinkiewicz Centraly conference, Poznan, Poland, (Speaker),  
 Title of talk: Calderón-type interpolation theorem for operators with nonstandard endpoint behaviour and applications to sharp sobolev embeddings;
- 2010 (June 17, 2010), Seminar in functional analysis and application, Universidade de Aveiro, Aveiro, Portugal;  
 Title of talk: Calderón-type interpolation theorem for operators with nonstandard endpoint behaviour and applications to sharp sobolev embeddings;
- 2010 (May 19), Analysis seminar, University of Jyväskylä, Finland,  
 Title of talk: Calderón-type interpolation theorem for operators with nonstandard endpoint behaviour and applications to sharp sobolev embeddings;
- 2010 (April 14), Seminar at the Department of Mathematics, Lulea Univesity of Technology, Lulea, Sweden,  
 Title of talk: Some open problems in the weighted Hardy inequality;
- 2010 (March 30), Seminar in the Department of Mathematics and Art, Ahi Evran University, Kirşehir, Turkey,  
 Title of talk: Reverse Hardy inequality;
- 2010 (January 22-27), The Joint Mathematical Conference CSASC 2010, (XIth Conference of Czech Mathematicians), Prague, Czech Republic, (Invited Speaker)  
 Title of talk: Calderón-type interpolation theorems and applications to sharp Sobolev embeddings;
- 2009(March 4-8), 4<sup>th</sup> World Conference on 21st Century Mathematics 2009, Abdus Salam School of Mathematical Sciences, GC University Lahore, Pakistan, (Invited Speaker),

Title of talk: Optimal embeddings of Bessel-Potential-type spaces into generalized Hölder spaces involving  $k$ -modulus of smoothness;

- 2008(July 6-12 ), Workshop on Function Spaces and Applications, Freyburg/Unstrut (Germany), (Speaker),

Title of talk: Interpolation orbits and optimal Sobolev's embeddings;

- 2007(August 13-18), 6<sup>th</sup> International ISAAC (International Society for Analysis, its Applications and Computation) congress, Ankara, Turkey, (Speaker),

Title of talk: Optimal Sobolev's embeddings;

- 2007(May 21), Analysis seminar, University of Helsinki, Finland,

Title of talk: Sobolev's embeddings and interpolation in the Lorentz spaces;

- 2007 (May 17), Analysis seminar, University of Jyväskylä, Finland,

Title of talk: Interpolation Orbits and optimal Sobolev's embeddings;

- 2007( May 15), Analysis seminar, University of Oulu, Finland,

Title of talk: The optimal embedding for the Calderón type spaces and the  $J$ -method spaces;

- 2006 (September 14), Seminar in functional analysis and application, Universidade de Aveiro, Portugal,

Title of talk: "A reduction theorem for supremum operators " ;

- 2005 (September 11-17), Workshop on Fractal Analysis, Eisenach, Germany, (Speaker),

Title of talk: Integral operators on metric spaces;

- 2005 (May 26), Functional Analysis Seminar, University of Helsinki, Finland,

Title of talk: A non- doubling Trudinger inequality;



- 2005 (May 6), Analysis seminar, University of Jyväskylä , Finland,  
Title of talk: Optimal embeddings of Bessel-potential-type spaces into Lorentz- Karamata spaces;
- 2004 (December 8), Seminar at the Department of Mathematics, Luleå University of Technology, Lulea, Sweden,  
Title of talk: Embeddings and Duality theorems for weak classical Lorentz spaces;
- 2004 (October 21), Seminar in functional analysis and application, Universidade de Aveiro, Portugal,  
Title of talk: An equivalence theorems for some scales of integral conditions related to Hardy's inequality;
- 2004 (April 25), Seminar in Problems of Modern Analysis, Technion, Haifa (Israel),  
Title of talk: Functional properties of the space  $S_p(w)$ ;
- 2004 (April 19), Analysis seminar, Bar-Ilan University Ramat Gan, Israel,  
Title of talk: A new type of symmetric spaces;
- 2003 (July 21-25), The Wladyslaw Orlicz Centenary Conference and function spaces VII, Poznan (Poland), (Speaker),  
Title of talk: Boundedness of Classical operators on Lorentz spaces;
- 2003 (April 14), Seminar in Problems of Modern Analysis, Technion, Haifa (Israel),  
Title of talk: Stability of the real interpolation method;
- 2002 (November 7-9), Real analysis symposium, Kagoshima University, Kagoshima (Japan), (Invited Speaker),  
Title of talk : Integral operators defined on metric spaces;

- 2002 (September 25-28), Autumn Conference Mathematical Society of Japan, Shimane University, Matsue,(Japan), (Invited Speaker),  
Title of talk: Discretization and anti-discretization of function spaces;
- 2002 (May 22-30), International Conference in Analysis in honor of Y.Brudnyi, Technion, Haifa (Israel),(Speaker),  
Title of talk: Duality principles in Lorentz spaces and embeddings;
- 2001 (June 28 - July 4), International Conference on Function Spaces, Differential Operators, and Nonlinear Analysis in honor of Hans Triebel on his 65th birthday, Teistungen (Germany)(Speaker),  
Title of talk: A new characterization of the associate space to  $\Gamma^p(v)$ ;
- 2000 (August 17-22), Conference on Function Spaces, Interpolation Theory, and related topics, in honor of Jaak Peetre on his 65th birthday, Lund University, Sweden, (Speaker),  
Title of talk: Duality principles and reduction theorems;
- 1998 (May 31 -June 6), Spring School "Nonlinear analysis, Function Spaces, and Applications 6", Prague, Czech Republic, (Speaker),  
Title of talk: Certain Volterra integral operators in weighted rearrangement invariant Banach function spaces;
- 1996 (June 17-20), 5<sup>th</sup> International Conference on Harmonic Analysis and Partial differential equations, El Escorial, Spain, (Speaker),  
Title of talk: Two-weighted mixed inequalities in Orlicz classes for fractional maximal functions defined on homogeneous type spaces;
- 1995 (September 3-9), International conference of Function Spaces, Differential Operators and Nonlinear Analysis, Paseky nad Jizerou, Czech Republic, (Speaker),  
Title of talk: Weighted inequalities for one– sided maximal functions in Orlicz classes;
- 1994 (May), Mathematical Institute, Academy of Sciences of the Czech Republic, Prague, (Speaker),

Title of talk: Criteria of weight inequalities for integral transforms defined on homogeneous type spaces;

- 1994 (May 23-28), Spring School "Nonlinear analysis, Function Spaces, and Applications 5", Prague, Czech Republic,(Speaker),

Title of talk: Criteria of weighted inequalities in Orlicz classes for maximal functions defined on homogeneous type;

- 1994 (May 2-6), International conference of Topological Vector Spaces, Algebras and Related Areas, McMaster University, Hamilton, Canada, (Speaker),

Title of talk: Criteria of weight inequalities for integral transforms defined on homogeneous type spaces;

- 1991 (June 6-11), International symposium in Continuum Mechanics and Related Problems of Analysis. Tbilisi, Georgia, (Speaker),

Title of talk: Weak type weighted inequalities for maximal functions with respect to the general basis;

- 1990 (May 21-25), Spring School "Nonlinear analysis, Function Spaces, and Applications 4", Roudnice nad Labem, Czechoslovakia,(Speaker),

Title of talk: Hilbert transform in Zygmund classes, Maximal functions in Morrey-Campanato spaces.

### **Short stays and invited research visits:**

- Friedrich-Schiller-University, Jena, Germany, 4 days in 2020 (invited research visit);
- Tbilisi State University, Tbilisi, Georgia, 9 days in 2019; (Supported by Shota Rustaveli National Science Foundation);
- Pamukkale University, Çivril, Turkey, 7 days in 2019, (invited research visit, supported by TUBITAK);
- Ankara University, Ankara, Turkey, 7 days in 2019, (invited research visit, supported by TUBITAK);
- Universidade de Coimbra, Coimbra, Portugal, 9 days in 2018, (invited research visit);
- South Asian University, New Delhi, India, three weeks in 2018, (exchange program);
- Tbilisi State University, Tbilisi, Georgia, five weeks in 2018; (Supported by Shota Rustaveli National Science Foundation);
- Universidade de Coimbra, Coimbra, Portugal, 9 days in 2017, (invited research visit);
- Tbilisi State University, Tbilisi, Georgia, three visits five weeks in 2017; (Supported by Shota Rustaveli National Science Foundation);
- Universidade de Coimbra, Coimbra, Portugal, 8 days in 2016, (invited research visit);
- Tbilisi State University, Tbilisi, Georgia, two visits three weeks in 2016, (Supported by Shota Rustaveli National Science Foundation);
- Centre de Recerca Matemàtica (CRM), Bellaterra, Barcelona, Spain, one month in 2016, (invited research visit);
- University of Poitiers, Poitiers, France, one month in 2016, (visiting Professor);
- Ahi Evran University, Kırşehir, Turkey, 10 days in 2016, (exchange program);

- Friedrich-Schiller-University, Jena, Germany, 4 days in 2015 (invited research visit);
- Institute of Mathematics of the Polish Academy of Sciences, Warsaw, Poland, 8 days in 2015 (exchange program);
- Tbilisi State University, Tbilisi, Georgia, two visits six weeks in 2015, (Supported by Shota Rustaveli National Science Foundation);
- Universidad Complutense de Madrid, Madrid, Spain, 6 days in 2015, (invited research visit);
- Universidade de Coimbra, Coimbra, Portugal, two visits 16 days in 2015, (invited research visit);
- Kirikkale univeristy, Kirikkale, and Ahi Evran University. Kirşehir, Turkey, 14 days in 2015, (exchange program);
- Tbilisi State University, Tbilisi, Georgia, two visits six weeks in 2014, (Supported by Shota Rustaveli National Science Foundation);
- Akdeniz Univerity, Antalya, Turkey, 6 days in 2014, (invited research visit);
- Beijing Normal Univerity, Beijing, China, 24 days in 2014, (exchange program);
- Karlstad University, Karlstad, Sweden, 6 days in 2014, (invited research visit);
- Ankara university, Ankara, Kirikkale univeristy, Kirikkale and Ahi Evran University, Kirşehir, Turkey, 9 days in 2014, (exchange program);
- Lulea University of Technology, Lulea, Sweden. 9 days in 2014, (invited research visit);
- Universidad Complutense de Madrid, Madrid, Spain, 8 days in 2013, (invited research visit);
- Tbilisi State University, Tbilisi, Georgia, three weeks in 2013, (Supported by Shota Rustaveli National Science Foundation);

- Tbilisi State University, Tbilisi, Georgia, four weeks in 2013, (Supported by Shota Rustaveli National Science Foundation);
- Universidade de Coimbra, Coimbra, Portugal, two weeks in 2013, (invited research visit);
- Tbilisi State University, Tbilisi, Georgia, three visits all together nine weeks in 2013, (Supported by Shota Rustaveli National Science Foundation);
- Ankara university, Ankara, Kirikkale univeristy, Kirikkale, and Ahi Evran University, Kirşehir, Turkey, 10 days in 2013, (exchange programme);
- Lulea University of Technology, Lulea, Sweden. two weeks in 2013, (invited research visit);
- Istituto per le Applicazioni del Calcolo "Mauro Picone" - UOS di Napoli, Italy, 8 days in 2012, (invited research visit);
- L.N. Gumilyov Eurasian National University, Astana, Kazakhstan, two weeks in 2012, (invited research visit);
- Tbilisi State University, Tbilisi, Georgia, foure weeks in 2012, (Supported by Shota Rustaveli National Science Foundation);
- Universidade de Coimbra, Coimbra, Portugal, two weeks in 2012, (invited research visit);
- Ankara univerity, Ankara, Kirikkale univeristy, Kirikkale and Ahi Evran University, Kirşehir, Turkey, 10 days in 2012, (exchange programme);
- Tbilisi State University, Tbilisi, Georgia, three weeks in 2012, (Supported by Shota Rustaveli National Science Foundation);
- Lulea University of Technology, Lulea, Sweden. 8 days in 2012, (invited research visit);
- Cardiff University, Cardiff, UK, one week in 2012, (invited research visit);

- Lulea University of Technology, Lulea, Sweden. 10 days in 2011, (invited research visit);
- Centre de Recerca Matemàtica (CRM), Bellaterra, Barcelona, Spain, one month in 2011, (invited research visit);
- Universidade de Coimbra, Coimbra, Portugal, two weeks in 2011, (exchange program);
- Universidade de Coimbra, Coimbra, Portugal, two weeks in 2010, (exchange program);
- Jyväskylä University, Jyväskylä, Finland, 10 days in 2010, (invited research visit);
- Lulea University of Technology, Lulea, Sweden. two visits four weeks in 2010, (invited research visit);
- Ahi Evran University, Kirsehir, Turkey, one week in 2010, (invited research visit);
- Universidad Complutense de Madrid, 10 days in 2010, (invited research visit);
- Universidade de Coimbra, Coimbra, Portugal, two weeks in 2009, (exchange program);
- Universidade de Aveiro, Aveiro, Portugal, one week in 2008, (exchange program);
- Universidade de Coimbra, Coimbra, Portugal, one week in 2008, (exchange program);
- Brock University, St.Catharines, Canada, two months in 2008 (invited research visit);
- Cardiff University, Cardiff, Wales, UK, one week in 2007, (research visit supported by INTAS grant);
- Universidade de Coimbra, Coimbra, Portugal, one week in 2007, (exchange program);

- Universidade de Aveiro, Aveiro, Portugal, one week in 2007, (exchange program);
- University of Helsinki, Helsinki, Finland, one week in 2007, (exchange program);
- University of Jyväskylä, Jyväskylä, Finland, four weeks in 2007 (exchange program);
- Universidade de Coimbra, Coimbra, Portugal, one week in 2006, (exchange program);
- Universidade de Aveiro, Aveiro, Portugal, one week in 2006, (exchange program);
- University of Barcelona, Barcelona, Spain, one week in 2006, (invited research visit);
- University of Helsinki, Helsinki, Finland, one week in 2005, (invited research visit);
- University of Jyväskylä, Jyväskylä, Finland, four weeks in 2005 (exchange program);
- Friedrich-Schiller-University Jena, Jena, Germany, one week in 2005 (invited research visit);
- Lulea University of Technology, Lulea, Sweden, two weeks in 2004, (invited research visit);
- Universidade de Coimbra, Coimbra, Portugal, two weeks in 2004, (invited research visit);
- Universidade de Aveiro, Portugal, two weeks in 2004, (invited research visit);
- Cardiff University, Cardiff, Wales, UK, one week in 2004, (research visit supported by Leverhulme Trust Grant);
- Technion, Haifa, Israel, three weeks in 2004, (exchange program);
- Weizmann Institute of Science, Rehovot, Israel, one week in 2004, (exchange program);



- University of Jyväskylä, Jyväskylä, Finland, three weeks in 2003 (exchange program);
- Cardiff University, Cardiff, Wales, UK, two weeks in 2003 (research visit supported by Leverhulme Trust Grant);
- Weizmann Institute of Science, Rehovot, Israel, three weeks in 2003 (exchange program);
- Okayama University, Okayama, Japan, tree weeks in 2002 (exchange program);
- Osaka Kyoiku University, Osaka, Japan, one week in 2002 (exchange program);
- Hokkaido University, Sapporo, Japan, one week in 2002 (exchange program);
- Waseda University, Tokyo, Japan, one week in 2002 (exchange program);
- Nara Women's University, Nara, Japan, one week in 2002 (exchange program);
- Weizmann Institute of Science, Rehovot, Israel, one week in 2002 (research visit supported by NATO);
- Cardiff University, Cardiff, Wales, UK, two weeks in 2002 (research visit supported by Leverhulme Trust Grant);
- Cardiff University, Cardiff, Wales, UK, tree weeks in 2001 (research visit supported by Leverhulme Trust Grant);
- Brock University, St.Catharines, Canada, two months in 2001(invited research visit);
- McMaster University, Hamilton, Canada, one week in 2001 (invited research visit);
- Sussex University, Brighton, UK, one week in 1998 (invited research visit);

- Sussex University, Brighton, UK, one week in 1997 (invited research visit);
- McMaster University, Hamilton, Canada, one week in 1994 (invited research visit);
- Brock University, St.Catharines, Canada, two months in 1994(invited research visit).

## Publication activity

### Monographs

1. I. Genebashvili, A. Gogatishvili, V. Kokilashvili and M. Krbec  
Weight theory for integral transforms on spaces of homogeneous type. Pitman Monographs and Survey in Pure and Applied Mathematics 92, Longman, Harlow, 1998. MR1791462 (2003b:42002)
2. W.D. Evans, A. Gogatishvili and B. Opic.  
Weighted inequalities involving  $\rho$ -quasiconcave operators. World Scientific Publishing Co. Pte. Ltd., Hackensack, NJ, 2018. xv+140 pp. MR3823807

### Research papers in academic journal

3. A. Gogatishvili  
Fractional maximal functions with respect to the basis of the convex comperable sets in weighted Lebesgue spaces, (Russian. English and Georgian Summaries), Soobshch. Akad. Nauk Grusin. SSR, 129(1988), no. 2, 273 – 275. MR0953054 (89g:42033)
4. A. Gogatishvili  
Weighted inequalities for potentials in spaces of homogeneous type, (Russian. English and Georgian Summaries), Soobshch. Akad. Nauk Grusin. SSR, 129(1988), no. 3, 493 – 495. MR0953066 (89i:42033)
5. A. Gogatishvili  
Riesz transforms and maximal functions in  $\varphi(L)$  classes, (Russian and Georgian Summaries), Soobshch. Akad. Nauk Grusin. SSR, 137(1990), no. 3, 489 - 492. MR1087544 (91j:42009)

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Maximal functions in the classes  $\varphi(L)$ , (English, Russian original), Soviet Math. Dokl., 42(1991), no. 2, 488 – 490; translation from Dokl. Akad. Nauk SSSR, 314(1990), no. 3, 534 – 536. MR1094013 (92c:42018)
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11. A. Gogatishvili  
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Riesz transforms and maximal functions in  $\varphi(L)$  classes, (Georgian Summary), Proc. A.Razmadze Math. Inst., 102(1993), 59 – 70. MR1268817 (95d:42024)

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