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## **Professor Vesko Valov**

Correspondence language: English

Sex: Male

Date of Birth: 5/14

Canadian Residency Status: Canadian Citizen

Country of Citizenship: Canada

## **Contact Information**

The primary information is denoted by (\*)

### **Address**

#### Mailing (\*)

Nipissing University  
100 College Drive, P.O. Box 5002  
North Bay Ontario P1B 8L7  
Canada

### **Telephone**

Work (\*)                      705-474-3450 extension: 4389

### **Email**

Work (\*)                      veskov@nipissingu.ca

### **Website**

Personal                      <http://faculty.nipissingu.ca/veskov/>

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Protected when completed

## Professor Vesko Valov

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### Language Skills

Language	Read	Write	Speak	Understand	Peer Review
Bulgarian	Yes	Yes	Yes	Yes	Yes
English	Yes	Yes	Yes	Yes	Yes
Russian	Yes	Yes	Yes	Yes	Yes

### Degrees

- 1976/6 - 1980/4      Doctorate, PhD, Mathematics, University of Sofia  
 Degree Status: Completed  
 Thesis Title: Lattices of open maps  
 Transferred to PhD without completing Masters?: No  
 Areas of Research: Topology  
 Research Disciplines: Pure Mathematics  
 Supervisors: G. Skerdev and St. Nedev, 1976/6 - 1980/4  
 Fields of Application: Foundations and Knowledge Acquisition
- 1972/9 - 1974/6      Master's Thesis, Master of Science, Mathematics, University of Sofia  
 Degree Status: Completed  
 Thesis Title: Selection theorems  
 Supervisors: St. Nedev, 1972/9 - 1974/6

### Credentials

- 2014/7 - 2016/7      External Examiner in Mathematics, University of Malta  
 This is a traditional position for a person from another university to ensure to objectivity of the examination process
- 2012/3 - 2012/3      Leader of Mathematics Review Team, University of the West Indies, Cave Hill Campus  
 The team was reviewing Mathematics Program in University of West Indies, Cave Hill Campus.

### Recognitions

- 2010/6      Nipissing University Chancellor's Award for Excellence in Research - 5,000 (Canadian dollar)  
 Nipissing University  
 Prize / Award  
 I was awarded the 2010 Chancellor's Award for Excellence in Research

2004/6	Nipissing University research Achievement Award - 1,500 (Canadian dollar) Nipissing University Prize / Award
1998/7	Third World Academy of Sciences for Travel and Research Third World Academy of Sciences Distinction I was granted a support from TWAS to visit the Mathematical Institute of the National University of Mexico during the period June-July 1998.
1990/11	British Council Research Support British Council Distinction I was granted a financial support to visit Oxford University during the period November 1990.
1979/11	Young Researcher Award University of Sofia Distinction

## User Profile

Researcher Status: Researcher

Engaged in Clinical Research?: No

Key Theory / Methodology: Pure Mathematics

Research Interests: Pure Mathematics - Topology, Functional Analysis, Group Theory

Research Experience Summary: I have been doing research research in Mathematics for more that 40 years and have published more than 100 research articles

Fields of Application: Foundations and Knowledge Acquisition

Disciplines Trained In: Pure Mathematics

Areas of Research: Topology

Research Specialization Keywords: Topology, Functional Analysis, Topological Groups

Research Disciplines: Pure Mathematics

## Employment

2005/7	Professor Computer Science and Mathematics, Nipissing University Full-time, Professor Tenure Status: Tenure, 2004/7 - Teaching and Research Position  Research Disciplines:
2004/7 - 2005/6	Associate Professor Computer Science and Mathematics, Nipissing University Full-time Tenure Status: Tenure Teaching and Research Position

2000/7 - 2004/6	Assistant Professor Computer Science and Mathematics, Nipissing University Full-time Tenure Status: Non Tenure Track Teaching and Research Position
1994/12 - 2000/6	Associate Professor Mathematics, University of Swaziland Full-time Tenure Status: Non Tenure Track Teaching and Research Position
1992/10 - 1994/12	Associate Professor Mathematics, University of Zimbabwe Full-time Tenure Status: Non Tenure Track Teaching and Research Position
1988/5 - 1992/9	Associate Professor Faculty of Mathematics, University of Sofia Full-time Tenure Status: Tenure Teaching and Research Position
1989/9 - 1992/6	Associate Professor Mathematics, University of Veliko Tarnovo Part-time Tenure Status: Non Tenure Track Teaching Position
1984/2 - 1988/4	Assistant Professor Faculty of Mathematics, University of Sofia Full-time Tenure Status: Tenure Teaching and Research Position
1980/10 - 1984/1	Research Fellow Institute of Mathematics, Bulgarian Academy of Sciences Full-time Tenure Status: Tenure Research and Teaching Position

## Affiliations

The primary affiliation is denoted by (\*)

(*) 2005/7	Professor, Computer Science and Mathematics, Nipissing University Teaching and Research
2004/7 - 2005/6	Associated Professor, Computer Science and Mathematics, Nipissing University Teaching and Research
2000/7 - 2004/6	Assistant Professor, Computer Science and Mathematics, Nipissing University Teaching and Research
1994/12 - 2000/6	Associate Professor, Mathemaics, University of Swaziland Teaching and Research
1992/10 - 1994/12	Associate Professor, Mathematics, University of Zimbabwe Teaching and Research

1988/5 - 1992/9	Associate Professor, Faculty of Mathematics, University of Sofia Teaching and Research
1984/2 - 1988/4	Assistant Professor, Faculty of Mathematics, University of Sofia Teaching and Research
1980/10 - 1984/1	Research Fellow, Institute of Mathematics, Bulgarian Academy of Sciences Research and Teaching

## Leaves of Absence and Impact on Research

2016/1 - 2016/6	Sabbatical, Nipissing University During my sabbatical leave I visited Ehime University, Shimane University and Waseda University in Japan for a total period of one month. As a result of these visits I produced three research papers with my Japanese colleagues.
2009/1 - 2009/6	Sabbatical, Nipissing University During that leave I visited University of Sofia and the Mathematical Institute of the Bulgarian Academy of Sciences. As a result, I was able to use the good mathematical libraries of the two institutions and have useful discussions with my colleagues.

## Research Funding History

### Completed [n=3]

2013/5 - 2018/4 Principal Applicant	NSERC five-years discovery grant, Grant, Operating Clinical Research Project?: No Project Description: This project supported my research in Dimension Theory, Continuous Selections and related areas in Topology Research Uptake: Doing extensive research, publishing papers in well established journals and supervising research students  <b>Funding by Year:</b> 2013/5 - 2018/4      Total Funding - 55,000 (Canadian dollar) Portion of Funding Received - 55,000 (Canadian dollar) Time Commitment: 40  <b>Funding Sources:</b> 2008/5 - 2013/4      Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery grant Total Funding - 55,000 (Canadian dollar) Portion of Funding Received - 55,000 Funding Competitive?: Yes
2003/5 - 2008/4 Principal Applicant	NSERC five-years discovery grant <b>Funding Sources:</b> 2003/5 - 2008/4      Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery grant Total Funding - 42,500 (Canadian dollar) Portion of Funding Received - 42,500 Funding Competitive?: Yes
2003/5 - 2008/4 Principal Applicant	NSERC five-year discovery grant, Grant, Operating Clinical Research Project?: No

Project Description: Research in Pure Mathematics: Dimension Theory and Continuous Selections

Research Uptake: Doing extensive research, publishing papers in well established journals and supervising research students

**Funding by Year:**

2003/5 - 2008/4      Total Funding - 60,000 (Canadian dollar)  
 Portion of Funding Received - 60,000 (Canadian dollar)  
 Time Commitment: 40

**Funding Sources:**

2013/5 - 2018/4      Natural Sciences and Engineering Research Council of Canada (NSERC)  
 Discovery grant  
 Total Funding - 55,000 (Canadian dollar)  
 Funding Competitive?: Yes

## Courses Taught

Lecturer, Computer Science and Mathematics, Nipissing University

Course Title: Advanced Calculus I

Course Code: Math 2036

Course Topic: Mathematics

Course Level: Undergraduate

Academic Session: Fall

Number of Students: 15

Number of Credits: 3

Lecture Hours Per Week: 3

Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University

Course Title: Advanced Linear Algebra I

Course Code: Math 2046

Course Topic: Linear Algebra

Course Level: Undergraduate

Academic Session: Fall

Number of Students: 15

Number of Credits: 3

Lecture Hours Per Week: 3

Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University

Course Title: Algebra II

Course Code: Math 3157

Course Topic: Algebra

Course Level: Undergraduate

Academic Session: Winter

Number of Students: 12

Number of Credits: 3

Lecture Hours Per Week: 3

Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University  
Course Title: Real Analysis II  
Course Code: Math 3137  
Course Topic: Analysis  
Course Level: Undergraduate  
Academic Session: Winter  
Number of Students: 12  
Number of Credits: 3  
Lecture Hours Per Week: 3  
Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University  
Course Title: Real Analysis I  
Course Code: Math 3136  
Course Topic: Analysis  
Course Level: Undergraduate  
Academic Session: Fall  
Number of Students: 13  
Number of Credits: 3  
Lecture Hours Per Week: 3  
Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University  
Course Title: Advanced Calculus II  
Course Code: Math 2037  
Course Topic: Multivariable Calculus  
Course Level: Undergraduate  
Academic Session: Spring  
Number of Students: 15  
Number of Credits: 3  
Lecture Hours Per Week: 3  
Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University  
Course Title: Geometry  
Course Code: Math 2116  
Course Topic: Foundation of Geometry  
Course Level: Undergraduate  
Academic Session: Fall  
Number of Students: 12  
Number of Credits: 3  
Lecture Hours Per Week: 3  
Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University  
Course Title: Functional Analysis  
Course Code: Math 4086/5086  
Course Topic: Functional Analysis  
Course Level: Graduate  
Academic Session: Winter  
Number of Students: 4  
Number of Credits: 3  
Lecture Hours Per Week: 3  
Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University  
 Course Title: Measure Theory and Integration  
 Course Code: Math 4036/5036  
 Course Topic: Measure theory  
 Course Level: Graduate  
 Academic Session: Winter  
 Number of Students: 5  
 Number of Credits: 3  
 Lecture Hours Per Week: 3  
 Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University  
 Course Title: Differential Equations II  
 Course Code: Math 3267  
 Course Topic: Differential equations  
 Academic Session: Spring  
 Number of Students: 6  
 Number of Credits: 3  
 Lecture Hours Per Week: 3  
 Guest Lecture?: No

Lecturer, Computer Science and Mathematics, Nipissing University  
 Course Title: Algebra  
 Course Code: Math 5056  
 Course Topic: Abstract Algebra  
 Course Level: Graduate  
 Academic Session: Winter  
 Number of Students: 5  
 Number of Credits: 3  
 Lecture Hours Per Week: 3  
 Guest Lecture?: No

## Course Development

Developer and lecturer, Computer Science and Mathematics, Nipissing University  
 Course Title: Measure Theory  
 Course Level: Undergraduate  
 This course was developed as a joint course for graduate and undergraduate students. the main topics is Lebesgue Measure and integration.

Developer and lecturer, Computer Science and Mathematics, Nipissing University  
 Course Title: Functional Analysis  
 Course Level: Graduate  
 The course includes the topics: Topological vector spaces, Freshet spaces, the Banach-Steinhaus theorem, the open mapping and closed graph theorems, convexity, the Hahn-Banach theorems, Banach spaces and duality in Banach spaces, adjoints and compact operators, Hilbert spaces.

Developer and lecturer, Computer Science and Mathematics, Nipissing University  
 Course Title: Measure Theory and Integration  
 Course Level: Graduate  
 The course includes the following topics: Sigma-algebras and measures, Borel and Lebesgue measures on Euclidean spaces, measurable functions and integration, convergence theorems, signed measures and the Randon-Nikodym theorem, product measure and Fubini theorem.



Developer and lecturer, Computer science and Mathematics, Nipissing University

Course Title: Algebra

Course Level: Graduate

The course includes standard topics from groups, rings and modules.

## Student/Postdoctoral Supervision

### Bachelor's Honours [n=18]

- 2017/9 - 2017/12  
Principal Supervisor Paulson, Katherine (Completed) , Nipissing University  
Degree Name: Bachelor Honours  
Specialization: Mathematics  
Student Degree Start Date: 2013/9  
Student Degree Received Date: 2018/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: The Kolmogorov-Riez compactness theorem  
Project Description: The aim of the project is to consider the paper "The Kolmogorov-Riez compactness theorem" by H. Hanche-Olsen and H. Holden showing that the Arzelà-Ascoli theorem and Kolmogorov compactness theorem both are consequences of a simple lemma on compactness in metric spaces.  
Present Position: Just graduated from Nipissing University
- 2017/5 - 2017/8  
Principal Supervisor Gansekoele, Trevor (In Progress) , Nipissing University  
Student Degree Start Date: 2014/9  
Student Degree Expected Date: 2019/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Universal Maps  
Project Description: The project was supported by NSERC Undergraduate Student research Award Program. It was devoted to the study and application of universal maps.  
Present Position: Student at Nipissing University  
  
Project Funding Sources: Natural Sciences and Engineering Research Council of Canada (NSERC) (Canadian dollar)
- 2017/5 - 2017/8  
Principal Supervisor Primeau, Victoria (Completed) , Nipissing University  
Specialization: Mathematics  
Student Degree Start Date: 2013/9  
Student Degree Received Date: 2018/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Large Scale geometry  
Project Description: The project was supported by NSERC Undergraduate Student Research Award Program. The project was to study large scale Geometry following the monograph "Large scale Geometry" by P. Nowak and G. Yu.  
Present Position: Graduate student, Nipissing University
- 2016/9 - 2016/12  
Principal Supervisor Fleming, Lindsay (Completed) , Nipissing University  
Student Degree Start Date: 2011/9  
Student Degree Received Date: 2017/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: The Mathematics of Games and Gambling  
Project Description: This senior research project was devoted to application of Mathematics and statistics in games and gambling.  
Present Position: Occasional Mathematics Teacher, Ottawa Carleton District School Board

- 2016/5 - 2016/8  
Principal Supervisor Gansekoele, Trevor (In Progress) , Nipissing University  
Student Degree Start Date: 2014/9  
Student Degree Expected Date: 2019/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Introduction to Topology  
Project Description: The project was supported by NSERC Undergraduate Student Research Award Program. The aim was to introduce Trevor to the basic notions and techniques in Topology.  
Present Position: Student at Nipissing University
- 2016/5 - 2016/8  
Principal Supervisor Primeau, Victoria (Completed) , Nipissing University  
Specialization: Mathematics  
Student Degree Start Date: 2013/9  
Student Degree Received Date: 2018/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Fibers of Generic Continuous Maps  
Project Description: The project was supported by NSERC Undergraduate Student Research Award Program. It was devoted to the study the description of the level sets of generic continuous maps on compact metric spaces.  
Present Position: Graduate student, Nipissing University
- 2015/5 - 2015/8  
Principal Supervisor Primeau, Victoria (Completed) , Nipissing University  
Specialization: Mathematics  
Student Degree Start Date: 2013/9  
Student Degree Received Date: 2018/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Introduction to Topology  
Project Description: The project was supported by NSERC Undergraduate Student Research Award Program. The aim of the project was Victoria to become familiar with the main topological notions and techniques  
Present Position: Graduate student, Nipissing University
- 2015/5 - 2015/8  
Principal Supervisor Lalonde, Bradley (Completed) , Nipissing University  
Student Degree Start Date: 2011/9  
Student Degree Received Date: 2015/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Homogeneous Metric ANR compacta  
Project Description: This was a third year research project with Bradley devoted to homogeneous compacta. During the time of the project Bradley was able to write a research paper published in the journal Topology and its Applications.  
Present Position: Emergency Supply Teacher, St. Lawrence Secondary School in Cornwall, ON
- 2014/5 - 2014/8  
Principal Supervisor Lalonde, Bradley (Completed) , Nipissing University  
Student Degree Start Date: 2011/9  
Student Degree Received Date: 2015/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Homogeneous Compacta  
Project Description: The project was supported by NSERC Undergraduate Student Research Award Program. It was a second year project with Bradley devoted to homogeneous compacta  
Present Position: Emergency Supply Teacher at St. Lawrence Secondary School in Cornwall, Ontario

- 2014/1 - 2014/4  
Principal Supervisor Tassone, Natasha (Completed) , Nipissing University  
Student Degree Start Date: 2014/1  
Student Degree Received Date: 2010/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Topology of finite-dimensional Euclidean spaces  
Project Description: The aim was Natasha to become familiar with the topology of finite-dimensional Euclidean spaces  
Present Position: Payroll Administrator, Robert B. Somerville, Bradford, ON
- 2014/1 - 2014/4  
Principal Supervisor Wheatstone, Miranda (Completed) , Nipissing University  
Student Degree Start Date: 2010/1  
Student Degree Received Date: 2014/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Numerical Solutions of Differential Equations  
Project Description: Studying of numerical solutions of differential equations.  
Present Position: High School Teacher, Woodbridge College, Woodbridge, ON
- 2013/9 - 2013/12  
Principal Supervisor Tassone, Natasha (Completed) , Nipissing University  
Student Degree Start Date: 2010/9  
Student Degree Received Date: 2014/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Matrices: Theory and Applications  
Project Description: Studying matrices and more interesting applications of matrices  
Present Position: Payroll Administrator, Robert B. Somerville, Bradford, ON
- 2013/9 - 2013/12  
Principal Supervisor Wheatstone, Miranda (Completed) , Nipissing University  
Student Degree Start Date: 2010/9  
Student Degree Received Date: 2014/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: The Laplace Transform  
Project Description: Becoming familiar with the application of the Laplace transform for solving differential equations  
Present Position: High School Teacher, Woodbridge College, Woodbridge, ON
- 2013/5 - 2013/8  
Principal Supervisor Lalonde, Bradley (Completed) , Nipissing University  
Student Degree Start Date: 2011/9  
Student Degree Received Date: 2015/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Introduction to Homogeneous Compacta  
Project Description: The project was supported by NSERC Undergraduate Student Research Award Program. That was the first project with Bradley devoted to homogeneous compacta.  
Present Position: Emergency Supply Teacher, St. Lawrence Secondary School in Cornwall, Ontario
- 2013/1 - 2013/4  
Principal Supervisor Lund, Jessica (Completed) , Nipissing University  
Student Degree Start Date: 2009/9  
Student Degree Received Date: 2013/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Approximations of Functions by Polynomials  
Project Description: Studying different methods of approximating continuous functions by polynomials  
Present Position: Mathematics teacher

- 2012/9 - 2012/12  
Principal Supervisor Lund, Jessica (Completed) , Nipissing University  
Student Degree Start Date: 2009/9  
Student Degree Received Date: 2013/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Differential Equations  
Project Description: Studying different types of differential equations and methods for their solutions.  
Present Position: Mathematics teacher
- 2012/5 - 2012/8  
Principal Supervisor Wheatstone, Miranda (Completed) , Nipissing University  
Student Degree Start Date: 2010/9  
Student Degree Received Date: 2014/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Introduction to General Topology  
Project Description: The project was supported by NSERC Undergraduate Student Research Award Program  
Present Position: High School Teacher, Woodbridge College, Woodbridge, ON
- 2012/1 - 2012/4  
Principal Supervisor Kelly, Ian (Completed) , Nipissing University  
Student Degree Start Date: 2008/9  
Student Degree Received Date: 2012/6  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Optimizing Non-differentiable Convex Functions  
Project Description: Studying of optimizations of convex functions  
Present Position: Head of Mathematics department, Father Mercredi High School, Fort McMurray, Alberta

**Master's Thesis [n=2]**

- 2018/9 - 2020/3  
Principal Supervisor Victoria Primeau (In Progress) , Nipissing University  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: A selection theorem and its applications  
Present Position: Graduate student, Nipissing University
- 2012/1 - 2012/9  
Principal Supervisor Hicks, Stephanie (Completed) , Nipissing University  
Degree Name: Masters of Science  
Student Degree Start Date: 2011/9  
Student Degree Received Date: 2012/12  
Student Canadian Residency Status: Canadian Citizen  
Thesis/Project Title: Selection Theorems  
Project Description: This was a Master's Thesis devoted to the main theorems for existence of selection theorem for set-valued maps.  
Present Position: Mathematics Professor, Fleming College, Peterborough, ON

**Doctorate [n=1]**

- 2012/9 - 2018/7  
Principal Supervisor Bajmak, Zenafer (Completed) , University of Skopje  
Degree Name: PhD  
Specialization: Mathematics  
Student Degree Start Date: 2012/9  
Student Degree Received Date: 2018/7  
Student Canadian Residency Status: Not Applicable  
Thesis/Project Title: Selections of Multi-Valued Maps  
Project Description: This was a PhD study on selections and dimension  
Present Position: Mathematics Teacher, High School of City Skopje "Cvetan Dimov", Macedonia

**Post-doctorate [n=1]**

2011/9 - 2012/6 Tonic, Vera (Completed) , Oklahoma University  
 Principal Supervisor Student Degree Start Date: 2011/9  
 Student Degree Received Date: 2012/6  
 Student Canadian Residency Status: Visitor Visa  
 Thesis/Project Title: Resolution Theorems and Cohomological Dimension  
 Present Position: Assistant Professor, Rijeka University, Croatia

**Event Administration**

2012/3 - 2018/5 Co-organizer, Annual Workshop on Topology, Workshop, 2012/5 - 2018/5  
 A member of the annual workshop on Topology hosted every year by the Topology group at Nipissing University

2017/7 - 2017/7 Member of Program Committee, Conference "Mathematics days in Sofia" 2017, July 10-14., Conference, Institute of Mathematics, Bulg. Akad. Scien., 2017/1 - 2017/7  
 I was a member of the Program Committee of that conference

2017/1 - 2017/7 Organizer, Mini-symposium on Topology, Conference, 2017/7 - 2017/7  
 Together with E. Mihaylova I was the a co-organizer of mini-symposium on Topology in the frame of the conference "Mathematical days in Sofia", July 10-14.

2013/1 - 2013/7 Co-organizer, 28th Summer Conference on Topology, Conference, 2013/7 - 2013/7  
 I was one of the organizers of the 2013 Summer Conference on Topology hosted by the topology group from Nipissing University

2013/1 - 2013/7 Co-organizer, Workshop on Homogeneous Compact Spaces, Workshop, 2013/7 - 2013/7  
 Together with Jan van Mill we organized a workshop on Homogeneous compact spaces during the 28th Summer Conference on Topology

2006/1 - 2006/7 Co-organizer, Conference "Pioneers of Bulgarian Mathematics", Conference, Faculty of Mathematics, Sofia University, 2006/7 - 2006/7  
 I was a co-organizer of the Topology session of the conference "Pioneers of Bulgarian Mathematics", Sofia, July 8-10.

2005/4 - 2005/6 Co-organizer, General Topology Session of the 2005 CMS summer meeting, Conference, Canadian Mathematical Society, 2005/6 - 2005/6  
 Co-organizer of the general Topology session of the Summer meeting of CMS, June 4-6, 2005, Waterloo

**Editorial Activities**

2016/12 - 2018/12 Co-editor, Special issue of Serdica Mathematical Journal in memory of St. Nedev, Journal  
 Together with my colleague V. Gutev we are editing a special issue of the mathematical journal Serdica devoted to the memory of our advisor Stoyan Nedev

2018/5 - 2018/10 Member editorial board, International Journal of Surveys in Computation and Technology, Journal  
 Member of the editorial board <https://sites.google.com/view/kags-ijsc/>

2013/1 - 2018/10 Member editorial board, Matematicki Bilten, Journal  
 Member of the editorial board <http://im-pmf.weebly.com/matematicki-bilten.html>

2010/1 - 2018/10 Member editorial board, Annals of Functional Analysis, Journal  
 Member of the Editorial Board <https://www.emis.de/journals/AFA/>

2010/1 - 2018/10 Member editorial board, Advances and Applications in Mathematical Sciences, Journal  
 Member of the editorial board [http://www.mililink.com/journals\\_desc.php?id=59](http://www.mililink.com/journals_desc.php?id=59)

- 2015/9 - 2017/8 Co-editor, A special issue of "Topology and its Application" in memory of A. Chigogidze, Journal  
Together with S. Antonyan, A. Dranishnikov and A. Karassev we edited volume 227 of the journal "Topology and its Application", August 2017, devoted to the memory of Alex Chigogidze.
- 2013/1 - 2014/6 Co-editor, A special issue of "Topology and its Application" devoted to the 60's birthday of M. Choban and St. Nedev, Journal  
Together with V. Gutev we edited volume 169 of the journal "Topology and its Applications", June 2014, devoted to the 60's birthday of M. Choban and St. Nedev.

## Mentoring Activities

- 2009/9 - 2013/6 Graduate Advisor in Mathematics, Nipissing University
- 2009/9 - 2013/6 Chair of Graduate Program, Nipissing University  
Number of Mentorees: 9  
I was in charge for the graduate program in Mathematics

## Expert Witness Activities

- 2014/7 - 2016/7 External examiner, Ensuring the objectivity of the Math examination in University of Malta, Malta, Valletta  
This is a traditional position for a person from another university to ensure the objectivity of the examination process
- 2012/4 - 2012/4 Leader of Mathematics review team, Reviewing the Mathematics program in University of West Indies, Cave Hill Campus, Barbados, Bridgetown  
The team was reviewing Mathematics program in University of West Indies, Cave Hill Campus

## Journal Review Activities

- Referee, Proceedings of the American Mathematical Society, American Mathematical Society  
Number of Works Reviewed / Refereed: 1
- Referee, Fundamenta Mathematicae, Institute of Mathematics, Polish Academy of Sciences  
Number of Works Reviewed / Refereed: 2
- Referee, Set-Valued Analysis, Kluwer Academic Publishers  
Number of Works Reviewed / Refereed: 2
- Referee, Journal of Mathematical Analysis and Applications, Elsevier  
Number of Works Reviewed / Refereed: 1
- Referee, Topology and its Applications, Elsevier  
Number of Works Reviewed / Refereed: 5
- Referee, Rocky Mountain Journal of Mathematics, Rocky Mountain Mathematics Consortium  
Number of Works Reviewed / Refereed: 1
- Referee, Canadian Mathematical bulletin, Canadian Mathematical Society  
Number of Works Reviewed / Refereed: 1

Referee, Serdica Mathematical Journal, Institute of Mathematics, Bulgarian Academy of Sciences

Number of Works Reviewed / Refereed: 1

Referee, Transactions of the American Mathematical Society, American Mathematical Society

Number of Works Reviewed / Refereed: 1

Referee, Topology Proceedings

Number of Works Reviewed / Refereed: 4

## Graduate Examination Activities

Chair, Macedo, Andrea, Computer Science and Mathematics, Nipissing University

Chair, Heindl, Jonathan, Computer Science and Mathematics, Nipissing University

Chair, Smith, Richard, Computer Science and Mathematics, Nipissing University

Committee Member, Alkins, Robert, Computer Science and Mathematics, Nipissing University

## Research Funding Application Assessment Activities

- 2016/7 - 2016/8      Committee Member, Evaluating the application of Y. Zelenyuk for a gran from South African National Research Foundation, Funder, Academic Reviewer, South African National research Foundation  
Number of Applications Assessed: 1
- 2010/7 - 2010/8      Committee Member, Evaluating the application of V. Gutev for a gran from South African National Research Foundation, Funder, Academic Reviewer, National Research Foundation of South Africa  
Number of Applications Assessed: 1
- 2010/7 - 2010/8      Committee Member, Evaluating the application of Y. Zelenyuk for a gran from South African National Research Foundation, Funder, Academic Reviewer, South African National Research Foundation  
Number of Applications Assessed: 1
- 2008/11 - 2009/2      Committee Member, Evaluating the NSERC application of R. Raphael, Funder, Academic Reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC)  
Number of Applications Assessed: 1

## Promotion Tenure Assessment Activities

- 2017/5      Referee, Mathematics, University of Lincoping  
Number of Assessments: 1  
Referee of the PhD Thesis of V. Nyagahakwa
- 2015/6      Referee, Mathematics, University of Ljubljana  
Number of Assessments: 1  
Member of the Full Professor Promotion Committee of M. Cencelj
- 2015/5      Referee, Mathematics, University of Lincoping  
Number of Assessments: 1  
Referee of the Licentiate Thesis of V. Nyagahakwa

- 2013/5 Referee, Faculty of Mathematics, University of Sofia  
Number of Assessments: 1  
External member of Doctor of Science Thesis Committee of G. Dimov
- 2011/5 Referee, Faculty of Mathematics, University of Sofia  
External member of the Full Professor Promotion Committee of G. Dimov

## Organizational Review Activities

- 2014/7 - 2016/7 Mathematics External Examiner, University of Malta  
Mathematics External Examiner at the University of Malta
- 2012/3 - 2012/3 Leader Review Committee, University of the West Indies, Cave Hill Campus  
The team was reviewing the Mathematics Program in the University of West Indies, Cave Hill Campus

## International Collaboration Activities

- 2016/6 - 2016/6 Invited visitor, Russian Federation  
Invited visitor to Moskow State Yniversity, Chair of General topology and geometry.  
Presented talk: "Homological selections and fixed point theorems". collaboration with K. Kozlov
- 2016/4 - 2016/5 Invited visitor, Japan  
Invited visitor, Matsuyama University, April 27-May 2. Presented talk: "Homological selections and fixed point theorems". Collaboration with D. Shakhmatov and T. Yamauchi
- 2016/4 - 2016/4 Invited visitor, Japan  
Invited visitor to Matsue University, April 6-27. Talk "Homogeneous metric ANR compacta"  
Collaboration with E. Matsubishi
- 2016/4 - 2016/4 Invited visitor, Japan  
Invited visitor to Waseda University, Tokyo Japan. Talk "Homological properties of homogeneous ANR compacta". Collaboration with A. Koyama

## Committee Memberships

- 2016/9 Committee Member, Research Council, Nipissing University
- 2018/4 - 2018/5 Committee Member, Chancellor's Research Award Committee, Nipissing University  
Evaluating the applications for the Chancellor's Research Award
- 2017/5 - 2017/5 Committee Member, Chancellor's Research Award Committee, Nipissing University  
Evaluating the applications for Chancellor's Research Award
- 2009/9 - 2014/6 Committee Member, Graduate Study Council, Nipissing University
- 2009/9 - 2014/6 Committee Member, Research Council, Nipissing University
- 2010/9 - 2013/6 Committee Member, Nipissing University Senate, Nipissing University
- 2012/5 - 2012/5 Committee Member, University Review Appeals Committee, Nipissing University
- 2011/5 - 2012/5 Committee Member, Chancellor's Research Award Committee, Nipissing University  
Evaluating the applications for Chancellor's Research Award
- 2012/2 - 2012/3 Committee Member, Geography Position Selection Committee, Nipissing University
- 2012/2 - 2012/3 Committee Member, Mathematics Position Selection Committee, Nipissing University



2008/9 - 2009/6	Committee Member, Consolidate Committee, Nipissing University
2009/2 - 2009/3	Committee Member, Physics Position Selection Committee, Nipissing University
2006/10 - 2006/12	Committee Member, Appointment and Promotion Committee, Faculty of Education, Nipissing University

## Other Memberships

2015/1	Member, Canadian Mathematical Society
2001/1	Member, American Mathematica Society

## Presentations

- (2018). Spectral representation of topological groups and near-openly generated groups. International Conference "Topological Algebra and Set-Theoretic Topology" dedicated to Professor A. V. Arhangel'skii's 80th birthday Moscow August 23-28, 2018, Moscow, Russian Federation  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes  
Description / Contribution Value: The talk was devoted to the introduction of a new class of topological groups - the near-openly generated groups
- (2018). Homogeneous ANR-compacta. 2018 International Conference on Topology and its Applications, July 7-11, 2018, Nafpactos, Greece  
Main Audience: Researcher  
Invited?: Yes, Keynote?: No  
Description / Contribution Value: The talk was devoted to the recent developments on homogeneous metric ANR-compacta
- (2017). Spectral representations of topological groups. Mathematics Days in Sofia, 2017, Sofia, Bulgaria  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
- (2017). Homogeneous finite-dimensional metric compacta. Mathematical Congress of the Americas, Montreal, Canada  
Main Audience: Researcher  
Invited?: Yes, Keynote?: No  
Description / Contribution Value: This is an invited talk in the section "Shape, Homotopy and Attractors"
- (2016). Homogeneous metric ANR compacta. Topological Conference in memory of St. Nedev, Sofia, Bulgaria  
Main Audience: Researcher  
Invited?: Yes, Keynote?: No
- (2016). Homological properties of homogeneous ANR compacta. Invited visit of Waseda University, Tokyo, Japan  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
- (2016). Homogeneous metric ANR compacta. Invited visit of Shimane University, Matsue, Japan  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
- (2016). Homological selections and fixed point theorems. Invited visit of Matsuyama University, Matsuyama, Japan  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes

9. (2016). Homological selections and fixed point theorems. Invited visit of Moscow State University, Moscow, Russian Federation  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
10. A. Dranishnikov. (2015). Alex Chigogidze and his mathematical legacy. A Lecture in Honor of Dean Alex Chigogidze at College of Staten Island, New York, United States  
Main Audience: General Public  
Invited?: Yes, Keynote?: Yes
11. (2014). Separating sub-additive maps. International Conference on Topological Algebras, Playa de Villas, Dominican Republic  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
- [12.](#) (2014). Local properties of homogeneous ANR compacta. Mathematics Days in Sofia 2014, Sofia, Bulgaria  
Main Audience: Researcher  
Invited?: Yes, Keynote?: No
- [13.](#) (2013). Alexandroff manifolds and homogeneous compacta. Interaction between Logic, Topological structures and Banach space theory, Eilat, Israel  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
- [14.](#) (2013). Generalized Cantor manifolds. International Conference on Topology and Geometry, Matsue, Japan  
Main Audience: Researcher  
Invited?: Yes, Keynote?: No
15. (2013). Homogeneous compacta and manifolds. Waseda Geometric Topology Workshop, Tokyo, Japan  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
- [16.](#) (2013). Functional Extenders. International Conference on Topological Algebras and Applications, Tartu, Estonia  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
- [17.](#) (2013). Homogeneous compacta and generalized manifolds. Topological Methods in Analysis and Optimization (conference dedicated to the 70 birth day of P. Kenderov), Sofia, Bulgaria  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
18. (2012). Bing and Krasinkiewicz maps. International conference "Alexandroff Readings", Moscow, Russian Federation  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
19. (2012). Homogeneous compacta. International Conference on Applied and Industrial Mathematics dedicated to M. Choban, Chisinau, Moldova, Republic of  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes
- [20.](#) (2012). Homogeneous ANRs and Alexandroff manifolds. Third International Conference on Topology and its Applications, Skopje, Macedonia, The Former Yugoslav Republic of  
Main Audience: Researcher  
Invited?: Yes, Keynote?: Yes

## Publications

### Journal Articles

1. Shakhmatov, D.; Valov, V.; Yamauchi, T. (2018). Linear extension operators of bounded norms. *Journal of Mathematical Analysis and Applications*. 446: 952-960.  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes  
Number of Contributors: 3  
Description / Contribution Value: We show that a compact space  $X$  is a Dugundji space if for every embedding of  $X$  into a Tychonoff cube there is an extension operator of norm less than two.
2. Jan van Mill and Vesko Valov. (2018). Actions of semitopological groups. *Canadian Mathematical Bulletin*. doi.org/10.4153/CMB  
Co-Author  
Published, Canadian Mathematical Society, Canada  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We investigate continuous transitive actions of semitopological groups on spaces, as well as separately continuous transitive actions of topological groups.
3. Koyama, A.; Valov, V. (2018). On homologically locally connected spaces. *Topology and its Applications*.  
Co-Author  
Accepted, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We provide some properties and characterizations of homologically  $UV(n)$ -maps and  $lc(n)$ -spaces.
4. Vesko Valov. (2018). Homological dimension and dimensional full-valuedness. *Serdica Mathematical Journal*.  
Accepted, Institute of Mathematics, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: The relations between the existing definitions of homological dimensions with respect to different groups are investigated.
5. Vesko Valov. (2018). Local homological properties and cyclicity of homogeneous ANR compacta. *Proceedings of the American Mathematical Society*. 146(6): 2697-2705.  
<http://dx.doi.org/http://dx.doi.org/10.1090/proc/13484>  
Published, American Mathematical Society, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We show that if  $X$  is an  $n$ -dimensional homogeneous metric ANR compactum then every point from  $X$  has a local basis of connected open sets  $U$  such that the homological properties of  $U$  are similar to the properties of the open balls in the  $n$ -dimensional Euclidean space.
6. Valov, V. (2018).  $I$ -favorable spaces: Revisited. *Topology Proceedings*. 51: 277-292.  
First Listed Author  
Published, Auburn University, Alabama, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: Extending previous characterizations of  $I$ -favorable spaces and providing proofs of some author's result announced earlier.

7. K. Kozlov and V. Valov. (2018). Spectral representations of topological groups and near-openly generated groups. *Uspehi Mat Nauk*.  
Co-Author  
Submitted, Canadian Mathematical Society, Canada  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: The class of of near-openly generated topological groups is introduced and investigated.
8. van Mill, J.; Valov, V. (2018). Homogeneous continua that are not separated by arcs. *Acta Mathematica Hungarica*.  
Co-Author  
Submitted,  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2
9. Valov, V. (2017). Homologivcal dimension and homogeneous ANR spces. *Topology and its Applications*. 221: 38-50.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.topol.2017.02.063>  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: In this paper we provide some general properties of the homological dimension introduced by Alexandroff, mainly with an eye towards describing the dimensional full-valuedness of compact metric spaces.
10. Matsushashi, E; Valov, V. (2017). Parametric set-wise injective maps. *Topology and its Applications*. 231: 337-344.  
<http://dx.doi.org/https://doi.org/10.1016/j.topol.2017.09.029>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We introduce the notion of set-wise injective maps and provide results about fiber embeddings. Our results improve some previous results in this area.
11. Valov, V. (2017). Homological selections and fixed-point theorems. *Journal of Fixed Point Theory and Applicatins*. 19(3): 1561-1570.  
<http://dx.doi.org/DOI 10.1007/s11784-016-0384-y>  
Published, Springer, Germany  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: A homological selection theorem for C-spaces as well as a finite-dimensional homological selection theorem are established. The finite-dimensional homological selection theorem is applied to obtain fixed point theorems for some usco maps.
12. Kuchraski, A.; Plewilk, S.; Valov, V. (2016). Game theoretic approach to skeletally Dugundji and Dugundji spaces. *Topology and its Applications*. 201: 206-216.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.topol.2015.12.037>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 3  
Description / Contribution Value: Characterizations of skeletally Dugundji spaces and Dugundji spaces are given in terms of club collections consisting of countable families of co-zero sets.

13. Valov, V. (2016). Local cohomological properties of homogeneous ANR compacta. *Fundamenta Mathematicae*. 233: 257-270.  
<http://dx.doi.org/DOI: 10.4064/fm93-12-2015>  
 Published, Inst. of Mathematics, Polish Academy of Sciences, Poland  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: It is shown that the local cohomological structure of finite-dimensional homogeneous ANR continua is similar to the local cohomological structure of Euclidean spaces.
14. Valov, V. (2015). Locally  $n$ -connected compacta and  $UV(n)$ -maps. *Analysis and Geometry in Metric Spaces*. 3: 93-110.  
<http://dx.doi.org/DOI 10.1515/agms-2015-0006>  
 Published, De Gruyter, Germany  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: We provide a machinery for transferring some properties of metrizable ANR-spaces to metrizable  $LC(n)$ -spaces. As a result, we show that for completely metrizable spaces the properties  $AL(C)n$ ,  $LC(n)$  and  $WLC(n)$  coincide to each other.
15. Valov, V. (2015). On separating sub-additive maps. *Turkish Journal of Mathematics*. 39(2): 168-173.  
<http://dx.doi.org/doi:10.3906/mat-1401-12>  
 Published, TUBITAK, Turkey  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: We generalize a result of Araujo about a biseparating maps between function spaces.
16. Valov, V. (2015). Skeletally generated spaces and absolutes. *Topology Proceedings*. 45: 63-71.  
 Published, Auburn University, Alabama, United States  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: Some properties of skeletally generated spaces are established. In particular, it is shown that any compactum coabsoluteto a  $k$ -metrizable compactum is skeletally generated.
17. Karassev, A.; Todorov, V.; Valov, V. (2014). Alexandroff manifolds and homogeneous continua. *Canadian Mathematical Bulletin*. 57(2): 335-343.  
<http://dx.doi.org/http://dx.doi.org/10.4153/CMB-2013-010-8>  
 Co-Author  
 Published, Canadian Mathematical Society,  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 3  
 Description / Contribution Value: It is established that any homogeneous  $n$ -dimensional metric ANRcontinuum is a  $V(n)$ -continuum in the sense of Alexandroff.
18. Todorov, V.; Valov, V. (2014). Alexandrov type manifolds and homology manifolds. *Houston Journal of Mathematics*. 40(4): 1325-1346.  
 Co-Author  
 Published, University of Houston, United States  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: We introduce and investigate the notion of (strong)  $Kn(G)$ -manifolds, where  $G$  is an abelian group. One of the result related to that notion implies a partial answer to the Bing-Borsuk problem whether any partition of a homogeneous metric ANR-space of dimension  $n$  is cyclic in dimension  $n-1$ .

19. Valov, V. (2014). Averaging operators and set-valued maps. *Mathematica Balkanica*. 28(1-2): 49-63.  
<http://dx.doi.org/ISSN 0205-3217>  
Published, Union of Bulg. Mathematicians, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We investigate maps admitting, in general, non-linear averaging operators. Characterizations of maps admitting a normed, weakly additive averaging operator which preserves max (resp., min) and weakly preserves min (resp., max) are obtained. We also describe set-valued maps into completely metrizable spaces admitting lower semi-continuous selections.
20. Valov, V. (2014). Homogeneous ANR and Alexandroff manifolds. *Topology and its Application*. 173: 227-233.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.topol.2014.06.001>  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We provide some properties of homogeneous ANR compacta. In particular, a partial answer of a question of Kallipoliti and Papasoglu is given.
21. Alkins, R.\*; Valov, V. (2013). Functional extenders and set-valued retractions. *Journal of Mathematical Analysis and Applications*. 399: 306-314.  
<http://dx.doi.org/http://dx.doi.org/https://doi.org/10.1016/j.jmaa.2012.10.018>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We describe the supports of a class of real-valued maps introduced by Radul. Using this description, a characterization of compact-valued retracts of a given space in terms of functional extenders is obtained.
22. Valov, V. (2013). A selection theorem for set-valued maps into normally supercompact spaces. *Buletinul Academiei de Stiinte a Republicii Moldova. Matematica*. 72-73(2-3): 99-105.  
<http://dx.doi.org/ISSN 1024-7696>  
Published, Institute of Mathematics, Moldovan Acad. Sciences, Moldova, Republic of  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We prove a selection theorem for set-valued maps having values in normally supercompact spaces. Our results provide some generalizations and specifications of Ivanov's results concerning superextensions of k-metrizable compacta.
23. Banakh, T.; Valov, V. (2013). General position properties in fiberwise geometric topology. *Dissertationes Mathematicae*. 491: 120 pages.  
<http://dx.doi.org/DOI 10.4064/dm491-0-1>  
Co-Author  
Published, Institute of Mathematics, Polish Academy of Sciences, Poland  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: This is a monograph providing different results concerning spaces having general position properties. Parametric versions of these results are also established.

24. Kucharski, A.; Plewik, S.; Valov, V. (2013). Skeletally Dugundji spaces. *Central European Journal of Mathematics*. 11: 1949-1959.  
<http://dx.doi.org/DOI: 10.2478/s11533-013-0296-7>  
Co-Author  
Published, Springer, Germany  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 3  
Description / Contribution Value: We introduce and investigate the class of skeletally Dugundji spaces as a skeletal analogue of Dugundji space.
25. Valov, V. (2013). On a theorem of Arvanitakis. *Mathematika*. 59(1): 250-256.  
<http://dx.doi.org/doi:10.1112/S0025579312001040>  
Published, Cambridge University Press, United Kingdom  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: In this note we provide a short proof of a more general version of a result due to Arvanitakis.
26. Todorov, V.; Valov, V. (2012). Generalized Cantor manifolds and indecomposable continua. *Questions and Answers in General Topology*. 30: 93-102.  
Co-Author  
Published, Japan  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We prove some results about indecomposable continua. A short proof of a Bing's theorem is also provided.
27. Bogataya, S.; Bogaty, S.; Valov, V. (2012). Embedding of finite-dimensional compacta in Euclidean spaces. *Topology and its Applications*. 159: 1670-1677.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.topol.2011.07.028>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 3  
Description / Contribution Value: We establish some parametric versions of embedding theorems of finite-dimensional metric compacta in Euclidean spaces. The obtained theorems complement some results of the last two authors.
28. Bogaty, S.; Valov, V. (2012). Special embeddings of finite-dimensional compacta in Euclidean spaces. *Topology and its Applications*. 159: 2269-2273.  
<http://dx.doi.org/doi:10.1016/j.topol.2011.08.029>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: Some embedding theorems of finite-dimensional metric compacta in Euclidean spaces are established.

29. Karassev, A.; Krupski, P.; Todorov, V.; Valov, V. (2012). Generalized Cantor manifolds and homogeneity. *Houston Journal of Mathematics*. 38(2): 583-609.  
Co-Author  
Published, Houston University, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 4  
Description / Contribution Value: A classical theorem of Alexandroff states that every  $n$ -dimensional compactum contains an  $n$ -dimensional Cantor manifold. This theorem has a number of generalizations obtained by various authors. We consider extension-dimensional and finite-dimensional analogs of strong Cantor manifolds, Mazurkiewicz manifolds, and  $V(n)$ -continua, and prove corresponding versions of the above theorem.
30. Kucharski, A.; Plewik, S.; Valov, V. (2011). Very  $I$ -favorable spaces. *Topology and its Applications*. 158: 1453-1459.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.topol.2011.05.017>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 3  
Description / Contribution Value: We prove that a Hausdorff space  $X$  is very  $I$ -favorable if and only if  $X$  is the almost limit space of a  $\sigma$ -complete inverse system consisting of (not necessarily Hausdorff) second countable spaces and surjective  $d$ -open bonding maps. It is also shown that the class of Tychonoff very  $I$ -favorable spaces with respect to the co-zero sets coincides with the  $d$ -openly generated spaces.
31. Valov, V. (2011). Maps with dimensionally restricted fibers. *Colloquium Mathematicum*. 123(2): 239-248.  
<http://dx.doi.org/DOI: 10.4064/cm123-2-8>  
Published, Institute of Mathematics, Polish Academy of Sciences, Poland  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We provide some results about closed surjective maps with dimensionally restricted fibers.
32. Valov, V. (2011). External characterization of  $I$ -favorable spaces. *Mathematica Balkanica*. 25(1-2): 61-78.  
Published, Union of Bulgarian Mathematicians, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: A spectral and an external characterization of  $I$ -favorable spaces are provided.
33. Krupski, P.; Valov, V. (2011). Mazurkiewicz manifolds and homogeneity. *Rocky Mountain Journal of Mathematics*. 41(6): 1933-1938.  
<http://dx.doi.org/DOI: 10.1216/RMJ-2011-41-6-1933>  
Co-Author  
Published, Rocky Mountain Mathematics Consortium, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: It is proved that no region of a homogeneous, locally compact and locally connected metric space can be cut by an  $F$ -sigma subset of a "smaller" dimension.



34. Valov, V. (2011). Parametric Bing and Krasinkiewicz maps: revisited. *Proceedings of the American Mathematical Society*. 139(2): 747-756.  
[http://dx.doi.org/S\\_0002-9939\(2010\)10724-4](http://dx.doi.org/S_0002-9939(2010)10724-4)  
Published, American Mathematical Society, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: This is the final version of the previous authors' results about parametric Bing and Krasinkiewicz maps.
35. Valov, V. (2011). Extenders and  $\kappa$ -metrizable compacta. *Mathematical Notes*. 89(3-4): 319-327.  
[http://dx.doi.org/DOI: 10.1134/S0001434611030023](http://dx.doi.org/DOI:10.1134/S0001434611030023)  
Published, Springer, Germany  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: A characterization of  $\kappa$ -metrizable compacta in terms of extension of functions and upper semicontinuous compact-valued retractions is established.
36. Valov, V. (2011). Another approach to parametric Bing and Krasinkiewicz maps. *Mathematica Balkanica*. 25(4): 419-423.  
Published, Union of Bulgarian Mathematicians, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: Using a factorization theorem due to Pasyukov we provide a short proof of the existence and density of parametric Bing and Krasinkiewicz maps.
37. Banakh, T.; Valov, V. (2010). Approximation by light maps and parametric Lelek maps. *Topology and its Applications*. 157: 2325-2341.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.topol.2010.07.004>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We generalize some results of Levin and Kato–Matsushashi concerning the existence of residual sets of  $n$ -dimensional Lelek maps.
38. Banakh, T.; Valov, V. (2010). Spaces having fibered approximation property in dimension  $n$ . *Central European Journal of Mathematics*. 8(3): 411-420.  
[http://dx.doi.org/DOI: 10.2478/s11533-010-0027-2](http://dx.doi.org/DOI:10.2478/s11533-010-0027-2)  
Co-Author  
Published, Springer, Germany  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: The class of spaces having the FAP( $n$ )-property is investigated in this paper. The main theorems imply generalizations of some results due to Uspenskij and Tuncali-Valov.
39. Matsushashi, E.; Valov, V. (2010). Krasinkiewicz spaces and parametric Krasinkiewicz maps. *Houston Journal of Mathematics*. 36(4): 1207-1220.  
Co-Author  
Published, Houston University, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: Specific result concerning Krasinkiewicz spaces and parametric Krasinkiewicz maps are established.

40. Karassev, A.; Tuncali, M.; Valov, V. (2010). Finite-to-one maps into Euclidean manifolds and spaces with disjoint disks properties. *Topology and its Applications*. 157(4): 779-788.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.topol.2009.08.008>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 3  
Description / Contribution Value: The existence of residual sets of finite-to-one maps into Euclidean manifolds and spaces having disjoint disks properties is obtained.
41. Valov, V. (2010). Linear operators with compact supports, probability measures and Milyutin maps. *Journal of Mathematical Analysis and Applications*. 370(1): 132-145.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.jmaa.2010.04.045>  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: The notion of a regular operator with compact supports between function spaces is introduced. On that base we obtain a characterization of absolute extensors for 0-dimensional spaces in terms of regular extension operators having compact supports.
42. Gutev, V.; Valov, V. (2009). Open maps having the Bula property. *Fundamenta Mathematicae*. 205(2): 91-104.  
<http://dx.doi.org/DOI: 10.4064/fm205-2-1>  
Co-Author  
Published, Institute of Mathematics, Polish Acad. of Sciences, Poland  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: Applications are given to the existence of “disjoint”usco multiselections of set-valued l.s.c. mappings defined on paracompact C-spaces, and to special type of factorizations of open continuous maps from metrizable spaces onto paracompact C-spaces.
43. Valov, V. (2009). Probability measures and Milyutin maps. *Journal of Mathematical Analysis and Applications*. 350(2): 723-730.  
<http://dx.doi.org/doi:10.1016/j.jmaa.2008.06.003>  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We prove that the functor of Radon probability measures transforms any open map between completely metrizable spaces into a soft map. This result is applied to establish some properties of Milyutin maps between completely metrizable spaces.
44. Nedev, S.; Pelant, J.; Valov, V. (2009). A non-separable Christensen's theorem and set tri-quotient maps. *Topology and its Applications*. 156(7): 1234-1240.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.topol.2008.12.015>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 3  
Description / Contribution Value: In this paper we provide conditions for the validity of a Christensen's result in non-separable metric spaces.

45. Gutev, V.; Valov, V. (2009). Sections, selections and Prohorov's theorem. *Journal of Mathematical Analysis and Applications*. 360(2): 377-379.  
<http://dx.doi.org/http://dx.doi.org/10.1016/j.jmaa.2009.06.063>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: The famous Prohorov theorem for Radon probability measures is generalized in terms ofusco mappings. In the case of completely metrizable spaces this is achieved by applying a classical Michael result on the existence ofusco selections for l.s.c. mappings. A similar approach works when sieve-complete spaces are considered.
46. Valov, V. (2008). On parametric Bing and Krasinkiewicz maps. *Topology and its Applications*. 155(8): 906-915.  
<http://dx.doi.org/doi:10.1016/j.topol.2006.11.011>  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We provide a method for establishing parametric versions of previously known results. On this base we establish parametric theorems about Bing and Krasinkiewicz maps.
47. Skordev, G.; Valov, V. (2008). Dimension-raising theorems for cohomological and extension dimension. *Topology and its Applications*. 155(17-18): 2090-2101.  
<http://dx.doi.org/doi:10.1016/j.topol.2007.04.016>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We establish cohomological and extension dimension versions of the Hurewicz dimension-raising theorem.
48. Karassev, A.; Valov, V. (2008). Dimension of maps, universal spaces, and homotopy. *Journal of Mathematical Sciences*. 155(4): 571-623.  
<http://dx.doi.org/1072-3374/08/1554-0571>  
Co-Author  
Published, Springer, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: This paper is a survey of some recent results in dimension theory. The main topics under consideration are: dimension of maps in the classical and extension dimension theories, universal spaces (in particular, universal compacta) in extension dimension theory, and [L]-homotopy. A number of theorems included in the survey are accompanied by proofs.
49. Karassev, A.; Tuncali, M.; Valov, V. (2007). *Topology in North Bay: some problems in continuum theory, dimension theory and selections*. Open Problems in Topology II, ed. E. Pearl, Elsevier 2007.  
[http://dx.doi.org/ISBN\\_0080475299\\_9780080475295](http://dx.doi.org/ISBN_0080475299_9780080475295)  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 3  
Editors: E. Pearl  
Description / Contribution Value: This article reports on some of the research activities in Topology at Nipissing University. Although our research areas encompass geometric topology, dimension theory, general topology, topological algebras, functional analysis, continuum theory and topological dynamics, in this article we only concentrate on some problems in dimension theory, selections and continuum theory.

50. Tymchatyn, E.; Valov, V. (2006). On intersection of simply connected sets in the plane. *Glasnik Matematički Ser. III.* 41(1): 159-163.  
Co-Author  
Published, Croatia Mathematical Society, Croatia  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: Several authors have recently attempted to show that the intersection of three simply connected subcontinua of the plane is simply connected provided it is non-empty and the intersection of each two of the continua is path connected. In this note we give an every short complete proof of this fact. We also confirm a related conjecture of Karimov and Repovš.
51. Karassev, A.; Valov, V. (2006). Extension dimension and quasi-finite CW-complexes. *Topology and its Applications.* 153(17): 3241-3254.  
<http://dx.doi.org/doi:10.1016/j.topol.2005.08.014>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We extend the definition of quasi-finite complexes from countable complexes to arbitrary ones and provide a characterization of quasi-finite complexes in terms of L-invertible maps and dimensional properties of compactifications. Several results related to the class of quasi-finite complexes are established, such as completion of metrizable spaces, existence of universal spaces and a version of the factorization theorem.
52. Karassev, A.; Valov, V. (2006). Universal absolute extensors in extension theory. *Proceedings of the American Mathematical Society.* 134(8): 2473-2478.  
[http://dx.doi.org/S\\_0002-9939\(06\)08304-3](http://dx.doi.org/S_0002-9939(06)08304-3)  
Co-Author  
Published, American Mathematical Society, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: Let  $L$  be a countable and locally finite CW complex. Suppose that the class of all metrizable compacta of extension dimension  $\leq [L]$  contains a universal element which is an absolute extensor in dimension  $[L]$ . Our main result shows that  $L$  is quasi-finite.
53. Chigogidze, A.; Valov, V. (2006). Extraordinary dimension of maps. *Topology and its Applications.* 153(10): 1586–1592.  
<http://dx.doi.org/doi:10.1016/j.topol.2004.04.012>  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We provide results about extraordinary dimension introduced by Shchepin.
54. Tuncali, M.; Valov, V. (2005). On finite-to-one maps. *Canadian Mathematical Bulletin.* 48(4): 614-621.  
Co-Author  
Published, Canadian Mathematical Society, Canada  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We prove a theorem about the existence of finite-to-one maps into Euclidean spaces. Our result provides a positive answer to a question raised by Bogatyĭ-Fedorchuk-van Mill.

55. Bogatyı, S.; Valov, V. (2005). Robert's type theorems on dimension and conversion of the transversal Tverbeg's theorem. *Sbornik Mathematics*. 196(11-12): 1585-1603.  
<http://dx.doi.org/https://doi.org/10.1070/SM2005v196n11ABEH003722>  
 Co-Author  
 Published, London Mathematical Society, United Kingdom  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: Central in the paper are two results on the existence of 'economical' embeddings in a Euclidean space. The first result states the existence of embeddings with images intersecting the large-dimensional planes in sets of 'controllable' dimension. The second result proves the existence of maps such that each small-dimensional plane contains 'controllably' many points of the image.
56. Tuncali, M.; Tymchatyn, T.; Valov, V. (2005). Extensional dimension and completion of maps. *Topology Proceedings*. 29(1): 377-384.  
 Co-Author  
 Published, Auburn University, United States  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 3  
 Description / Contribution Value: We prove a completion theorem for closed maps between metrizable spaces. We also establish a parametric version of a Katetov's theorem characterizing the covering dimension of metrizable spaces in terms of uniformly 0-dimensional maps into finite-dimensional cubes.
57. Chigogidze, A.; Karassev, A.; Kawamura, K; Valov, V. (2005). On  $C^*$ -algebras with the approximate  $n$ -th root property. *Bulletin of the Australian Mathematical Society*. 72(2): 197-212.  
<http://dx.doi.org/0004-9729/05>  
 Co-Author  
 Published, Australian Mathematical Society, Australia  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 4  
 Description / Contribution Value: We introduce the notion of  $C^*$ -algebras having the approximate  $n$ -th root property. It is shown that there exists a non-commutative (respectively, commutative) separable unital  $C^*$ -algebra  $A$  such that any other (commutative) separable unital  $C^*$ -algebra  $B$  is a quotient of  $A$  under a special homomorphism.
58. Tuncali, M.; Valov, V. (2005). On regularly branched maps. *Topology and its Applications*. 150(1-3): 213-221.  
<http://dx.doi.org/doi:10.1016/j.topol.2004.11.014>  
 Co-Author  
 Published, Elsevier, Netherlands  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: We introduce the notion of parametric regularly branched maps and provide an analogue of the well know theorem for regularly branched maps.
59. Chigogidze, A.; Valov, V. (2004). Bounded rank of  $C^*$ -algebras. *Topology and its Applications*. 140(2-2): 163-180.  
<http://dx.doi.org/doi:10.1016/j.topol.2003.07.007>  
 Co-Author  
 Published, Elsevier, Netherlands  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: We introduce a concept of bounded rank (with respect to a positive constant) for unital  $C^*$ -algebras as a modification of the usual real rank and present a series of conditions insuring that bounded and real ranks coincide.

60. Tuncali, M.; Valov, V. (2004). On finite-dimensional maps. *Tsukuba Journal of Mathematics*. 28(1): 155-167.  
Co-Author  
Published, University of Tsukuba, Japan  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: Some results about finite-dimensional closed maps are provided.
61. Gutev, V.; Valov, V. (2003). Dense families of selections and finite-dimensional spaces. *Set-Valued Analysis*. 11(4): 373-391.  
Co-Author  
Published, Kluwer, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: A characterization of  $n$ -dimensional spaces via continuous selections avoiding  $Z_n$ -sets is given, and a selection theorem for strongly countable-dimensional spaces is established. We apply these results to prove a generalized Ostrand's theorem, and to obtain a new alternative proof of the Hurewicz formula. It is also shown that our selection theorem yields an easy proof of a Michael's result.
62. Tuncali, M.; Valov, V. (2003). On finite-dimensional maps II. *Topology and its Applications*. 132(1): 81-87.  
[http://dx.doi.org/doi:10.1016/S0166-8641\(02\)00365-6](http://dx.doi.org/doi:10.1016/S0166-8641(02)00365-6)  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We extend a result of Uspekij about finite-dimensional maps.
63. Chigogidze, A.; Valov, V. (2002). The extension dimension and  $C$ -spaces. *Bulletin of the London Mathematical Society*. 34(6): 708-716.  
<http://dx.doi.org/DOI: 10.1112/S0024609302001315>  
Co-Author  
Published, Cambridge University Press, United Kingdom  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: Some generalizations of the classical Hurewicz formula are obtained for the extension dimension and  $C$ -spaces. A characterization is also given of the class of metrizable spaces that are absolute neighborhood extensors for all metrizable  $C$ -spaces.
64. Tuncali, M.; Valov, V. (2002). On dimensionally restricted maps. *Fundamenta Mathematicae*. 175(1): 35-52.  
Co-Author  
Published, Institute of Mathematics, Polish Academy of Sciences, Poland  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We extend some finite-dimensional results of Pasynkov and Toruczyk. A generalization of a result due to Dranishnikov and Uspenskij about extensional dimension is also established.

65. Gutev, V.; Valov, V. (2002). Continuous selections and C-spaces. Proceedings of the American Mathematical Society. 130(1): 233-242.  
[http://dx.doi.org/S\\_0002-9939\(01\)05995-0](http://dx.doi.org/S_0002-9939(01)05995-0)  
 Co-Author  
 Published, American Mathematical Society, United States  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: A characterization of paracompact C-spaces via continuous selections avoiding Z-sets is given. The result is applied to prove a countable sum theorem for paracompact C-spaces, and to obtain a new partial solution of a question raised by E. Michael.
66. Arizmendi, H.; Carrilo-Hoyo, A; Valov, V. (2002). On Q, Q(M) and Q(M)#-algebras. Commentationes Mathematicae. 42(2): 137-143.  
 Co-Author  
 Published, Polish Mathematical Society, Poland  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 3  
 Description / Contribution Value: Let X be a completely regular space and let T be a topology on the algebra  $A=C_b(X)$  of all continuous complex bounded functions on X, which makes A a topological algebra and which is finer than the topology of pointwise convergence and coarser than the topology  $\sigma$  of uniform convergence on X. The main result states that the following are equivalent: (1) A is a Q-algebra, (2) A is a QM-algebra, (3) A is a QM#-algebra, (4)  $T=\sigma$ .
67. Chigogidze, A.; Valov, V. (2002). C\*-algebras of infinite real rank. Bulletin of the Australian Mathematical Society. 66(3): 487-496.  
 Co-Author  
 Published, Australian Mathematical Society, Australia  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: We introduce the notion of weakly (strongly) infinite real rank for unital C\*-algebras. It is shown that a compact space X is weakly (strongly) infinite-dimensional if and only if  $C(X)$  has weakly (strongly) infinite real rank.
68. Valov, V. (2002). Continuous selections and finite C-spaces. Set-Valued Analysis. 10(1): 37-51.  
 Published, Kluwer, Netherlands  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: Characterization of paracompact finite C-spaces via continuous selections avoiding  $Z_\sigma$ -sets are given. We apply these results to obtain some properties of finite C-spaces. Factorization theorems and a completion theorem for finite C-spaces are also established.
69. Chigogidze, A.; Valov, V. (2001). Extension dimension and refinable maps. Acta Mathematica Hungarica. 92(3): 185-194.  
 Co-Author  
 Published, Springer, Hungary  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: Extension dimension is characterized in terms of omega-maps. We apply this result to prove that extension dimension is preserved by refinable maps between metrizable spaces. It is also shown that refinable maps preserve some infinite-dimensional properties.

70. Dube, T.; Valov, V. (2001). Generalized tri-quotient maps and Cech-completeness. *Commentationes Mathematicae Universitatis Carolinae*. 42(1): 187-194.  
Co-Author  
Published, Charles University, Prague, Czech Republic  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: The purpose of this paper is to characterize Lindelof Cech-complete spaces  $X$  by means of the set of all compact subsets of  $X$ . Similar characterizations also hold for Lindelof locally compact spaces, as well as for countably  $K$ -determined spaces. Our results extend a classical result of Christensen.
71. Chigogidze, A.; Valov, V. (2001). Universal metric spaces and extension dimension. *Topology and its Applications*. 113(1-3): 23-27.  
[http://dx.doi.org/doi/10.1016/S0166-8641\(00\)00019-5](http://dx.doi.org/doi/10.1016/S0166-8641(00)00019-5)  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We prove the existence of universal spaces for all metrizable spaces of given weight and with a given cohomological or extensional dimension.
72. Donchev, J.; Salbany, S.; Valov, V. (2000). Barreled and bornological function spaces. *Journal of Mathematical Analysis and Applications*. 242(1): 1-17.  
<http://dx.doi.org/doi:10.1006/jmaa.1999.6625>  
Co-Author  
Published,  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 3  
Description / Contribution Value: Necessary and sufficient conditions in the terms of the topology of a space  $X$  are given in order the function space on  $X$  to be barreled, quasi-barreled, bornological, or ultra-bornological space.
73. Vuma, D.; Valov, V. (2000). Lindelof degrees and function spaces. *Papers in honour of Bernhard Banaschewski* (Cape Town, 1996) ISBN 978-90-481-5540-8. : 475-483.  
<http://dx.doi.org/doi:10.1007/978-94-017-2529-3>  
Co-Author  
Published, Kluwer, Belgium  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We prove that if  $X$  and  $Y$  are completely regular perfect spaces and  $T$  is a continuous linear homeomorphism between  $C_p(X)$  and  $C_p(Y)$  then the Lindelof degrees of  $X$  and  $Y$  are the same. When  $T$  is positive the above result remains true for any completely regular  $X$  and  $Y$ .
74. Vuma, D.; Valov, V. (1999). Function spaces and Dieudonne completeness. *Quaestiones Mathematicae*. 21(3-4): 303-309.  
Co-Author  
Published, South African Mathematical Society, South Africa  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: It is shown that the set of all  $F$ -valued linear continuous maps on  $C(X,E)$ , where  $E$  is a normed space, when equipped with the topology of uniform convergence on the members of some families of bounded subsetsof  $C(X, E)$  is a complete uniform space if  $F$  is a Banach space and  $X$  is Dieudonne complete. This result is applied to prove that Dieudonne completeness is preserved by linear quotient surjections from  $C(X,E)$  onto  $C(Y,F)$  provided  $E, F$  are Banach spaces and  $Y$  is a  $k$ -space.



75. Arizmendi, H.; Valov, V. (1999). Some characterizations of Q-algebras. *Commentationes Mathematicae*. 39: 11-21.  
Co-Author  
Published, Polish Mathematical Society, Poland  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We characterize topological Q-algebras and generalizations of Q-algebras. Some applications of our results are given.
76. Valov, V. (1999). Spaces of bounded functions. *Houston Journal of Mathematics*. 25(3): 501-521.  
Published, Houston University, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: For a completely regular space X and a Banach space E let  $C(X,E)$  be the set of all E-valued bounded continuous maps on X endowed with the compact-open topology. We prove that some topological properties of X are determined by the linear topological structure of  $C(X,E)$ .
77. Valov, V. (1997). Spaces of bounded functions with the compact open topology. *Bulletin of the Polish Academy of Sciences*. 45(2): 171-179.  
Published, Polish Academy of Sciences, Poland  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We answer a question of Yamada and provide a positive solution to a question of J. Baara and J. de Groot.
78. Valov, V. (1997). Function spaces. *Topology and its Applications*. 81(1): 1-22.  
[http://dx.doi.org/doi:SO166-8641\(97\)00017-5](http://dx.doi.org/doi:SO166-8641(97)00017-5)  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We prove that some topological properties of spaces X and Y are preserved if the function space on X and Y equipped with the compact-open or the pointwise topology are linearly homeomorphic.
79. Shakhmatov, D.; Valov, V. (1996). A characterization of Dugundji spaces via set-valued maps. *Topology and its Applications*. 74(1-3): 109-121.  
[http://dx.doi.org/https://doi.org/10.1016/S0166-8641\(96\)00049-1](http://dx.doi.org/https://doi.org/10.1016/S0166-8641(96)00049-1)  
Co-Author  
Published, Elsevier, Netherlands  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We prove the following characterization of Dugundji spaces: A compact Hausdorff space X is Dugundji if and only if there exists an upper semi-continuous compact-valued map  $r : X \times X \rightarrow X$  such that  $r(x, y, y) = r(y, y, x) = x$  for all  $x, y$  in X.
80. Gutev, V.; Valov, V. (1994). A classical-type characterizations of non-metrizable ANE(n)-spaces. *Fundamenta Mathematicae*. 154(3): 243-259.  
Co-Author  
Published, Institute of Mathematics, Polish Academy of Sciences, Poland  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: The Kuratowski–Dugundji theorem that a metrizable space is an absolute (neighborhood) extensor in dimension n iff it is  $LC(n-1)$  (resp.,  $LC(n-1)$ ) is extended to a class of non-metrizable absolute (neighborhood) extensors in dimension n. On this base, several facts concerning metrizable extensors are established for non-metrizable ones.

81. Chigogidze, A.; Valov, V. (1994). Set-valued maps and  $AE(0)$ -spaces. *Topology and its Applications*. 55(1): 1-15.  
[http://dx.doi.org/https://doi.org/10.1016/0166-8641\(94\)90061-2](http://dx.doi.org/https://doi.org/10.1016/0166-8641(94)90061-2)  
 Co-Author  
 Published, Elsevier, Netherlands  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: Characterizations of noncompact  $AE(0)$ - and  $AE(1)$ -spaces in terms of set-valued maps are given.
82. Valov, V. (1993). Linear topological classifications of certain function spaces II. *Mathematica Pannonica*. 4(1): 137-144.  
 Published, University of Pecs, Hungary  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: We provide linear topological classifications of the function space  $C_p(X)$  and  $C_p^*(X)$  for specific spaces  $X$ .
83. Gutev, V.; Nedev, S.; Pelant, J.; Valov, V. (1992). Cantor set selectors. *Topology and its Applications*. 44(1-3): 163-166.  
[http://dx.doi.org/doi.org/10.1016/0166-8641\(92\)90089-1](http://dx.doi.org/doi.org/10.1016/0166-8641(92)90089-1)  
 Co-Author  
 Published, Elsevier, Netherlands  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 4  
 Description / Contribution Value: The following result is proved: If every l.s.c. mapping from the Cantor set  $C$  to the closed subsets of a metric space  $X$  admits a u.s.c. selection, then  $X$  is a Baire space and either  $X$  is scattered or  $X$  contains a copy of  $C$ .
84. Valov, V. (1991). Linear topological classifications of certain function spaces. *Transaction of the American mathematical Society*. 327(2): 583-600.  
 Published, American Mathematical Society, United States  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: We provide some linear topological classifications of the function spaces  $C_p(X)$  and  $C_p^*(X)$
85. Valov, V. (1991). Surjective characterizations of metrizable LC-spaces. *Annuaire de l'Université de Sofia, Faculté de Mathématiques et Mécanique*". 85(1-2): 43-47.  
 Published, Faculty of Mathematics, Sofia University, Bulgaria  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 1  
 Description / Contribution Value: A surjective characterization of metrizable  $LC(\infty)$ -spaces is obtained. This result provides a positive solution of a question raised by A. Chigogidze.
86. Chigogidze, A.; Valov, V. (1990). Universal maps and surjective characterizations of completely metrizable  $LC(n)$ -spaces. *Proceedings of the American Mathematical Society*. 109(4): 1125-1133.  
 Co-Author  
 Published, American Mathematical Society, United States  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: For every infinite cardinal  $t$  and every  $n$  we construct an  $n$ -dimensional completely metrizable  $AE(n)$ -space of weight  $t$  which is universal for the class of all  $n$ -dimensional metrizable spaces with the the same weight. Moreover, this space has some additional properties and it can serves as an analog of the universal  $n$ -dimensional Nobelling space in the class of metric spaces with weight  $t$ .

87. Chigogidze, A.; Valov, V. (1988). Universal maps and surjective characterizations of completely metrizable LC(n)-spaces. Proceedings of the Bulgarian Academy of Sciences. 41(5): 9-10.  
Co-Author  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: In this paper we announced results which were published later in the Proceedings of the American Mathematical Society.
88. Chigogidze, A.; Valov, V. (1988). Set-valued maps and AE(0)-spaces. Proceedings of the Bulgarian Academy of Sciences. 41(4): 13-14.  
Co-Author  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: Two theorems are announced in this note. The first one describes AE(0)-spaces in the class of completely regular spaces. The second one extends a result of Dranishnikov about AE(1)-spaces.
89. Bogaty, S.; Valov, V. (1988). The weight of compact retracts. Moscow University Mathematical Bulletin. 43(4): 100-102.  
Co-Author  
Published, Moscow State University, Russian Federation  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We provide a result generalizing the well known theorem of Shchepin that every finite-dimensional compact absolute neighborhood retract is metrizable.
90. Gutev, V.; Valov, V. (1988). Selection theorem for AE(n)-spaces. Proceedings of the Bulgarian Academy of Sciences. 41(5): 11-12.  
Co-Author  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: We propose a selection condition of Michael's type which is necessary and sufficient for a completely regular LC(n-1)- and C(n-1)- space to be AE(n).
91. Valov, V. (1988). Yet another characterization of AE(0)-spaces. Proceedings of the 17th Spring Conference of the Union of Bulgarian Mathematicians. : 147-150.  
Published, Union of Bulgarian Mathematicians, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: It is shown that every absolute P(beta)-retract is an AE(0). This generalizes a previous result of the author.
92. Valov, V. (1987). Milyutin mappings and AE(0)-spaces. Proceedings of the Bulgarian Academy of Sciences. 40(11): 9-12.  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: The paper is an announcement of some result about Milyutin maps and AE(0)-spaces. The results were proved later in the Journal of Mathematical Analysis and Applications.

93. Valov, V. (1987). Another characterization of  $AE(0)$ -spaces. *Pacific Journal of Mathematics*. 127(1): 199-208.  
Published, Mathematical Sciences Publishers, United States  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We prove that a space  $X$  is an absolute extensor for the class of all zero-dimensional spaces if and only if  $X$  is an upper semi-continuous compact-valued retract of a power of the real line.
94. Valov, V. (1986). Some characterizations of the spaces with a lattice of  $d$ -open mappings. *Proceedings of the Bulgarian Academy of Sciences*. 39(9): 9-12.  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: We provide some characterization of spaces having lattices of  $d$ -open mappings.
95. Valov, V. (1986). A note of spaces with lattices of  $d$ -open mappings. *Proceedings of the Bulgarian academy of Sciences*. 39(8): 9-12.  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: Some properties of spaces possessing a lattice of  $d$ -open mappings are given.
96. Valov, V. (1986). Some properties of  $C_p(X)$ . *Commentationes Mathematicae Universitatis Carolinae*. 27(4): 665-672.  
Published, Charles University, Prague, Czech Republic  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: A characterization of spaces  $X$  such that the function space  $C_p(X)$  has the following property: every family of  $G(t)$ -subsets contains a dense subfamily of power  $t$ .
97. Nedev, S.; Valov, V. (1985). Some properties of selectors. *Proceedings of the Bulgarian Academy of Sciences*. 38(12): 1593-1596.  
Co-Author  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: The authors introduce different classes of selectors and investigate their properties.
98. Nedev, S.; Valov, V. (1984). Normal selectors for the normal spaces. *Proceedings of the Bulgarian Academy of Sciences*. 37(7): 843-846.  
Co-Author  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: The main theorem states that if a normal space is a selector for the normal spaces, then it should be a Polish space having some additional properties.

99. Valov, V. (1984). On the spaces which have a tau-lattice of open mappings. *Serdica Mathematical Journal*. 10(2): 159-164.  
Published, Institute of Mathematics, Bulgarian Acad. of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: Some properties of spaces possessing t-lattices of open mappings are given, where t is an infinite cardinal.
100. Valov, V. (1983). The weight of compacta with lattices of open mappings. *Pliska Mathematical Journal*. 6: 63-74.  
Published, Institute of Mathematics, Bulg. Acad. of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: It is shown that if  $\exp X$  and  $\exp_n X$  are continuous images of compact spaces having lattices of open mappings, then  $X$  is a metrizable compactum. This extends results of L. Shapiro.
101. Nedev, S.; Valov, V. (1983). On metrizability of selectors. *Proceedings of the Bulgarian Academy of Sciences*. 36(11): 1363-1366.  
Co-Author  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: This the first paper where the authors introduced the notion of selectors. It is shown that some type of selectors are metrizable.
102. Pasyukov, B.; Valov, V. (1981). Free groups of topological spaces. *Proceedings of the Bulgarian Academy of Sciences*. 34(8): 1049-1052.  
Co-Author  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 2  
Description / Contribution Value: The paper consists of two parts. It is shown in the first part that some spaces  $X$  and  $Y$  have the same dimension if their function spaces  $C_p(X)$  and  $C_p(Y)$  are linearly homeomorphic. The second part contains the following result: If the free topological groups (in the sense of Graev) of two spaces are isomorphic, then all cohomological groups of these spaces are also isomorphic.
103. Valov, V. (1980). Factorization theorems. *Proceedings of the 9th Spring Conference of the Union of Bulgarian Mathematicians*. : 21-24.  
Published, Union of the Bulgarian Mathematicians, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: Factorization theorems are established for spaces having lattices of mappings preserving some topological properties.
104. Valov, V. (1979). The power of bicomacts with lattices of open maps. *Proceedings of the Bulgarian Academy of Sciences*. 32(8): 1005-1006.  
Published, Bulgarian Academy of Sciences, Bulgaria  
Refereed?: Yes, Open Access?: No  
Number of Contributors: 1  
Description / Contribution Value: It is shown that if a compact space  $X$  is a continuous image of another compactum with a lattice of open mappings, then some cardinal invariants of  $X$  coincide.

105. Choban, M.; Valov, V. (1975). A certain theorem of Michael on selections. Proceedings of the Bulgarian Academy of Sciences. 28(7): 871-873.  
 Co-Author  
 Published, Bulgarian Academy of Sciences, Bulgaria  
 Refereed?: Yes, Open Access?: No  
 Number of Contributors: 2  
 Description / Contribution Value: The paper contains a correct proof of a selection theorem of Michael.

## Book Reviews

1. Review of the book "Continuity theory" by Nel Louis. Mathematical Reviews. (2017).  
 Published, American Mathenematical Society, United States  
 Review Year: 2017  
 Nel Louis. 2016. "Contnuity Theory" by Nel Louis, Springer, 2016. xix+460 pp.  
 Description of Contribution Role: Description of the book
2. Review of the book "Non-metrisable manifolds" by D. Gauld. Mathemaical Reviews. (2016).  
 Published, American Mathematical Society, United States  
 Review Year: 2016  
 David Gauld. 2014. Non-metrizable manifolds Springer, Singapore, 2014. xvi+203 pp.  
 Description of Contribution Role: A book review
3. Review of the book "Geometric aspects of general topology" by K. Sakai. Mathematical Reviews. (2014).  
 Published, American Mathematical Society, United States  
 Review Year: 2014  
 Katsuro Sakai. 2013. "Geometric aspects of general topology" by K. Sakai, Springer, Tokyo, 2013. xvi+521 pp.  
 Description of Contribution Role: A book review

## Supervised Student Publications

1. Bajmak, Zenafer  
 Another version of Hurewicz theorem for extensional dimension. Proceedings of the Bulgarian Academy of Sciences. (2017). 10(70): 1333-1340.  
 Published, Bulgarian Academy of Sciences, Bulgaria  
 Description of Contribution Role: I suggested the idea for generalizing the result of Brosky-Chigogidze using quasi-finite CW complexes instead of finite complexes. I also went trough the paper to make sure the proofs are correct.  
 Description / Contribution Value: A version of the dimension-lowering Hurewicz theorem for extensional dimension is established. The theorem extends a corresponding result of Brodsky-Chigogidze.
2. Lalonde, Bradley  
 Bases in the product of homogeneous metric ANR continua. Topology and its Applications. (2017). Special issue of TA in memory of A. Chigogidze(227): 165-168.  
<http://dx.doi.org/https://doi.org/10.1016/j.topol.2017.01.016>  
 Published, Elsevier, Netherlands  
 Student Contribution (%): 70  
 Contribution Percentage: 21-30  
 Description of Contribution Role: My role was to formulate the result which was expected to be true and to check and discuss trhe proof.  
 Description / Contribution Value: The paper contains a proof that any point of a product of two metric homogeneous ANR continua has a base of Euclidean cub-like neighborhoods

3. Bajmak, Zenafer  
 Some properties of metrizable LC(n)-spaces . Vol.2(2015), 11-14. Proceedings of the V Congress of Mathematicians of Macedonia. (2015). (2): 11-14.  
 Published, Union of Macedonian Mathematicians, Macedonia, The Former Yugoslav Republic of Macedonia  
 Description of Contribution Role: My role was provide the idea for that paper and to supervise and check the proofs.  
 Description / Contribution Value: Some properties of metric LC(n)-spaces are established using the corresponding properties of metric ANR-spaces
4. Alkins, Robert  
 Functional extenders and set-valued retractions. Journal of Mathematical Analysis and Applications. (2013). 1(339): 306-314.  
<http://dx.doi.org/https://doi.org/10.1016/j.jmaa.2012.10.018>  
 Published, Elsevier, Netherlands  
 Student Contribution (%): 40  
 Description of Contribution Role: My role was to formulate the expected results, and provide some of the proofs.  
 Description / Contribution Value: We describe the supports of a class of real-valued maps on introduced by Radul. Using this description, a characterization of compact-valued retracts of a given space in terms of functional extenders is obtained.

### Conference Publications

1. Vesko Valov. (2018). Ranks and the approximate n-th root property of C\*-algebras. Topological Algebras and Their Applications. Topological Algebras and their Applications, Santo Domingo, Dominican Republic (285-304). De Gruyter, Germany  
<http://dx.doi.org/ISBN-13: 978-3110414332>  
 Conference Date: 2014/6  
 Paper  
 Published  
 Refereed?: Yes, Invited?: Yes  
 Number of Contributors: 1  
 Editors: Alexander Katz  
 Description / Contribution Value: The paper provides the complete proofs of some author's results about ranks and approximate n-th root property of C\*-algebras