Curriculum vitae

of Dikran Dikranjan

Demographic Information

Birth: Rousse, Bulgaria; February 5, 1950
Citizenship: Italy

Education

M.Sc. in Mathematics, University of Sofia, 1973
Ph.D. in Mathematics, University of Sofia, 1978
Ph.D. course at Scuola Normale Superiore di Pisa (under the direction of Prof. Corrado De Concini) 1980-1983.

Professional History

1978–1986 Research Fellow, Institute of Mathematics, Bulgarian Academy of Sciences, Sofia.

1986–1992 Senior Research Fellow, Institute of Mathematics, Bulgarian Academy of Sciences.

1992–2000, Associate Professor in Algebra, University of Udine.

2000–present, Professor in Algebra, University of Udine.

Research Interests

Published more than 250 research papers and four monographs in various areas of Algebra, Topology, Dynamical Systems and Category Theory. Directed 13 PhD theses and numerous MS theses in these fields of mathematics.

Visiting positions

October 1986, November/December 1988, November 1990: Steklov Institute of Mathematics, Soviet Academy of Sciences.

October/December 1989, June/August 1991, April 1993, September 2003, April/July 2005: Department of Mathematics, York University, Canada

June 1990 and October 1991: Department of Mathematics, University of Padua, Italy

April 1997, July/August 1999, December 2004: Department of Mathematics, UAM Mexico City, Mexico.

July 1994: Department of Mathematics, University of Bern, Switzerland

December 1994/January 1995, February/March 1998, November 2003, December 2007, October 2008, December 2009, September 2015, November 2019: University of Ehime (Matsuyama), Japan.

September 1995, CUNY, New York, USA.

October 1995, April 1996, March 1999 : University of West Virginia.

July 2000: University of West Australia, Perth and University of South Australia, Adelaide.

April/May 2004, October 2007, November 2012: Bar lIan University, Tel Aviv.

October/November 2004: University of Wisconsin at Madison.

January/February 2005: University of Coimbra, Portugal.

September/December 2005, May/June 2007, December 2010, September 2011: Complutense University of Madrid, Spain.

June 2003, July 2007, June 2012, October 2016, October 2017: University Jaume I, Castellon, Spain.

October 2010, October 2011: Universidad de Navarra, Spain.

October 2013: University of Malta.

November 2013: University of Cape Town (South Africa).

January/February 2014: Mimar Sinan University of fine arts (Istanbul) and Selcuk University (Konya), Turkey

March 2014-January 2014: long term JSPS visitor at Ehime University (Mastuyama), Japan

September 2016, October 2019: Nanjing University, China

February/May 2019, University of Łòdż, Poland.

Research grants

Collaborative research grant of NATO, CRG 950347, for the project "Topological and algebraic representation theorems and their applications" in 1995-96, extended for 1997-98 (for collaboration with the University of West Virginia, USA).

Research grant of the Italian Minsitry of University and Research MURST for 1998 for the project "Theory of rings, modules and abelian groups: homological, topological and categorical methods"

Research grant of MURST in 2000 for the project "New prospectivs in the theory of rings, modules and abelian groups."

Research grant of MURST in 2002 for the project "Subgroups of the compact groups"

Research grant of MURST in 2005 for the project "Selected arguments on topological agroups and rigns of functions"

Research grant of MURST in 2005 for the project "Modules over integral domains, abelian topological groups and algebraic entropy

Research grant of MURST in 2008 for the project "Modules over integral domains, abelian topological groups and algebraic entropy"

Invited or plenary talks at recent conferences

Categorical Methods in Algebra, Topology and Computer Science, October 26-28, 2007, Coimbra, Portugal

Japan – Mexico Topology Conference, December 3-7, 2007, Kyoto, Japan

Workshop "Hyperspaces and Selections", Matsuyama (Japan), December 2007

Advances in Set-Theoretic Topology, June 9-19, 2008, Erice, Sicily, Italy.

International Conference on Topology and its Applications, Ankara, June 2009,

Workshop on Topological Groups, A Coruna (Spain), October 2009.

Groups and Topological groups, Essen (Germany), January 2010.

Ishia Group Theory, April 2010, Ischia (Italy).

International Conference on Topology and its Applications, June 26-30, 2010, Nafpaktos, Greece

Algebra Meets Topology, Barcelona, July 2010.

Advances in Group Theory and Applications June 2011, Porto Cesareo (Lecce, ITALY).

International Conference on Topology and its Applications, Islamabad, July 2011,

11-th Prague Symposium on Topology and its Relation to Modern Algebra and Analysis, (Prague, August 2011)

Commutative Rings and their Modules, Bressanone (Italy) June 4-8, 2012

Workshop in Applied Topology (WiAT'12), Castellon (Spain), 20 to 22 June, 2012

VI Workshop on Coverings, Selections, and Games in Topology, Caserta (Italy), 27 June 2012.

Gruppen und Topologische Gruppen, Vienna July 6, July 7, 2012,

Italian-Spanish Conference on General Topology and its Applications, ITES, Trieste, September 2012

Spring Topology Conference, Hartford, USA, March 2013,

International Conference on Topology and Geometry 2013, joint with the Sixth Japan-Mexico Topology Symposium (JAMEX VI), Matsue (Japan), September 2-6, 2013.

Groups and Topological groups, Mimar Sinan University, Istanbul (Turkey), January 2014.

49th General Topology Symposium, Kyoto Institute of Technology (Japan), June 5-6, 2014

International Workshop on Mathematical Sciences in Matsue, Shimane University (Japan), October 11-13, 2014

RIMS meeting on Set-theoretic/Geometric Topology and Related topics, Kyoto (Japan), October 22–24, 2014

Workshop on mathematical logic, Kobe University, Kobe (Japan), November 15 – 19, 2014

Symposium of General Topology 2014, Shizuoka (Japan), December 16 – 18

International Conference on Topology and Set Theory, Yokohama, August 2015.

12th Prague Topological Symposium, Prague July 2016

Workshop on Topology and its Applications, Nanjing Normal University, Nanjing, September 24, 2016

Pittsburgh Topology Conference, June 2017, Pittsburgh (USA).

Summer Topology Conference, June 2017, Dayton, Ohio (USA).

Mathematical days in Sofia, July 2017, Sofia (Bulgaria).

Workshop on Topology and Topological Groups, Muizenberg (Cape Town), African Institute for Mathematical Sciences, South Africa, 6 - 7 December 2017.

2018 Workshop on Topological Methods in Analysis and Algebra, Burriana, June 2018

International Conference on Topology and its Application, Nafpatos, Greece, July 2018.

International Eurasian Conference on Mathematical Sciences and Applications, Kiev, August 2018.

First Joint meeting of the Italian Mathematical Union, the Italian Society of Industrial and Applied Mathematics and the Polish Mathematical Society, Wroclaw, September 2018

AGTA workshop - Reinhold Baer Prize 2018, Napoli Novembre 2018

International Conference Mathematical communities in the reconstruction after the Great War (1918-1928), CIRM, Marseilles (12-17 November 2018)

Dynamical systems and beyond, Pisa (Italy) 25–27 March

Dynamics of (Semi-)Group Actions Łòdż (Poland) 8–13 July, 2019

2019 Interdisciplinary Colloquium in Topology and its Applications, Vigo (Spain) June 19–22, 2019

International Conference "Group Theory in Berlin", Berlin, 19–21 September 2019

List of selected publications

1. *Sur la minimalité des produits de groupes topologiques abéliens*, C. R. Acad. Sci. Paris **299**, Série I, (1984) 303–306.

2. *Products of minimal abelian groups*, Math. Zeit. **204** (1990) 583-603 (jointly with D. Shakhmatov).

3. *Compact-like totally dense subgroups of compact groups*, Proc. Amer. Math. Soc. **114**, (1992) 1119-1129 (jointly with D. Shakhmatov)

4. *Pseudocompact and countably compact abelian groups: Cartesian products and minimality*, Trans. Amer. Math. Soc. **335**, (1993) 775-790 (jointly with D. Shakhmatov).

5. *Zero-dimensionality of some pseudocompact groups*, Proc. Amer. Math. Soc. **120**, (1994) 1299-1308.

6. *On the minimality of the powers of the minimal ω-bounded abelian groups*, *Proc. Amer. Math. Soc.* **127** (1999) 3101–3110 (jointly with A. Tonolo).

7. *Varieties generated by countably compact Abelian groups*, Proc. Amer. Math. Soc. **130** (2002), 2487-2496 (jointly with M. Tkačenko).

8. *Dualities of locally compact modules over the rationals*, Jour. of Algebra, **256** (2002) 433–466 (jointly with C. Milan),

9. *Algebraic structure of the small countably compact abelian groups*, Forum Math. **15** (2003) 811-837 (jointly with M.Tkačenko).

10. *Topological groups*, in *Encylopedia of General Topology*: K. P. Hart, Jun-iti Nagata and J. Vaughan ed., North-Holland, 2003.

11. *Torsion theories and radicals in normal categories*, J. Algebra **305** (2006), 98–129 (jointly with M. M. Clementino and W. Tholen).

12. *Pseudocompact totally dense subgroups*, Proc. Amer. Math. Soc., **136** (2008), 1093–1103 (jointly with A. Giordano Bruno)

13. *Topological torsion related to some recursive sequences of integers*, Math. Nachrichten **281** (2008), n. 7, 930–950 (jointly with G. Barbieri, C. Milan and H. Weber).

14. *Quasi-convex density and determining subgroups of compact abelian groups*, J. Math. Anal. Appl. **363** (2010), no. 1, 42–48 (jointly with D. Shakhmatov).

15. *Hewitt-Marczewski-Pondiczery type theorem for abelian groups and Markov's potential density*, Proc. Amer. Math. Soc. **138** (2010), 2979-2990 (jointly with D. Shakhmatov).

16. *Adjoint algebraic entropy*, J. Algebra **324** (2010) 442-463 (jointly with A. Giordano Bruno, L. Salce).

17. *Locally minimal topological groups*, J. Math. Anal. Appl. **370** (2010), n.2, 431–452 (jointly with L. Außenhofer, M.J. Chasco, X. Dominguez).

18. *The Markov-Zariski topology of an abelian group*, J. Algebra, **324** (2010), n. 6, 1125-1158 (jointly with D. Shakhmatov)

19. *A Kronecker-Weyl theorem for subsets of abelian groups*, Adv. Math. **226** (2011) 4776–4795 (jointly with D. Shakhmatov).

20. *Locally minimal topological groups*, 2, J. Math. Anal. Appl. **380** (2011) 552–570, (jointly with L. Außenhofer, M.J. Chasco, X. Dominguez).

21. *On zero-dimensionality and the connected component of locally pseudocompact groups*, Proc. Amer. Math. Soc. **139** (2011), 2995–3008 (jointly with G. Lukács).

22. *A Kronecker-Weyl theorem for subsets of abelian groups*, Adv. Math. **226** (2011) 4776–4795 (jointly with D. Shakhmatov).

23. *Metrization criteria for compact groups in terms of their dense subgroups*, Fundam. Math. 221 (2013) 161– 187 (jointly with D. Shakhmatov).

24. *Endomorphisms of abelian groups with small algebraic entropy*, Jour. of Linear Algebra and Appl. 439 (2013) 1894–1904 (jointly with Ketao Gong and Paolo Zanardo).

25. *Locally minimal topological groups*, 2, J. Math. Anal. Appl. **380** (2011) 552–570, (jointly with L. Außenhofer, M.J. Chasco, X. Dominguez).

26. *Minimality conditions in topological groups*, Recent Progress in General Topology III, Hart, K.P., van Mill, Jan, Simon, P (Eds.) Springer Verlag (Atlantis Press), Berlin, 2014, pp. 229–327 (jointly with Michael Megrelishvili)

27. *Characterizing sequences for precompact group topologies*, J. Math. Anal. Appl. 412 (2014) 505–519 (jointly with S. Gabriyelyan and V. Tarieladze).

28. Closure operators and dual closure operators, J. Algebra 439 (2015), 373–416 (jointly with Walter Tholen).

29. *Complete solution of Markov's problem on connected group topologies*, Adv. Math. 286 (2016), 286–307 (jointly with D. Shakhmatov).

30. *Entropy on abelian groups*, Adv. Math. 298 (2016), 612–653, (jointly with A. Giordano Bruno).

31. *"Varopoulos paradigm": Mackey property vs metrizability in topological groups*, Revista Matemática Complutense, 30, Issue 1 (2017), n.1, 167–184 (jointly with L. Aussenhofer, D. de la Barrera Mayoral and E. Martín Peinador).

32. *Characterizations of Lie groups*, Forum Math. 30(2) (2018) 295–320 (jointly with D. Shakhmatov).

33. *Locally Compact Groups and Locally Minimal Group Topologies*, Fundam. Math. 244 (2019), no. 2, 109–124 (jointly with W. He, W. Xi and Z. Xiao)

34. *Hereditarily minimal topological groups*, Forum Math. 31 (2019), no. 3, 619–646. (jointly with W. Xi, M. Schlossberg and D. Toller);

35. *Quotients of locally minimal group*, J. Math. Anal. Appl. 475, Issue 2, (2019) 1215–1241 (jointly with D.Peng, W. He, Z. Xiao, W. Xi).

36. *Dimension and entropy in compact topological group*, J. Math. Anal. Appl. 476, Issue 2, 15 (2019) 337–366 (jointly with M. Sanchis).

37. *Entropy on normed semigroups (towards a unifying approach to entropy)*, Diss. Math. 542 (2019), 1–90 (jointly with A. Giordano Bruno)

38. *Locally quasi-convex compatible topologies on LCA groups*, Math. Z. (2019), to appear (jointly with Lydia Aussenhofer), doi 10.1007/s00209-019-02420-8.

39. *S-characterized subgroup of the circle group*, to appear in Fundamenta Math. (2019) (jointly with P. Bose and P. Das).

M o n o g r a p h s and T e x t b o o k s

- *Topological Groups: Characters, Dualities and Minimal Group Topologies*, Pure and Applied Mathematics, Vol. **130**, Marcel Dekker Inc., New York-Basel, 1989, pp. 287+x (jointly with Iv. Prodanov and L. Stoyanov)

- *Categorical Structure of Closure Operators with Applications to Topology, Algebra and Discrete Mathematics*, *Mathematics and its Applications*, vol. 346, Kluwer Academic Publishers, Dordrecht-Boston-London 1995, pp. 358+xviii (jointly with W. Tholen)

- *Algebraic structure of the pseudocompact groups*, Memoirs Amer. Math. Soc., 133/633, April 1998, pp. viii+83 (jointly with D. Shakhmatov).

- *Arithmetics and Algebra*, Liguori, Naples, 2007, pp. xvi +399 (in Italian).

Editor of Proceedings

- *Abelian Groups, Module Theory and Toplogical Algebra, Proceedings in Honour of Adalberto Orsatti's 60-th Birthday*, Padova 19–21 June 1997, "Lecture Notes in Pure and Applied Mathematics", vol. **201**, Marcel Dekker 1998 (jointly with Luigi Salce).

- *Abelian Groups, Module Theory and Toplogical Algebra, Proceedings in Honour of Adalberto Orsatti's 60-th Birthday*, Padova 19–21 June 1997, "Lecture Notes in Pure and Applied Mathematics", vol. **201**, Marcel Dekker 1998 (in collab. con Luigi Salce).

- *Special issue of Topology Appl. dedicated to Jan "Honza" Pelant* Topology Appl. 156 (2009), no. 7, 1171 (in collab. con A. Dow, H. Junnila, Heikki).

- *Dynamical Methods in Algebra, Geometry and Topology*, Proceedings of the Conference on Dynamical Methods in Algebra, Geometry and Topology, July 4–6, 2018, "Topological Algebra and its Applications", de Gruyter 2020 (in collab. con A. Giordano Bruno and Simone Virili).

- *Dynamics of (Semi-)Group Actions*, Proceedings of Conference Dynamics of (Semi-)Group Actions, Łòdż (Poland) in July 9-12, 2019. 2020, "Topological Algebra and its Applications", de Gruyter 2020 (in collab. con Andrzej Biś, Tomasz Downarowicz, Anna Giordano Bruno, Lubomir Snoha and Luchezar Stoyanov).