DYNAMICAL SYSTEMS (WARSAW, 2023)
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PREFACE

This volume contains six survey articles which grew out from the minicourses held during the Dynamical Systems Semester "Topological, smooth and holomorphic dynamics, ergodic theory, fractals" in March 2023 – June 2023 at the Stefan Banach International Mathematical Center of the Institute of Mathematics of the Polish Academy of Sciences (IMPAN), within the program "Simons Semesters in Banach Center 2021–2024", and at the University of Warsaw, Faculty of Mathematics, Informatics and Mechanics, within the program "Modern holomorphic dynamics and related fields", March 2023 – June 2023, the Thematic Research Programme action, a part of the Excellence Initiative – Research University Programme (IDUB), in cooperation with the Excellence Center "Dynamics, mathematical analysis and artificial intelligence" of the Nicolaus Copernicus University in Toruń.

The 2023 semester was a continuation of the Simons Semester "Dynamical Systems" at Banach Center in Fall 2015 (see Volume 115 of Banach Center Publications, "Dynamical Systems", ed. by Feliks Przytycki, Warszawa, 2018). The 2023 semester included several schools, workshops and conferences, as well as minicourses run by leading mathematicians, and joint research and mentoring, directed to young participants.

The details concerning the Dynamical Systems semester, in particular the logos of the supporting institutions, are available at the web pages

https://sites.google.com/impan.pl/topologicalsmoothandholomorphi/home-page
https://holdyn23.mimuw.edu.pl/

The semester included several schools and conferences at IMPAN and at the University of Warsaw premises, and accompanying meetings at IMPAN Research and Conference Center at Będlewo and at the European Centre for Geological Education of the University of Warsaw at Chęciny (near Kielce):

- 27–31 March: Conference "Complex dynamics: connections to other fields", Chęciny
- 23 April–5 May: School and conference "Beyond uniform hyperbolicity", Będlewo
- 14–19 May: Workshop "Thermodynamic formalism: non-additive aspects and related topics", Będlewo
- 4–10 June: Conference "Nilpotent structures in topological dynamics, ergodic theory and combinatorics", Będlewo

Here is the full list of minicourses at the Banach Center in Warsaw and at the University of Warsaw (minicourses within the above schools/conferences are not listed):

1. Fabrizio Bianchi (Université de Lille), Equilibrium states through potential theory.

2. André de Carvalho (Universidade de São Paulo), Models for dynamical systems in dimensions 1 and 2.
3. Genadi Levin (Hebrew University of Jerusalem), Monotonicity of entropy in families of interval maps, transfer operator and holomorphic motions.
4. Núria Fagella (Universitat de Barcelona), Quasiconformal surgery and applications.
5. Juan Rivera-Letelier (University of Rochester), Prime orbit theorems and dynamical zeta functions.
6. Giulio Tiozzo (University of Toronto), Harmonic measures for random walks on groups.
7. Christian Bonatti (Université de Bourgogne / CNRS), Chain recurrence classes of generic diffeomorphisms, I.
8. Philip Boyland (University of Florida), When topology forces dynamics.
9. Jérôme Buzzi (Université Paris-Saclay), Continuity properties of Lyapunov exponents.
10. Katrin Gelfert (Universidade Federal do Rio de Janeiro), Study of nonhyperbolic measures in partially hyperbolic dynamics.
11. Mark Pollicott (University of Warwick), Entropy and Gibbs measures for hyperbolic systems.
12. Polina Vytnova (University of Surrey), Rigorous computer algorithms for chaotic dynamics.
13. Balázs Bárány (Budapest University of Technology and Economics), Self-affine systems.
14. Christian Bonatti (Université de Bourgogne / CNRS), Chain recurrence classes of generic diffeomorphisms, II.
15. Mark Pollicott (University of Warwick), Estimating dimension and Lyapunov exponents.
16. Károly Simon (Budapest University of Technology and Economics), One-parameter families of hyperbolic iterated function systems on the line.
17. Jonguk Yang (University of Zurich), Renormalization in dimension two.
18. Jon Chaika (University of Utah), Some arguments in equidistribution.
19. Alexandre Eremenko (Purdue University), Topics in geometric function theory.
20. Davide Ravotti (Universität Wien), Ergodic and mixing properties of horocycle flows and their time-changes.
21. Mariusz Urbański (University of North Texas), Thermodynamic formalism for symbolic open systems via singular perturbations.
22. Felipe García-Ramos (Universidad Autónoma de San Luis Potosí / Jagiellonian University), Local entropy theory and descriptive complexity.

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