

CURRICULUM VITAE (October 27, 2025)

Name: **Delio Mugnolo**
Researcher ID: orcid.org/0000-0001-9405-0874
Address: Faculty of Mathematics & Computer Science, University of Hagen (Germany)
URL: www.fernuni-hagen.de/analysis

Education

1/2011	<i>Habilitation</i> in Mathematics at the University of Ulm, Germany
6/2004	<i>Promotion</i> in Mathematics at the University of Tübingen, Germany

Employment history

since 6/2014	Full professor, Chair of Analysis, University of Hagen, Germany
10/2008–6/2014	Junior professor, Institute of Analysis, University of Ulm, Germany
10/2005–6/2008	Assistant professor, Institute of Applied Analysis, University of Ulm, Germany
6/2004–9/2005	Post-Doc researcher, Mathematical Institute, University of Bari, Italy

Fellowships and awards (selected)

11/2025	Research Prize of the University of Hagen
3/2024	Visiting grant of the London Mathematical Society (Scheme 2)
10/2009–9/2014	Fellowship of the <i>Young ZiF</i> at the ZiF, University of Bielefeld, Germany
9/2001 – 6/2004	Ph.D. Scholarship of the INdAM – Italian Institute for Higher Mathematics

Acquired grants (selected)

since 11/2025	COST Action “multiscale Stochastics, Patterns, and Analysis of Combinatorial Environments” by the COST Association; main PI
5/2019–4/2024	COST Action “Mathematical models for interacting dynamics on networks” by the COST Association (Leader of Working Group #4 on “Variational methods on graphs and networks”; main PI of the Action: M. Kramar Fijavž)
9/2018–8/2025	DFG grant for a project on “Analysis on networks”
10/2012–9/2017	Cooperation Group on “Discrete and continuous models in the theory of networks” hosted at the ZiF in Bielefeld, Germany (w/ F. Atay and P. Kurasov)
4/2011–6/2014	Research grant of the Land Baden-Württemberg, Germany, for a project on “Symmetry methods in quantum graphs”

Supervision of doctoral students

2022–2025	Patrizio Bifulco (University of Hagen) Defended in November 2025
2018–2021	Marvin Plümer (University of Hagen) Defended in April 2022; awarded the faculty prize for the best mathematical thesis
2011–2014	René Pröpper (University of Ulm; not completed)

Supervision of habilitations

2025	Matthias Täufer (University of Hagen) now: <i>Chaire de Professeur Junior</i> at Université Polytechnique Hauts-de-France
2020	Joachim Kerner (University of Hagen) now: <i>Oberrat</i> in Hagen

Co-organized scientific meetings (selected)

Linz, 9/2025	Mini-symposium on “Applied Operator Theory” in the framework of the ÖMG-DMV Annual Meeting (w./ P. Alonso Ruiz, A. Hussein and N. Nicolussi)
Hagen, 4/2023	“Geometric aspects of evolution and control” (w./ M. Täufer)
Portorož, 6/2021	Mini-symposium on “Variational Methods and Equations on Graphs” in the framework of the 8th European Congress of Mathematics (w./ A. Puchalska)
Jerusalem, 3/2021	Session on “Spectral geometry” in the framework of the First Joint Meeting of IMU & DMV (w./ R. Band) [eventually held online due to the COVID19 pandemics]
Hagen, 6/2019	“On mathematical aspects of interacting systems in low dimension” (w./ J. Kerner and W. Spitzer)
Bielefeld, 11/2017	“Discrete and continuous models in the theory of networks” (w./ F. Atay and P. Kurasov)
Atlanta, 10/2016	Session on “Quantum mechanics on graphs and similar structures” in the framework of “QMath13: Mathematical Results in Quantum Physics” (w./ G. Berkolaiko and D. Krejčířík)
Oberwolfach, 2/2015	Mini-workshop on “Discrete p -Laplacians: Spectral Theory and Variational Methods in Mathematics and Computer Science” (w./ M. Hein and D. Lenz)
Bielefeld, 12/2013	“Mathematical Technology of Networks”
Berlin, 7/2010	Session on “Operator Theory on Graphs” in the framework of “IWOTA – 21st International Workshop on Operator Theory and Applications” (w./ O. Post)
Blaubeuren, 10/2006	“Heat Kernels in Mathematics and Physics” (w./ W. Arendt and F. Steiner)

Invited lecturer at training schools

Essaouira, 5/2025	Mini-course on “Diffusion problems on metric graphs” within the CIMPA school on “Optimal transportation, PDE and Optimization: applications in Data science”
Valenciennes, 6/2024	Mini-course on “Spectral geometry of metric graph and further branched spaces” within a summer school on “Nonlinear quantum graphs”
Samarkand, 9/2023	Mini-course on “Diffusion problems on metric graphs” within a summer school on “Mathematics for the Micro/Nano-World: From soliton dynamics, nonlinear optics to quantum science and technology”
Trento, 2/2014	Mini-course on “Evolution equations on networks”
Karlsruhe, 11/2013	Mini-course on “Laplacians on graphs and metric graphs”
Baton Rouge, 3/2007	Mini-course on “Semigroup methods for evolution equations on networks”

Co-organized training schools

Stockholm, 6/2023	Summer school on “Analysis, Arithmetics and Geometry: Zeta-Functions, Trace Formulas, and Around”, with lectures by S. Jitomirskaya, K. Kirsten, P. Sarnak (w./ H. Hedenmalm, P. Kurasov, J. Rohleder, M. de Courcy-Ireland)
Bregenz, 9/2022	Summer school on “Heat Kernels and Spectral Geometry: from Manifolds to Graphs”, with lectures by N. Anantharaman, D. Borthwick, J.B. Kennedy (w./ P. Kurasov)

Memberships in professional societies

Deutsche Mathematiker-Vereinigung, Gesellschaft für Angewandte Mathematik und Mechanik,
European Mathematical Society

Membership in editorial boards

Editor of *Networks and Heterogeneous Media* (ISSN 1556-1801)

Guest editor of *Focus on the Dirac Operator: Bridging Mathematical Physics and Network Science* – a joint special issue of *Journal of Physics A: Mathematical and Theoretical* (ISSN: 1751-8121) and *Journal of Physics: Complexity* (ISSN: 2632-072X) (w./ G. Bianconi)

Scientific referee activities (selected)

DFG, FWF, Alexander von Humboldt-Stiftung, DAAD, ANR, NKFI, FWO, FNP, NCN

MathSciNet, Zentralblatt

JFA, JMPA, NoDEA, JDE, SIAM J. Math. Analysis, Trans. AMS, Bull. LMS, Comm. Math. Phys., J. Spectral Th., ZAMM, JEE, Calc. Var., Ann. H. Poincaré, Nonl. Analysis, Ann. Mat. Pura Appl., JMAA, MMAS, Netw. Heter. Media, J. Phys A, J. Math. Phys., Phys. Lett. A, Lin. Alg. Appl., ZAMP, Potential Anal.

Roles in academic self-administration (selected)

- Member of Senate (University of Hagen)
- Member of Faculty council (Faculty of Mathematics and Computer Science, University of Hagen)
- Spokesman of the senate committee for construction projects and space management (*Senatskommission Raum und Bau*; University of Hagen)
- Spokesman of the examination audit committee (*Prüfungsausschuss*; Faculty of Mathematics and Computer Science, University of Hagen)
- Member of the committee on programme planning and evaluation of all study programmes (*Kommission für Studienplanung und Evaluation aller Studiengänge*; Faculty of Mathematics and Computer Science, University of Hagen)
- Member of several appointment committee at the faculties of Mathematics and Economics (Ulm University), Mathematics and Computer Science (University of Hagen), Law (University of Hagen), Economics (University of Hagen)
- Founder and coordinator of Erasmus+ collaborations with the universities of Trento (University of Hagen) and Bari, Zaragoza (University of Ulm) Member of Senate (University of Hagen)
- Member of Faculty council (Faculty of Mathematics and Computer Science, University of Hagen)
- Spokesman of the senate committee for construction projects and space management (*Senatskommission Raum und Bau*; University of Hagen)
- Spokesman of the examination audit committee (*Prüfungsausschuss*; Faculty of Mathematics and Computer Science, University of Hagen)
- Member of the committee on programme planning and evaluation of all study programmes (*Kommission für Studienplanung und Evaluation aller Studiengänge*; Faculty of Mathematics and Computer Science, University of Hagen)
- Member of several appointment committee at the faculties of Mathematics and Economics (Ulm University), Mathematics and Computer Science (University of Hagen), Law (University of Hagen), Economics (University of Hagen)
- Founder and coordinator of Erasmus+ collaborations with the universities of Trento (University of Hagen) and Bari, Zaragoza (University of Ulm)

Publications

Books

- (B2) *The wave equation with acoustic boundary conditions on non-locally reacting surfaces*, Mem. Amer. Math. Soc. **303** (2024) (w./ E. Vitillaro)
- (B1) *Semigroup methods for evolution equations on networks*, Understanding Complex Systems, Springer-Verlag, Berlin, 2014

Edited collections

- (C5) *Mathematical Models for Interacting Dynamics on Networks*, Trends in Mathematics, Birkhäuser, Basel (to appear) (w./ M. Pavić-Čolić, J. Giesselmann, J. Glück, M. Kramar Fijavž, A. Mauroy)
- (C4) *Discrete and Continuous Models in the Theory of Networks*, Operator Theory: Advances and Applications (281), Birkhäuser, Basel, 2020 (w./ F. Atay, P. Kurasov)
- (C3) *Control Theory of Infinite-Dimensional Systems*, Operator Theory: Advances and Applications (277), Birkhäuser, Basel, 2020 (w./ J. Kerner, H. Laasri)
- (C2) *Mathematical Technology of Networks (Bielefeld, December 2013)*, Springer Proceedings in Mathematics & Statistics (128), Springer-Verlag, New York, 2015
- (C1) *Mini-Workshop: Discrete p -Laplacians: Spectral Theory and Variational Methods in Mathematics and Computer Science*, Oberwolfach Reports **12** (2015), 399–447 (w./ M. Hein, D. Lenz)

Articles

- (A83) Heat flows on directed hypergraphs, arXiv:2510.17497
- (A82) *On Spectral Properties of Restricted Fractional Laplacians with Self-adjoint Boundary Conditions on a Finite Interval*, arXiv:2505.00094 (w./ J. Behrndt, M. Holzmann)
- (A81) *On the heat content of compact quantum graphs*, arXiv:2502.09461 (w./ P. Bifulco)
- (A80) *Towards a theory of eigenvalue asymptotics on infinite metric graphs: the case of diagonal combs*, arXiv:2403.10708 (w./ J.B. Kennedy, M. Täufer)
- (A79) *On solitary waves for the Korteweg–de Vries equation on metric star graphs*, arXiv:2402.08368 (w./ D. Noja, C. Seifert)
- (A78) *On the Lipschitz continuity of the heat kernel*, arXiv:2307.08889 (w./ P. Bifulco)
- (A77) *On the spectrum of infinite quantum graphs*, Analysis and Mathematical Physics **15** (2025), 134 (w./ M. Düfel, J.B. Kennedy, M. Plümer, M. Täufer)
- (A76) *On the p -torsional rigidity of combinatorial graphs of finite measure*, Nonlinear Analysis **251** (2025), 113694 (w./ P. Bifulco)
- (A75) *Mean distance on metric graphs*, J. Geom. Anal. **34** (2024), 137 (w./ L.N. Baptista, J.B. Kennedy)
- (A74) *Sturm–Liouville Problems And Global Bounds By Small Control Sets And applications to quantum graphs*, J. Math. Anal. Appl. **535** (2024), 128101 (w./ M. Egidi, A. Seelmann)
- (A73) *Eigenvector estimates by landscape functions: some variations on the Filoche–Mayboroda–van den Berg bound*, Math. Nachr. **297** (2024), 1749–1771
- (A72) *On torsional rigidity and ground-state energy of compact quantum graphs*, Calc. Var. **62** (2023), 27 (w./ M. Plümer)
- (A71) *Distinguishing cospectral quantum graphs by scattering*, J. Phys. A **56** (2023), 095201 (w./ V. Pivovarchik)
- (A70) *Impediments to diffusion in quantum graphs: Geometry-based upper bounds on the spectral gap*, Proc. Amer. Math. Soc. **151** (2023), 3439–3455 (w./ G. Berkolaiko, J.B. Kennedy, P. Kurasov)

- (A69) *Gradient flow formulation of diffusion equations in the Wasserstein space over a metric graph*, Netw. Heter. Media **17** (2022), 687–717 (w./ M. Erbar, D. Forkert, J. Maas)
- (A68) *Ornstein–Uhlenbeck Semigroups on Star Graphs*, Disc. Cont. Dyn. Syst. S **15** (2022), 3765–3779 (w./ A. Rhandi)
- (A67) *Hubs-biased resistance distances on graphs and networks*, J. Math. Anal. Appl. **507** (2022), 125728 (w./ E. Estrada)
- (A66) *Parabolic equations with dynamic boundary conditions and drift terms*, Math. Nachr. **295** (2022), 1211–1232 (w./ A. Khoutaibi, L. Maniar, A. Rhandi)
- (A65) *Self-adjoint and Markovian extensions of infinite quantum graphs*, J. London Math. Society **105** (2022), 1262–1313 (w./ A. Kostenko, N. Nicolussi)
- (A64) *Asymptotics and estimates for spectral minimal partitions of metric graphs*, Int. Eq. Oper. Theory **93** (2021), 26 (w./ M. Hofmann, J.B. Kennedy, M. Plümer)
- (A63) *A theory of spectral partitions of metric graphs*, Calc. Var. **60** (2021), 1–63 (w./ J.B. Kennedy, P. Kurasov, C. Léna)
- (A62) *Dynamic Transmission Conditions for Linear Hyperbolic Systems on Networks*, J. Evol. Equations **21** (2021), 3639–3673 (w./ M. Kramar Fijavž, S. Nicaise)
- (A61) *If time were a graph, what would evolution equations look like?*, J. Evol. Equations **21** (2021), 2837–2876 (w./ A. Hussein)
- (A60) *Eventual Domination for Linear Evolution Equations*, Math. Z. **299** (2021), 1421–1443 (w./ J. Glück)
- (A59) *Higher order operators on networks: hyperbolic and parabolic theory*, Int. Eq. Oper. Theory **92** (2021), 50 (w./ F. Gregorio)
- (A58) *Random evolution equations: well-posedness, asymptotics, and applications to graphs*, Appl. Math. Optim. **84** (2021), 2849–2887 (w./ S. Bonaccorsi, F. Cottini)
- (A57) *Schrödinger and polyharmonic operators on infinite graphs: Parabolic well-posedness and p -independence of spectra*, J. Math. Anal. Appl. **495** (2021), 124748 (w./ S. Becker, F. Gregorio)
- (A56) *On Pleijel’s nodal domain theorem for quantum graphs*, Annales Henri Poincaré **22** (2021), 3841–3870 (w./ M. Hofmann, J.B. Kennedy, M. Plümer)
- (A55) *Linear Hyperbolic Systems on Networks*, ESAIM: COCV **27** (2021), 7 (w./ M. Kramar Fijavž, S. Nicaise)
- (A54) *Analytic solutions for stochastic hybrid models of gene regulatory networks*, J. Math. Biology **82** (2021), 1–29 (w./ P. Kurasov, V. Wolf)
- (A53) *Bi-Laplacians on graphs and networks*, J. Evol. Equations **20** (2020), 191–232 (w./ F. Gregorio)
- (A52) *Lower Estimates on Eigenvalues of Quantum Graphs*, Oper. and Matrices **14** (2020), 743–765 (w./ M. Plümer)
- (A51) *Laplacians with point interactions—expected and unexpected spectral properties*, in: J. Banasiak, A. Bobrowski, M. Lachowicz, Y. Tomilov (eds.): Semigroups of Operators - Theory and Applications (SOTA, Kazimierz Dolny, Poland, September/October 2018), Springer Proceedings in Mathematics & Statistics **325**, Springer-Verlag, New York, 2020, 47–67 (w./ A. Hussein)
- (A50) *Ultracontractivity and Gaussian bounds for evolution families associated with non-autonomous forms*, Math. Meth. Appl. Sci. **43** (2020) 1409–1436 (w./ H. Laasri)
- (A49) *What is actually a metric graph?*, arXiv:1912.07549
- (A48) *Surgery principles for the spectral analysis of quantum graphs*, Trans. Amer. Math. Soc. **372** (2019), 5153–5197 (w./ G. Berkolaiko, J.B. Kennedy, P. Kurasov)
- (A47) *Stochastic hybrid models of gene regulatory networks – a PDE approach*, Mathematical Biosciences **305** (2018), 170–177 (w./ P. Kurasov, A. Lück, V. Wolf)

- (A46) *Airy-type evolution equations on star graphs*, Analysis & PDE **11** (2018), 1625–1652 (w./ D. Noja, C. Seifert)
- (A45) *Schrödinger operators on exterior domains with Robin boundary conditions: heat kernel estimates*, Potential Anal. **48** (2018), 159–180 (w./ H. Kovařík)
- (A44) *Dynamical systems associated with adjacency matrices*, Disc. Cont. Dyn. Syst. B **23** (2017), 1945–1973
- (A43) *Edge connectivity and the spectral gap of combinatorial and quantum graphs*, J. Phys. A **50** (2017), 365201 (w./ G. Berkolaiko, J.B. Kennedy, P. Kurasov)
- (A42) *The Cheeger constant of a quantum graph*, PAMM **16** (2016), 875 – 876 (w./ J.B. Kennedy)
- (A41) *General Cheeger inequalities for p -Laplacians on graphs*, Nonlinear Analysis: Theory, Methods and Appl. **147** (2016), 80–95 (w./ M. Keller)
- (A40) *On the spectral gap of a quantum graph*, Ann. Henri Poincaré **17** (2016), 2439–2473 (w./ J.B. Kennedy, P. Kurasov, G. Malenová)
- (A39) *Time regularity and long-time behavior of parabolic p -Laplace equations on infinite graphs*, J. Differential Equations **259** (2015) 6162–6190 (w./ B. Hua)
- (A38) *A new Gershgorin-type result for the localisation of the spectrum of matrices*, Math. Nachr. **288** (2015), 1981–1994 (w./ A. Dall’Acqua, M. Schelling)
- (A37) *Epidemic outbreaks in networks with equitable or almost-equitable partitions*, SIAM J. Appl. Math. **75** (2015), 2421–2443 (w./ S. Bonaccorsi, S. Ottaviano, F. De Pellegrini)
- (A36) *The heat equation under conditions on the moments in higher dimensions*, Math. Nachr. **288** (2015), 295–308 (w./ S. Nicaise)
- (A35) *Some remarks on the Krein–von Neumann extension of different Laplacians*, in: J. Banasiak, A. Bobrowski, M. Lachowicz (eds.): Semigroups of Operators - Theory and Applications (Będlewo, Poland, October 2013), Springer Proceedings in Mathematics & Statistics **113**, Springer-Verlag, New York, 2015, 69–87
- (A34) *Laplacians on quantum hypergraphs*, PAMM **14** (2014), 975–976
- (A33) *Asymptotics of semigroups generated by operator matrices*, Arabian J. Math. **3** (2014), 419–435
- (A32) *Construction of exact travelling waves for the Benjamin–Bona–Mahony equation on networks*, Bull. Belg. Math. Soc. - Simon Stevin **21** (2014), 415–436 (w./ J.-F. Rault)
- (A31) *Well-posedness and spectral properties of heat and wave equations with non-local conditions*, J. Differ. Equ. **256** (2014), 2115–2151 (w./ S. Nicaise)
- (A30) *Diffusion processes on an interval under linear moment conditions*, Semigroup Forum **88** (2014), 479–511 (w./ S. Nicaise)
- (A29) *On moments-preserving cosine families and semigroups in $C[0, 1]$* , J. Evol. Equations **4** (2013), 715–735 (w./ A. Bobrowski)
- (A28) *The spectrum of the Hilbert space valued second derivative with general self-adjoint boundary conditions*, Lin. Alg. Appl. **439** (2013), 1792–1814 (w./ J. von Below)
- (A27) *Quantum graphs with mixed dynamics: the transport/diffusion case*, J. Phys. A **46** (2013), 235202 (w./ A. Hussein)
- (A26) *Parabolic theory of the discrete p -Laplace operator*, Nonlinear Analysis: Theory, Methods and Appl. **87** (2013), 33–60
- (A25) *Convergence of sectorial operators on varying Hilbert spaces*, Oper. and Matrices **7** (2013), 955–995 (w./ R. Nittka, O. Post)
- (A24) *Convergence of operator semigroups associated with generalised elliptic forms*, J. Evol. Equations **12** (2012), 593–619 (w./ R. Nittka)

- (A23) *A Frucht's theorem for quantum graphs*, in: W. Arendt, J.A. Ball, J. Behrndt, K.-H. Förster, V. Mehrmann (eds.): *Spectral Theory, Mathematical System Theory, Evolution Equations, Differential and Difference Equations* (21st International Workshop on Operator Theory and Applications, Berlin, July 2010), Birkhäuser, Basel, 2012, 499–508
- (A22) *Gradient systems on networks*, *Disc. Cont. Dyn. Syst. S* (2011), 1078–1090 (w./ R. Pröpper)
- (A21) *On the domain of a Fleming–Viot type operator on an L^p -space with invariant measure*, *Note di Mat.* **31** (2011), 139–148 (w./ A. Rhandi)
- (A20) *Damped wave equations with dynamical boundary conditions*, *J. Appl. Analysis* **17** (2011), 241–275
- (A19) *Properties of representations of operators acting between spaces of vector-valued functions*, *Positivity* **15** (2011), 135–154 (w./ R. Nittka)
- (A18) *Vector-valued heat equations and networks with coupled dynamic boundary conditions*, *Adv. Diff. Equations* **15** (2010), 1125–1160
- (A17) *Existence of strong solutions for neuronal network dynamics driven by fractional Brownian motions*, *Stoch. Dyn.* **10** (2010), 441–464 (w./ S. Bonaccorsi)
- (A16) *Towards a gauge theory for evolution equations on vector-valued spaces*, *J. Math. Phys.* **50** (2009), 103520 (w./ S. Cardanobile)
- (A15) *Parabolic systems with coupled boundary conditions*, *J. Differ. Equ.* **247** (2009), 1229–1248 (w./ S. Cardanobile)
- (A14) *Well-posedness and symmetries of strongly coupled network equations*, *J. Phys. A* **41** (2008) 055102 (w./ S. Cardanobile, R. Nittka)
- (A13) *Qualitative properties of parabolic systems of evolution equations*, *Ann. Sc. Norm. Super. Pisa, Cl. Sci., V. Ser. VII* (2008), 287–312 (w./ S. Cardanobile)
- (A12) *A variational approach to damped wave equations*, in H. Amann, W. Arendt, F. Neubrander, S. Nicaise, J. von Below: *Functional Analysis and Evolution Equations – The Günter Lumer Volume*, Birkhäuser, Basel, 2008, 503–514
- (A11) *Analysis of a FitzHugh–Nagumo–Rall model of a neuronal network*, *Math. Meth. Appl. Sci.* **30** (2007), 2281–2308 (w./ S. Cardanobile)
- (A10) *Dynamic and generalized Wentzell node conditions for network equations*, *Math. Meth. Appl. Sci.* **30** (2007), 681–706 (w./ S. Romanelli)
- (A9) *Gaussian estimates for a heat equation on a network*, *Netw. Heter. Media* **2** (2007), 55–79
- (A8) *Variational and semigroup methods for waves and diffusion in networks*, *Appl. Math. Optim.* **55** (2007), 219–240 (w./ M. Kramar Fijavž, E. Sikolya)
- (A7) *Dirichlet forms for general Wentzell boundary conditions, analytic semigroups, and cosine operator functions*, *Electr. J. Diff. Eq.* **118** (2006), 1–20 (w./ S. Romanelli)
- (A6) *Matrix methods for wave equations*, *Math. Z.* **253** (2006), 667–680
- (A5) *Operator matrices as generators of cosine operator functions*, *Int. Eq. Oper. Theory* **54** (2006), 441–464
- (A4) *Abstract wave equations with acoustic boundary conditions*, *Math. Nachr.* **279** (2006), 299–318
- (A3) *A semigroup analogue of the Fonf–Lin–Wojtaszczyk ergodic characterization of reflexive Banach spaces with a basis*, *Studia Math.* **164** (2004), 243–251
- (A2) *Semigroups for initial boundary value problems*, in: M. Iannelli, G. Lumer (eds.): *Evolution Equations 2000: Applications to Physics, Industry, Life Sciences and Economics* (Proceedings Levico Terme 2000), *Progress in Nonlinear Differential Equations* **55**, Birkhäuser, Basel, 2003, 276–292 (w./ M. Kramar, R. Nagel)
- (A1) *Theory and applications of one-sided coupled operator matrices*, *Conf. Semin. Matem. Univ. Bari* **283** (2003), 1–29 (w./ M. Kramar, R. Nagel)

Book contributions

- (BC5) *Community Networks with Equitable Partitions*, in E. Altman, K. Avrachenkov, F. De Pellegrini, R. El-Azouzi, H. Wang (eds.): *Multilevel Strategic Interaction Game Models for Complex Networks*, Springer-Verlag, Cham, 2019, 111–129 (w./ S. Ottaviano, F. De Pellegrini, S. Bonaccorsi, P. Van Mieghem)
- (BC4) *Symmetries in quantum graphs*, in W. Arendt, W. Schleich (eds.): *Mathematical Analysis of Evolution, Information and Complexity*, Wiley-VCH, Weinheim, 2009, 181–196 (w./ J. Bolte, S. Cardanobile, R. Nittka)
- (BC3) *Relating simulation and modelling of neural networks*, in W. Arendt, W. Schleich (eds.): *Mathematical Analysis of Evolution, Information and Complexity*, Wiley-VCH, Weinheim, 2009, 137–155 (w./ S. Cardanobile, H. Markert, G. Palm, F. Schwenkert)
- (BC2) *Investigation of input-output gain in dynamical systems for neural information processing*, in W. Arendt, W. Schleich (eds.): *Mathematical Analysis of Evolution, Information and Complexity*, Wiley-VCH, Weinheim, 2009, 379–393 (w./ S. Cardanobile, M. Cohen, S. Corchs, H. Neumann)
- (BC1) *Milestones of evolution, information and complexity*, in W. Arendt, W. Schleich (eds.): *Mathematical Analysis of Evolution, Information and Complexity*, Wiley-VCH, Weinheim, 2009, XXIII–XXIX (w./ W. Arendt, W. Schleich)