

Curriculum Vitae

Petr Cintula

Institute of Computer Science
Czech Academy of Sciences
Pod Vodárenskou věží 271/2
182 07 Prague 8, Czech Republic

Born: 13. 8. 1978

Homepage: <http://www.cs.cas.cz/cintula>

Education and qualification

- Docent, Applied Mathematics, Czech Technical University in Prague, 1. 12. 2014
Thesis title: *A General Framework for Mathematical Fuzzy Logic*
- Privatdozent, Computational Logic, Vienna University of Technology, 22. 5. 2013
Thesis title: *Universal Methods in Mathematical Fuzzy Logic*
- PhD, Mathematical Engineering, Czech Technical University in Prague, 17. 2. 2005
Thesis title: *From Fuzzy Logic to Fuzzy Mathematics*, Supervisor: Petr Hájek
- Masters (Ing.), Computer Science, Czech Technical University in Prague, 18. 6. 2001
Thesis title: *The ŁII and $\text{ŁII}_{\frac{1}{2}}$ Logics*, Supervisor: Petr Hájek

Employment history

2001–present Institute of Computer Science, Czech Academy of Sciences,
senior scientist (2013–present); scientist (2005–13); PhD student (2001–05)
2017 University of Cagliari, visiting researcher (July)
2013 University of Bern, visiting researcher (May–June)
2011–2012 Vienna University of Technology, visiting researcher (August–April)

Research interests

- Non-classical modal and predicate logics and reasoning with graded notions
- Mathematical fuzzy logic, substructural logics, and non-classical mathematics
- Abstract algebraic logic

Basic scientometric data

- 38 journal papers (plus two in print), 4 book-chapters, and 17 papers in conference proceedings
- Citations: 600+ (Web of Science), 230+ (MathSciNet), 2000+ (Google Scholar),
- H-index: 16 (Web of Science), 9 (MathSciNet), 24 (Google Scholar)

Notable invited lectures

- *Lattice-valued predicate logics*, XIV Congreso Dr. Antonio Monteiro, Argentina, 2017
- *Substructural Logics: A Logical Glimpse at Residuated Lattices*, The 91st Workshop on General Algebra, Brno, Czech Republic, 2016
- *Logics of graded predicates*, ManyVal 2015, Les Diablerets, Switzerland, 2015
- *First-order non-classical logics: an order-based approach*, Compositional Meaning in Logic, Austria, 2014
- *From (Deductive) Fuzzy Logic to (Logic-Based) Fuzzy Mathematics*, European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty, Italy, 2009
- *Fuzzy Class Theory: A State of the Art*, Linz Seminar on Fuzzy Set Theory, Austria, 2009
- *First-Order Fuzzy Logics: Recent Development*, Universal Logic 2007, China, 2007

Awards

- Young researchers' award for outstanding achievements bestowed by the Czech Academy of Sciences, 2007
- Junior Scientist Award bestowed by the Learned Society of the Czech Republic, 2006
- Josef Hlávka award for young employees of the Czech Academy of Sciences, 2006
- 1st class award of the rector of the Czech Technical University for an outstanding PhD thesis, 2005
- Otto Wichterle award bestowed by the Academy of Sciences of the Czech Republic, 2005

Research stays abroad (for a month or more)

- University of Cagliari, Cagliari, Italy (July 2017)
- La Trobe University, Melbourne, Australia (February–March 2017)
- University of the Witwatersrand, Johannesburg, South Africa (July 2016)
- Research Institute for Mathematical Sciences, Kyoto, Japan (November 2015)
- University of Bern, Bern, Switzerland (May and June 2013)
- Vienna University of Technology, Vienna, Austria (from August 2011 till April 2012)
- Slovak Technical University, Bratislava, Slovakia (January 2004; February 2003)
- Johannes Kepler University, Linz, Austria (February 2004, 2005, March/April 2007)

Grants (principal (co)-investigator)

- *Reasoning with Graded Properties*, Czech Science Foundation GA18-00113S, 2018–2020
- *Predicate Graded Logics and their Applications to Computer Science*, Czech Science Foundation GA17-04630S, 2016–2019
- *Syntax Meets Semantics: Methods, Interactions, and Connections in Substructural logic*, 689176 of Horizon 2020 Marie Skłodowska-Curie RISE, 2016–2018
- *Modelling Vague Quantifiers in Mathematical Fuzzy Logic*, joint project of Austrian Science Fund I1897-N25 and Czech Science Foundation GF15-34650L, 2015–2018
- *An Order-Based Approach to Non-Classical Propositional and Predicate Logics*, GA13-14654S of the Czech Science Foundation, 2013–2016
- *Center of Excellence–Institute for Theoretical Computer Science (CE-ITI)*, GBP202/12/ G061 of the Czech Science Foundation, 2012–2018
- *A Multivalued Approach to Optima and Equilibria in Economics*, GAP402/12/1309 of the Czech Science Foundation, 2012–2014
- *Mathematical Fuzzy Logic in Computer Science*, GAP202/10/1826 of the Czech Science Foundation, 2010–2014 (Principal investigator since 2013 only)
- *Logical Foundations of Semantics*, GD401/09/H007 of the Czech Science Foundation, 2009–2012
- *Dynamic Formal Systems*, IAA900090703 of the Grant Agency of the Academy of Sciences of the Czech Republic, 2007–2010
- *Formal Theories of Mathematical Structures with Vagueness*, KJB100300502 of the Grant Agency of the Academy of Sciences of the Czech Republic, 2005–2007

Academic supervision activity

- Postdoctoral researchers: P. Baldi (2018–present), A. Vidal (2016–present), T. Moraschini (2016–present), I. Sedlár (2016–present), and S. Bonzio (2017)
- PhD students: E. Kolovratníková (2016–present)
- Master students: P. Rusnok (2008), J. Kučera (2006), J. Hytka (2006)
- Bachelor students: P. Fejl (2017), J. Šimon (2017–present)

Teaching experience (semestral courses)

- *Mathematical Logic*, Czech Technical University, 2016/17-present
- *Foundations of Fuzzy Logic*, Czech Technical University, 2012/13, 2014/15
- *Fuzzy Logic*, Vienna University of Technology, 2011/12, 2013/14, 2015/16, 2017/18
- *Mathematical Fuzzy Logic*, Charles University, 2010/11, 2013/14
- *Applied Non-Classical Logics*, Czech Technical University, 2004/05–2006/07, 2008/09, 2013/14
- *General Theories of Logical Systems*, Charles University, 2005/06–2007/08, 2010/11, 2012/13

Notable tutorials

- *A Gentle Introduction to Abstract Algebraic Logic*, invited tutorial, PhDs in Logic, Germany, 2017
- *A Gentle Introduction to Mathematical Fuzzy Logic*, invited tutorial, European Summer School on Fuzzy Logic and Applications, Czech Republic, 2016
- *A Gentle Introduction to Mathematical Fuzzy Logic* (with C. Noguera), European Summer School in Logic, Language and Information, Germany, 2014
- *Mathematical Fuzzy Logic: First-Order and Beyond*, invited tutorial, Workshop ‘Information, Uncertainty, and Imprecision’, Czech Republic, 2013
- *Abstract Algebraic Logic: Theory and Applications* (with C. Noguera), European Summer School in Logic, Language and Information, Poland, 2012

(Co-)chair of Program Committees

- *Non-Classical Modal and Predicate Logics*, Guangzhou 2017 and 2011
- *Linz Seminar*, Linz 2010
- *Non-Classical Mathematics*, Hejnice 2009

Member of Program Committees

- *ManyVal*, Toulouse 2017
- *Isralog*, Haifa 2017
- *IEEE International Symposium on Multiple-Valued Logic*, Linz 2018 and Novi Sad 2017
- *Tbilisi Symposium on Language, Logic and Computation*, Tbilisi 2015
- *Logica*, Hejnice 2013–present
- *Logic, Algebra and Truth Degrees*, Phalaborwa 2016, Vienna 2014, Kanazawa 2012, and Siena 2008
- *Topology, Algebra, and Categories in Logic*, Marseille 2011
- *EUSFLAT*, Milan 2013, Aix-Les-Bains 2011, and Lisbon 2009
- *Logical Models of Reasoning with Vague Information*, Čejkovice 2009

(Co-)chair of the organization committees of scientific meetings

- *TACL 2017*, Prague 2017
- *ManyVal 2013*, Prague 2013
- *Logic Algebra and Truth Degrees*, Prague 2010
- *Logical Models of Reasoning with Vague Information*, Čejkovice 2009

Editorial work

- Associate editor of *Archive for Mathematical Logic*, 2012–present
- Area editor of *Fuzzy Sets and Systems*, 2015–present
- Area Scientific Editor of the *Journal of Applied Logic*, 2014–present
- Member of the editorial board of *Soft Computing*, 2012–2015

- *Handbook of Mathematical Fuzzy Logic, volume 3* (with C. Fermüller and C. Noguera), volumes 58 of Studies in Logic, Mathematical Logic and Foundations, College Publications, 384 pages, 2015
- *Handbook of Mathematical Fuzzy Logic, volumes 1 and 2* (with P. Hájek and C. Noguera), volumes 37 and 38 of Studies in Logic, Mathematical Logic and Foundations, College Publications, 492 and 480 pages, 2011
- *Understanding Vagueness. Logical, Philosophical and Linguistic Perspectives*, (with C. Fermüller, L. Godo, and P. Hájek), volume 36 of Studies in Logic, College Publications, 432 pages, 2011
- *Witnessed Years: Essays in Honour of Petr Hájek*, (with Z. Haniková and V. Švejdar), volume 37 of Tributes, College Publications, 416 pages, 2009
- Special issues of *Logic Journal of the IGPL* “Non-Classical Modal and Predicate Logics” (with R. Iemhoff and S. Ju), 22(3):411–513, 2014 and (with Z. Weber and S. Ju), *in preparation*.
- Special issue of *Fuzzy Sets and Systems* “Linz Seminar 2010” (with E.P. Klement and L. Stout), 197:1–97, 2012
- Special issue of *Journal of Logic and Computation* “Mathematical Fuzzy Logic” (with G. Metcalfe and C. Noguera), 21(5):715–862, 2011
- Special issues of *Fuzzy Sets and Systems* “Formal Methods for Fuzzy Mathematics, Approximation and Reasoning, Parts I and II” (with L. Běhounek, V. Novák, and I. Perfilieva), 159(14):1727–1835, 2008 and 160(8):1003–1053, 2009

Additional professional activities

- Member of the Scientific Council of the Czech Society of Cybernetics and Informatics, 2011–present
- Member of the Council for Support of the Participation of the CAS in European Integration of Research and Development, 2017–present
- Member of the Supervisory Board of the Inst. of Theory of Information and Automation, 2009–present
- Member of the Scientific Council of the IT4Innovations national supercomputing center, 2015–present
- Member of the board of PhD study programs: Mathematical Engineering (FNSPE Czech Technical University in Prague, 2011–present), Artificial Intelligence and Biocybernetics (FEE Czech Technical University in Prague, 2013–present), Informatics (FS Palacký University in Olomouc, 2013–present), Discrete Models and Algorithms (FMP Charles University, 2016–present), Algebra, Theory of Numbers and Mathematical Logic (FMP Charles University, 2016–present), and Logic (FA, Charles University, 2017–present)
- Chair of the Board of the Institute of Computer Science, 2012–2017
- Member of the Board of the Institute of Computer Science, 2007–2012
- Coordinator of the working group of Mathematical Fuzzy Logic (100+ members from 20+ countries), 2007–2016
- Member of the Council of the Czech Society of Cybernetics and Informatics, 2007–2016
- Chair of the *Svoboda award* bestowed by Czech Society of Cybernetics and Informatics, 2010–2016
- Member of: Czech Society for Cybernetics and Informatics, Union of Czech Mathematicians and Physicists, and European Society for Fuzzy Logic and Technology

Publications — journal papers

- [1] Petr Cintula and Denisa Diaconescu. Omitting types theorem for fuzzy logics. Submitted.
- [2] Petr Cintula, José Gil Férrez, Tommaso Moraschini, and Francesco Paoli. An abstract approach to consequence relations. Submitted.
- [3] Petr Cintula and Francesco Paoli. Is multiset consequence trivial? To appear in *Synthese*.

- [4] Petr Cintula and Carles Noguera. Neighborhood semantics for modal many-valued logics. To appear in *Fuzzy Sets and Systems*, 2018.
- [5] Petr Cintula and Carles Noguera. Implicational (semilinear) logics III: Completeness properties. *Archive for Mathematical Logic*, 57(3–4):391–420, 2018.
- [6] Libor Běhounek, Petr Cintula, Christian G. Fermüller, and Tomáš Kroupa. Representing strategic games and their equilibria in many-valued logics. *Logic Journal of the Interest Group of Pure and Applied Logic*, 24(3):238–267, 2016.
- [7] Petr Cintula. A note on axiomatizations of Pavelka-style complete fuzzy logics. *Fuzzy Sets and Systems*, 292:160–174, 2016.
- [8] Petr Cintula and Carles Noguera. Implicational (semilinear) logics II: Additional connectives and characterizations of semilinearity. *Archive for Mathematical Logic*, 53(3):353–372, 2016.
- [9] Libor Běhounek, Ulrich Bodenhofer, Petr Cintula, Susanne Saminger-Platz, and Peter Sarkoci. Graded dominance and related graded properties of fuzzy connectives. *Fuzzy Sets and Systems*, 262:78–101, 2015.
- [10] Petr Cintula and Carles Noguera. A Henkin-style proof of completeness for first-order algebraizable logics. *Journal of Symbolic Logic*, 80(1):341–358, 2015.
- [11] Petr Cintula and Carles Noguera. A note on natural extensions in abstract algebraic logic. *Studia Logica*, 103(4):815–823, 2015.
- [12] Petr Cintula, Rostislav Horčík, and Carles Noguera. Non-associative substructural logics and their semilinear extensions: Axiomatization and completeness properties. *The Review of Symbolic Logic*, 6(3):394–423, 2013.
- [13] Petr Cintula and Tomáš Kroupa. Simple games in Łukasiewicz calculus and their cores. *Kybernetika*, 49(3):404–419, 2013.
- [14] Petr Cintula and Carles Noguera. The proof by cases property and its variants in structural consequence relations. *Studia Logica*, 101(4):713–747, 2013.
- [15] Karel Chvalovský and Petr Cintula. Note on deduction theorems in contraction-free logics. *Mathematical Logic Quarterly*, 58(3):236–343, 2012.
- [16] Petr Cintula and Petr Hájek. Triangular norm predicate fuzzy logics. *Fuzzy Sets and Systems*, 161(3):311–346, 2010.
- [17] Petr Cintula, Erich Peter Klement, Radko Mesiar, and Mirko Navara. Fuzzy logics with an additional involutive negation. *Fuzzy Sets and Systems*, 161(3):390–411, 2010.
- [18] Petr Cintula and George Metcalfe. Admissible rules in the implication–negation fragment of intuitionistic logic. *Annals of Pure and Applied Logic*, 162(2):162–171, 2010.
- [19] Petr Cintula and Carles Noguera. Implicational (semilinear) logics I: Basic notions and hierarchy. *Archive for Mathematical Logic*, 49(4):417–446, 2010.

- [20] Petr Cintula, Francesc Esteve, Joan Gispert, Lluís Godo, Franco Montagna, and Carles Noguera. Distinguished algebraic semantics for t-norm based fuzzy logics: Methods and algebraic equivalencies. *Annals of Pure and Applied Logic*, 160(1):53–81, 2009.
- [21] Petr Cintula and Petr Hájek. Complexity issues in axiomatic extensions of Łukasiewicz logic. *Journal of Logic and Computation*, 19(2):245–260, 2009.
- [22] Petr Cintula and George Metcalfe. Structural completeness in fuzzy logics. *Notre Dame Journal of Formal Logic*, 50(2):153–183, 2009.
- [23] Libor Běhounek, Ulrich Bodenhofer, and Petr Cintula. Relations in Fuzzy Class Theory: Initial steps. *Fuzzy Sets and Systems*, 159(14):1729–1772, 2008.
- [24] San-Min Wang and Petr Cintula. Logics with disjunction and proof by cases. *Archive for Mathematical Logic*, 47(5):435–446, 2008.
- [25] Petr Cintula, Petr Hájek, and Rostislav Horčík. Formal systems of fuzzy logic and their fragments. *Annals of Pure and Applied Logic*, 150(1–3):40–65, 2007.
- [26] Petr Cintula and George Metcalfe. Normal forms for fuzzy logics: A proof-theoretic approach. *Archive for Mathematical Logic*, 46(5–6):347–363, 2007.
- [27] Libor Běhounek and Petr Cintula. From fuzzy logic to fuzzy mathematics: A methodological manifesto. *Fuzzy Sets and Systems*, 157(5):642–646, 2006.
- [28] Libor Běhounek and Petr Cintula. Fuzzy logics as the logics of chains. *Fuzzy Sets and Systems*, 157(5):604–610, 2006.
- [29] Petr Cintula. Weakly implicative (fuzzy) logics I: Basic properties. *Archive for Mathematical Logic*, 45(6):673–704, 2006.
- [30] Petr Cintula, Erich Peter Klement, Radko Mesiar, and Mirko Navara. Residuated logics based on strict triangular norms with an involutive negation. *Mathematical Logic Quarterly*, 52(3):269–282, 2006.
- [31] Petr Hájek and Petr Cintula. On theories and models in fuzzy predicate logics. *Journal of Symbolic Logic*, 71(3):863–880, 2006.
- [32] Libor Běhounek and Petr Cintula. Fuzzy class theory. *Fuzzy Sets and Systems*, 154(1):34–55, 2005.
- [33] Petr Cintula. A note to the definition of the ŁII-algebras. *Soft Computing*, 9(8):575–578, 2005.
- [34] Petr Cintula. Short note: On the redundancy of axiom (A3) in BL and MTL. *Soft Computing*, 9(12):942–942, 2005.
- [35] Petr Cintula. Two notions of compactness in Gödel logics. *Studia Logica*, 81(1):99–123, 2005.
- [36] Petr Cintula and Brunella Gerla. Semi-normal forms and functional representation of product fuzzy logic. *Fuzzy Sets and Systems*, 143(1):89–110, 2004.
- [37] Petr Cintula and Mirko Navara. Compactness of fuzzy logics. *Fuzzy Sets and Systems*, 143(1):59–73, 2004.
- [38] Rostislav Horčík and Petr Cintula. Product Łukasiewicz logic. *Archive for Mathematical Logic*, 43(4):477–503, 2004.

- [39] Petr Cintula. Advances in the $\mathbb{L}\Pi$ and $\mathbb{L}\Pi^{\frac{1}{2}}$ logics. *Archive for Mathematical Logic*, 42(5):449–468, 2003.
- [40] Petr Cintula. About axiomatic systems of product fuzzy logic. *Soft Computing*, 5(3):243–244, 2001.
- [41] Petr Cintula. An alternative approach to the $\mathbb{L}\Pi$ logic. *Neural Network World*, 11(6):561–572, 2001.
- [42] Petr Cintula. The $\mathbb{L}\Pi$ and $\mathbb{L}\Pi^{\frac{1}{2}}$ propositional and predicate logics. *Fuzzy Sets and Systems*, 124(3):289–302, 2001.

Publications — chapters in books

- [1] Petr Cintula, Rostislav Horčík, and Carles Noguera. The quest for the basic fuzzy logic. In Franco Montagna, editor, *Petr Hájek on Mathematical Fuzzy Logic*, number 6 in Outstanding Contributions to Logic, pages 245–290. Springer, 2015.
- [2] Libor Běhounek, Petr Cintula, and Petr Hájek. Introduction to mathematical fuzzy logic. In Petr Cintula, Petr Hájek, and Carles Noguera, editors, *Handbook of Mathematical Fuzzy Logic - Volume 1*, volume 37 of *Studies in Logic, Mathematical Logic and Foundations*, pages 1–101. College Publications, London, 2011.
- [3] Petr Cintula and Carles Noguera. A general framework for mathematical fuzzy logic. In Petr Cintula, Petr Hájek, and Carles Noguera, editors, *Handbook of Mathematical Fuzzy Logic - Volume 1*, volume 37 of *Studies in Logic, Mathematical Logic and Foundations*, pages 103–207. College Publications, London, 2011.
- [4] Petr Cintula and Ondrej Majer. Towards evaluation games for fuzzy logics. In Ondrej Majer, Ahti-veikko Pietarinen, and Tero Tulenheimo, editors, *Games: Unifying Logic, Language, and Philosophy*, volume 15 of *Logic, Epistemology, and the Unity of Science*, pages 117–138. Springer, 2009.

Publications — conference proceedings papers

- [1] Petr Cintula, Carles Noguera, and Nicholas J.J. Smith. A logical framework for graded predicates. In Alexandru Baltag, Jeremy Seligman, and Tomoyuki Yamada, editors, *Logic, Rationality, and Interaction - 6th International Workshop, LORI 2017*, volume 10455, pages 3–16. Springer, 2017.
- [2] Petr Cintula, Carles Noguera, and Jonas Rogger. From kripke to neighborhood semantics for modal fuzzy logics. In Joao Paulo Carvalho, Marie-Jeanne Lesot, Uzay Kaymak, Susana Vieira, Bernadette Bouchon-Meunier, and Ronald R. Yager, editors, *Information Processing and Management of Uncertainty in Knowledge-Based Systems, Part II*, volume 611 of *Communications in Computer and Information Science*, pages 95–107. Springer, 2016.
- [3] Petr Cintula, Denisa Diaconescu, and George Metcalfe. Skolemization for substructural logics. In Martin Davis, Ansgar Fehnker, Annabelle McIver, and Andrei Voronkov, editors, *Proceedings of LPAR-20*, Lecture Notes in Computer Science. Springer, 2015.
- [4] Petr Cintula and Carles Noguera. Modal logics of uncertainty with two-layer syntax: A general completeness theorem. In Ulrich Kohlenbach, Pablo Barceló, and Ruy J.G.B. de Queiroz, editors, *Logic, Language, Information, and Computation - WoLLIC 2014*, volume 8652, pages 124–136. Springer, 2014.

- [5] Petr Cintula and George Metcalfe. Herbrand theorems for substructural logics. In Kenneth L. McMillan, Aart Middeldorp, and Andrei Voronkov, editors, *Proceedings of LPAR-19*, volume 8312 of *Lecture Notes in Computer Science*, pages 584–600. Springer, 2013.
- [6] Martin Vítá and Petr Cintula. Filters in algebras of fuzzy logics. In Sylvie Galichet, Javier Montero, and Gilles Mauris, editors, *Proceedings of EUSFLAT 2011*, pages 169–174. Atlantis Press, 2011.
- [7] Libor Běhounek, Ulrich Bodenhofer, Petr Cintula, Susanne Saminger-Platz, and Peter Sarkoci. On a graded notion of t-norm and dominance. In *Proceedings of the ISMVL 2010*, pages 73–76. IEEE Computer Society, 2010.
- [8] Karel Chvalovský and Petr Cintula. Note on deduction theorems in contraction-free logics. In Andrei Voronkov, Geoff Sutcliffe, Matthias Baaz, and Christian G. Fermüller, editors, *Short papers for LPAR 2010*, volume 13 of *EPiC Series*, pages 26–29. EasyChair, 2010.
- [9] Petr Cintula and George Metcalfe. Complexity of admissible rules in the implication-negation fragment of intuitionistic logic. In Andrei Voronkov, Geoff Sutcliffe, Matthias Baaz, and Christian G. Fermüller, editors, *Short papers for LPAR 2010*, volume 13 of *EPiC Series*, pages 30–34. EasyChair, 2010.
- [10] Petr Cintula and Carles Noguera. An abstract approach to fuzzy logics: Implicational semilinear logics. In João Paulo Carvalho, Didier Dubois, Uzay Kaymak, and João Miguel da Costa Sousa, editors, *Proceedings of the Joint IFSA 2009 and EUSFLAT 2009 Conference*, pages 519–524, 2009.
- [11] Libor Běhounek, Ulrich Bodenhofer, and Petr Cintula. Valverde-style representation results in a graded framework. In Martin Štěpnička, Vilém Novák, and Ulrich Bodenhofer, editors, *New Dimensions in Fuzzy Logic and Related Technologies: Proceedings of EUSFLAT 2007*, volume I, pages 153–160, Ostrava, 2007. University of Ostrava.
- [12] Libor Běhounek and Petr Cintula. Features of mathematical theories in formal fuzzy logic. In Patricia Melin, Oscar Castillo, Lluís T. Aguilar, Janusz Kacprzyk, and Witold Pedrycz, editors, *Foundations of Fuzzy Logic and Soft Computing: Proceedings of IFSA 2007*, volume 4529, pages 523–532, Berlin etc., 2007. Springer.
- [13] Petr Cintula and Rostislav Horčík. Fuzzy Class Theory: Some advanced topics. In Martin Štěpnička, Vilém Novák, and Ulrich Bodenhofer, editors, *New Dimensions in Fuzzy Logic and Related Technologies: Proceedings of EUSFLAT 2007*, volume I, pages 137–144, Ostrava, 2007. University of Ostrava.
- [14] Libor Běhounek and Petr Cintula. Fuzzy class theory as foundations for fuzzy mathematics. In *Fuzzy Logic, Soft Computing and Computational Intelligence: Proceedings of IFSA 2005*, volume 2, pages 1233–1238, Beijing, 2005. Tsinghua University Press/Springer.
- [15] Libor Běhounek and Petr Cintula. General logical formalism for fuzzy mathematics: Methodology and apparatus. In *Fuzzy Logic, Soft Computing and Computational Intelligence: Proceedings of IFSA 2005*, volume 2, pages 1227–1232, Beijing, 2005. Tsinghua University Press/Springer.
- [16] Petr Cintula. Basics of a formal theory of fuzzy partitions. In Eduard Montseny and Pilar Sobrevilla, editors, *Proceedings of the Joint EUSFLAT 2005 and LFA 2005 Conference*, pages 884–888, Barcelona, 2005.
- [17] Rostislav Horčík and Petr Cintula. Extension of Łukasiewicz logic by product connective. In Taner Bilgiç, Bernard De Baets, and Okyay Kaynak, editors, *Fuzzy Sets and Systems: Proceedings of IFSA 2003*, volume 2715 of *Lecture Notes in Computer Science*, pages 180–188, 2003.