

Curriculum Vitae

August 2010

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Current Position

Assistant Professor and Deputy Head of Department
Department of Knowledge-Based Mathematical Systems,
Johannes Kepler University Linz,
Altenbergerstrasse 69, A-4040 Linz, Austria

Education

- 2009 Habilitation (Venia Docendi) in Mathematics, Johannes Kepler University Linz, Austria
Thesis *Aggregation Functions — Constructions, Characterizations, and Functional Equations*
- 2006–2007 PostDoc at the Dipartimento di Matematica “Ennio De Giorgi”, Università del Salento, Lecce, Italy, in the framework of the Erwin Schrödinger-Research Fellowship J2636-N15 granted by the Austrian Science Fund (FWF)
- 2003 – 2004 Participation in “Lehrgang karriere_links” at the Johannes Kepler University Linz
Courses on project management, communication, leadership, research administration
- 2000 – 2003 PhD studies of natural sciences at the Johannes Kepler University Linz
PhD thesis entitled *Aggregation in Evaluation of Computer-Assisted Assessment*;
Supervisors: Prof. Erich Peter Klement (Johannes Kepler University Linz),
Prof. Radko Mesiar (Slovak University of Technology, Bratislava)
Graduation under the auspices of the President of the Austrian Republic Dr. Heinz Fischer
on Sept, 17, 2004 at the Johannes Kepler University Linz
- 1993 – 2000 Study of mathematics — secondary school teacher accreditation
at Technical University Vienna, Graduation in January 2000 obtaining first class honours
- 1995 – 2000 Study of physics — secondary school teacher accreditation
at Technical University Vienna, master thesis entitled *Charakterisierung vulkanischer
Glasaschen mittels vergleichender Neutronenaktivierungsanalyse und Elektronen-
strahlmikrosondenanalyse* at the Atominstitut of the Austrian Universities;
Supervisor: Prof. Max Bichler, Graduation in January 2000 obtaining first-class honours
- 1986 – 1993 Grammar school Khevenhüllerstrasse 1, Linz final exam passed with distinction
- 1982 – 1986 Elementary school “Europaschule Linz” Lederergasse 35, Linz
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Employment Record

06/00 – present	Assistant professor at the Department of Knowledge-Based Mathematical Systems ¹ from 12/08 to 01/10 on parental leave since 02/10 in the framework of a parental part-time employment
12/08 – 01/10	Parental leave
03/00 – 06/00	Research assistant at Fuzzy Logic Laboratorium Linz-Hagenberg
06/99 – 12/99	Project assistant in the EU-Project “Thera Ashes — A Datumline for European History”

Awards and Grants

Nov, 2009	“Talentförderungsprämie Kategorie Wissenschaft” by the Upper Austrian Government
Jul, 2006	Award of a Erwin Schrödinger-Research Fellowship “The Property of Dominance — From Product of Probabilistic Metric Spaces to (Quasi-)Copulas and Applications” granted by the Austrian Science Fund (FWF) for the period of September 06 to August 07
Dec, 2004	“Würdigungspreis der Bundesministerin” for PhD thesis <i>Aggregation in Evaluation of Computer-Assisted Assessment</i>
Nov, 2004	Erwin-Wenzl-Preis for PhD thesis, <i>Aggregation in Evaluation of Computer-Assisted Assessment</i>
Sept, 2004	Graduation under the auspices of the President of the Austrian Republic Dr. Heinz Fischer for excellent achievements during master and PhD studies

Teaching Activities

- Since Winter term 2000/2001 regularly various (compulsory) courses, exercises as well as lectures, for students of mathematics, computer science and mechatronics at the JKU
 - Involvement in several eLearning-projects
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Research Interests

Functional equations and inequalities, aggregation, dependence and preference modelling, specifically:

- Functional equations and inequalities involving aggregation functions in particular dominance of triangular norms, (quasi)-copulas and triangle functions
- Construction of aggregation functions, in particular triangular norms and (quasi)-copulas
- Preservation of properties (of fuzzy relations and fuzzy measures) during aggregation processes
- Products of probabilistic metric spaces and probabilistic normed spaces
- Preference modelling and multicriteria-decision aid in many-valued and bipolar settings
- Applications of (quasi)-copulas in dependence and risk modelling

Related AMS-Classifications: 26D07, 39B62, 26B35; 20M30, 20M14, 06B05; 03E72, 04A72, 03B52; 60E05; 91B10, 54E70;

Scientific Activities

- Postdoc stay (Sept 06 – Aug 07) at the Università del Salento, Lecce, Italy, in the framework of the Erwin Schrödinger-Research Fellowship "The Property of Dominance — From Products of Probabilistic Metric Spaces to (Quasi-)Copulas and Applications" granted by the Austrian Science Fund (FWF)
 - Several research visits at universities in Belgium, Czech Republic, Hungary, Italy, Slovak Republic, Spain, Italy
 - Involvement in international basic research projects like, e.g., COST Action 274 and CEEPUS Network SK-42
 - Several presentation at international conferences; colloquium talks at University of California Berkeley, University Ghent, Slovak University of Technology Bratislava, Czech Technical University Prague, University Lecce, University Granada
 - Co-organizer of the annual international Linz Seminar on Fuzzy Set Theory (since 2001); member of the Program Committee of the Linz Seminar (since 2008), Fuzzy Days 2006, AGOP 2007, FSTA 2008, RelMiCS10, AGOP 2009, FSTA 2010, RelMics11; program co-chair of the 30th Linz Seminar on Fuzzy Set Theory
 - Member of the European Society for Fuzzy Logic and Technology (EUSFLAT), the EURO Working Group on Fuzzy Sets (EUROFUSE), the Austrian Mathematical Society
 - Referee for several international journals such as "Fuzzy Sets and Systems", "Kybernetika", "European Journal of Operations Research", "International Journal of Approximate Reasoning", "IEEE Transactions on Fuzzy Systems", "Information Science", "Soft Computing", "International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems", as well as for international conferences
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List of Publications

The publications are grouped according to categories. Within these categories, the papers are in chronological order starting with the most recent publications.

Books

1. S. Saminger, *Aggregation in Evaluation of Computer-Assisted Assessment*. Volume C 44 of Schriftenreihe der Johannes-Kepler-Universität Linz. Universitätsverlag Rudolf Trauner, 2005. ISBN 3-85487-782-X. 142 pages (updated version of PhD Thesis published as book).

Theses

1. S. Saminger-Platz, *Aggregation Functions — Constructions, Characterizations, and Functional Equations*. Habilitation Thesis, Johannes Kepler Universität Linz, January 2003. 324 pages (collection of articles together with an introductory part of about 60 pages).
2. S. Saminger, *Aggregation in Evaluation of Computer-Assisted Assessment*. PhD Thesis, Johannes Kepler Universität Linz, September 2003. 110 pages.
3. S. Saminger, *Charakterisierung vulkanischer Glasaschen mittels Vergleichender Neutronenaktivierungsanalyse und Elektronenstrahlmikrosondenanalyse*, Master's Thesis, Technical University Vienna, December 1999. 140 pages.

Contributions to Edited Volumes

1. E.P. Klement, R. Mesiar, A. Mesiarová-Zemánková, and S. Saminger-Platz. Logical connectives for granular computing In W. Pedrycz, A. Skowron, and V. Kreinovich, editors. *Handbook of Granular Computing* John Wiley & Sons, Chichester, pp. 205–224 2008.
2. S. Saminger, P. Sarkoci, B. De Baets. The dominance relation on the class of continuous ordinal sum t-norms. In H.C.M. de Swart, E. Orłowska, M. Roubens, and G. Schmidt, editors, *Theory and Applications of Relational Structures as Knowledge Instruments II*, Lecture Notes in Computer Science, pp. 337–357. Springer, 2006.
3. S. Saminger, U. Bodenhofer, E.P. Klement, and R. Mesiar. Aggregation of fuzzy relations and preservation of transitivity. In H.C.M. de Swart, E. Orłowska, M. Roubens, and G. Schmidt, editors, *Theory and Applications of Relational Structures as Knowledge Instruments II*, Lecture Notes in Computer Science, pp. 187–208. Springer, 2006.
4. U. Bodenhofer, J. Küng, S. Saminger. Flexible query answering using distancebased fuzzy relations. In H.C.M. de Swart, E. Orłowska, M. Roubens, and G. Schmidt, editors, *Theory and Applications of Relational Structures as Knowledge Instruments II*, Lecture Notes in Computer Science, pp. 209–230. Springer, 2006.

Papers in Refereed International Journals

1. M. Kauers, V. Pillwein, S. Saminger-Platz. Dominance in the family of Sugeno-Weber t-norms. (submitted).
2. S. Saminger-Platz, C. Sempì. A primer on triangle functions II. (submitted).
3. S. Saminger-Platz, B. De Baets, H. De Meyer. Differential inequality conditions for dominance between continuous Archimedean t-norms. *Mathematical Inequalities & Applications*, vol. 12, pp. 191–208, 2009.

4. S. Saminger-Platz. The dominance relation in some families of continuous Archimedean t-norms and copulas. *Fuzzy Sets and Systems*, vol. 160, pp. 2017–2031, 2009 (doi:10.1016/j.fss.2008.12.009).
5. F. Durante, S. Saminger-Platz, P. Sarkoci. Rectangular patchwork for bivariate copulas and tail dependence. *Communications in Statistics — Theory and Methods*, vol. 38, pp. 2515–2527, 2009.
6. J.J. Quesada-Molina, S. Saminger-Platz, C. Sempi. Quasi-copulas with a given sub-diagonal section. *Nonlinear Analysis*, vol. 69, pp. 4654–4673, 2008 (doi:10.1016/j.na.2007.11.021).
7. S. Saminger-Platz, E.P. Klement, R. Mesiar. On extensions of triangular norms on bounded lattices. *Indagationes Mathematicae*, vol. 19, no. 1, pp. 135–150, 2008.
8. S. Saminger-Platz, C. Sempi. A primer on triangle functions I. *Aequationes Mathematicae*, vol. 76, pp. 201–240, 2008.
9. F. Durante, S. Saminger-Platz, P. Sarkoci. On representations of 2-increasing binary aggregation functions. *Information Sciences*, vol. 178, pp. 4634–4541, 2008.
10. S. Saminger-Platz, B. De Baets, H. De Meyer. A generalization of the Mulholland inequality for continuous Archimedean t-norms. *Journal of Mathematical Analysis and Applications*, vol. 345, pp. 607–614, 2008 (doi:10.1016/j.jmaa.2008.03.045).
11. S. Saminger-Platz, R. Mesiar, D. Dubois. Aggregation Operators and Commuting. *IEEE Transactions on Fuzzy Systems*, vol. 15, no. 6, pp. 1032–1045, 2007 (doi:10.1109/TFUZZ.2006.890687).
12. K. Maes, S. Saminger, B. De Baets. Representation and construction of self-dual aggregation operators. *European Journal of Operation Research*, vol. 177, pp. 472–487, 2007.
13. S. Saminger, B. De Baets, H. De Meyer. On the dominance relation between ordinal sums of conjunctors. *Kybernetika*, vol. 42, no. 2, pp. 337–350, 2006.
14. S. Saminger. On ordinal sums of triangular norms on bounded lattices. *Fuzzy Sets and Systems*, vol. 157, no. 10, pp. 1403–1416, 2006.
15. R. Mesiar and S. Saminger. Domination of ordered weighted averaging operators over t-norms. *Soft Computing*, vol. 8, pp. 562–570, 2004.
16. S. Saminger and R. Mesiar. A general approach to decomposable bi-capacities. *Kybernetika*, vol. 39, no. 5, pp. 631–642, 2003.
17. S. Saminger, R. Mesiar, and U. Bodenhofer. Domination of aggregation operators and preservation of transitivity. *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems*, vol. 10/s, pp. 11–35, 2002.
18. S. Saminger. A short review on concepts of similarity. *Journal of Electrical Engineering*, vol-52(10/s), pp. 12–14, 2001.
19. S. Saminger, C. Peltz, M. Bichler. South Aegean volcanic glass — separation and analysis by INAA and EPMA. *J. Radioanal. Nucl. Chem.*, vol. 245, pp. 375–383, 2000.

Papers in Proceedings of Conferences with Peer Review

1. F. Durante, S. Saminger-Platz, P. Sarkoci. On patchwork techniques for 2-increasing aggregation functions and copulas. In *Soft methods for handling variability and imprecision*, (D. Dubois, M.A. Lubiano, H. Prade, M.Á. Gil, P. Grzegorzewski, and O. Hryniewicz, Eds.), Adv. Soft Comput., Springer, Berlin, 2008, pp. 349–356. *Proceedings of the 4th Int. Conf. on Soft Methods in Probability and Statistics, Toulouse (France)*, 2008.

2. S. Saminger, P. Sarkoci. Dominance of ordinal sums of T_L and T_P . In *Proceedings of the 5th Int. Conf. in Fuzzy Logic and Technology, Vol. I, Ostrava (Czech Republic)*. pp. 35–39, 2007.
3. S. Saminger, B. De Baets, H. De Meyer. Mulholland’s inequality and differential conditions for strict t-norms. In *Proceedings of 4th International Summer School on Aggregation Operators, Ghent (Belgium)*. pp. 71–76, 2007.
4. G. Mayrhofer, S. Saminger, W. Windsteiger. CreaComp: Computer-supported experiments and automated proving in learning and teaching mathematics. In *Proceedings of the 8th International Conference on Technology in Mathematics Teaching, Hradec Kralov (Czech Republic)*. 5 pages 2007.
5. G. Mayrhofer, S. Saminger, W. Windsteiger. CreaComp: Experimental Formal Mathematics for the Classroom. In *Symbolic Computation and Education* S.Li, D. Wang, J.-Z. Zhang (Eds.), World Scientific Publishing Co, Singapore, New Jersey, pp. 94–114, 2007.
6. S. Saminger, E.P. Klement, R. Mesiar. A note on ordinal sums of t-norms and t-subnorms on bounded lattices. In. *Proceedings of 11th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, Paris (France)*. pp. 664–670, 2006.
7. E.P. Klement, R. Mesiar, S. Saminger. Remarks on residuated lattices. In *Proceedings of International conference “The Logic of Soft Computing IV” and Fourth workshop of the ERCIM working group on soft computing, Ostrava (Czech Republic)*, pp. 13–18, 2005.
8. S. Saminger, B. De Baets, H. De Meyer. The domination relation between continuous t-norms. In *Proceedings of Joint 4th Int. Conf. in Fuzzy Logic and Technology and 11th French Days on Fuzzy Logic and Applications, Barcelona (Spain)*. pp. 247–252, 2005.
9. S. Saminger, E.P. Klement, R. Mesiar. A note on ordinal sums of t-norms on bounded lattices. In *Proceedings of Joint 4th Int. Conf. in Fuzzy Logic and Technology and 11th French Days on Fuzzy Logic and Applications, Barcelona (Spain)*. pp. 385–388, 2005.
10. K. Maes, S. Saminger, B. De Baets. On the characterization of self-dual aggregation operators. In *Proceedings of Joint 4th Int. Conf. in Fuzzy Logic and Technology and 11th French Days on Fuzzy Logic and Applications, Barcelona (Spain)*. pp. 159–164, 2005.
11. S. Saminger, K. Maes, B. De Baets. Aggregation of T -transitive reciprocal relations. In *Proceedings of Summer School on Aggregation Operators, Università della Svizzera italiana, Lugano (Swiss)*. pp. 113–118, 2005.
12. S. Saminger. Aggregation of bi-capacities. In *Proceedings of 10th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, Perugia (Italy)*, pp. 335–342, 2004.
13. R. Mesiar and S. Saminger. Commuting operators. In *Proceedings of 3rd International Conference in Fuzzy Logic and Technology, Zittau (Germany)*, pp. 308–311, 2003.
14. R. Mesiar and S. Saminger. Decomposable bi-capacities. In *Proceedings of International Summer School on Aggregation Operators and their Applications, Alcalá de Henares (Spain)*, pp. 155–158, 2003.
15. S. Saminger. MeetMATH — visualizations and animations in a didactic framework. In: M. Borovnik und H. Kautschitsch (Hrsg.), *Technology in Mathematics Teaching (Special groups and working groups). Proceedings of ICTMT 5, Klagenfurt (Austria)*, Band 26 der Schriftenreihe Didaktik der Mathematik, pp. 217–222, öbv & hpt Verlagsgesellschaft, 2002.

Abstracts

1. F. Durante, S. Saminger-Platz, P. Sarkoci. Patchwork techniques for constructing bivariate copulas. In *Abstracts of the First Summer School on Copulas, Linz (Austria)*, pp. 36–37, 2008.
2. S. Saminger-Platz, E.P. Klement, R. Mesiar. On extensions of monotone commutative monoids on bounded lattices. In *Abstracts of the 76th Workshop on General Algebra, Linz (Austria)*, p. 7, 2008.
3. S. Saminger-Platz. Triangle functions \dot{U} – what they are and what they are good for?. In *Abstracts of the 9th International Conference on Fuzzy Sets Theory and its Applications (FSTA 2008), Liptovsky Jan (Slovakia)*, pp. 16–17, 2008.
4. J.J. Quesada-Molina, S. Saminger, C. Sempi. Quasi-copulas with given sub-diagonal sections. In *Abstracts of the 6th Conference on Multivariate Distributions with Fixed Marginals, Tartu (Estonia)*, p. 68, 2007.
5. S. Saminger. On constructions and boundaries of some type of 2-increasing functions. In *Abstracts of the 6th Conference on Multivariate Distributions with Fixed Marginals, Tartu (Estonia)*, pp. 75–76, 2007.
6. J.J. Quesada Molina, S. Saminger, C. Sempi. Symmetric copulas with given sub-diagonal sections. In *Proceedings of 28th Linz Seminar on Fuzzy Set Theory, Linz (Austria)*, pp. 89–90, 2007.
7. S. Saminger, C. Sempi. Triangle functions — a way to bridge gaps?. In *Proceedings of 28th Linz Seminar on Fuzzy Set Theory, Linz (Austria)*, pp. 102–103, 2007.
8. S. Saminger, D. Dubois, R. Mesiar. On consensus functions in the bipolar case. In *Proceedings of 27th Linz Seminar on Fuzzy Set Theory, Linz (Austria)*, pp. 116–119, 2006.
9. S. Saminger. Aggregation of extensional hulls and domination. In *Abstracts of 7th International Conference on Fuzzy Sets Theory and its Applications (FSTA 2004), Liptovský Ján (Slovakia)*, pp. 92–93, 2004.
10. S. Saminger. Special operators dominating continuous Archimedean t-norms. In *Proceedings of 24th Linz Seminar on Fuzzy Set Theory, Linz (Austria)*, pp. 84–87, 2003.
11. S. Saminger, U. Bodenhofer. Aggregation in evaluation of multiple-response-questions. In *Abstracts of 6th International Conference on Fuzzy Sets Theory and its Applications (FSTA 2002), Liptovský Ján (Slovakia)*, pp. 110–111, 2002.
12. U. Bodenhofer, S. Saminger. Transitivity-preserving aggregation of fuzzy relations. In *Abstracts of 6th International Conference on Fuzzy Sets Theory and its Applications (FSTA 2002), Liptovský Ján (Slovakia)*, pp. 36–37, 2002.
13. S. Saminger. T -transitivity and domination. In *Proceedings of 23rd Linz Seminar on Fuzzy Set Theory, Linz (Austria)*, pp. 55–59, 2002.

Editorial Work

- F. Durante, R. Mesiar, and S. Saminger-Platz. Editorial to the special issue devoted to “Copulas, measures and integrals”. *Inform. Sci.*, 179(17):2861–2862, 2009.
- U. Bodenhofer, B. De Baets, E. P. Klement, and S. Saminger-Platz, editors. The Legacy of 30 Seminars — Where Do We Stand and Where Do We Go? Abstracts of the 30th Linz Seminar on Fuzzy Set Theory. Johannes Kepler University Linz 2009.