

## Curriculum Vitae - Mgr. Andrea Zemánková, PhD.

### Personal Details

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Name: Andrea Zemánková  
Address: Apt. 14, Harbour View, Crofton Road, Dun Laoghaire  
Tel: +353 85 771 5787, +421 904 348 304  
Email: [zemankova@mat.savba.sk](mailto:zemankova@mat.savba.sk)  
Nationality: Slovak  
Date of Birth: 2<sup>nd</sup> July, 1979

### Education

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- 2002-2005** Mathematical Institute SAV Bratislava; and Department of Mathematics and Descriptive Geometry STU  
*PhD Applied Mathematics*  
Dissertation: *Special classes of triangular norms.*
- 1997-2002** Faculty of Mathematics Physics and Informatics UK, Bratislava  
*MSc (Mgr) Mathematics*  
Thesis: *Triangular norms and their diagonal functions.*  
Courses: Mathematical Analysis; Insurance and Financial Mathematics; Basics of Pedagogy

### Career History

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- 2010-2011** Maternity/Parental Leave
- 2009-2010** Researcher, Mathematical Institute, Slovak Academy of Sciences, Bratislava, Slovakia
- 2007-2009** Research Assistant, Trinity College Dublin, Ireland.
- 2005-2007** Researcher, Mathematical Institute, Slovak Academy of Sciences, Bratislava, Slovakia

### Teaching

- 2003** Demonstrator in mathematics (Svf STU)
- 2004-2006** Demonstrator in mathematics (FM UK), Lecturer in mathematics (EuVa)
- 2007-2009** Demonstrator for fuzzy logic course (CS TCD);(2007-2009); for research methods course (2009).

## Curriculum Vitae - Mgr. Andrea Zemánková, PhD.

### Academic Achievements

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- *Scientist of SR 2006: honorary appreciation*
- *Competition of young researchers SAV (under 35 years) for year 2008: 2. price for I. science department.*
- In 2010: **Price of the Ministry of Education, Science, Research and Sport of the Slovak Republic.**
- In 2011: **Price of the President of the Slovak Republic for young scientists.**

## Curriculum Vitae - Mgr. Andrea Zemánková, PhD.

### • Publications

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#### Journal publications

1. R. Mesiar, A. Mesiarová-Zemánková, K. Ahmad, Discrete Choquet integral and some of its symmetric extensions, *Fuzzy Sets and Systems* 184 (1) (2011), 148-155.
2. R. Mesiar, A. Mesiarová-Zemánková, The Ordered Modular Averages, *IEEE Transactions on Fuzzy Systems* 19 (1) (2011), 42–50.
3. A. Mesiarová-Zemánková, K. Ahmad, T-norms in subtractive clustering and backpropagation. *International Journal of Intelligent Systems* 25(9) (2010), 909-924.
4. A. Mesiarová-Zemánková, R. Mesiar, K. Ahmad, The balancing Choquet integral *Fuzzy Sets and Systems* 161 (17) (2010), 2243-2255.
5. A. Mesiarová-Zemánková, Ranks of additive generators, *Fuzzy Sets and Systems* 160 (2009) 2032–2048.
6. K.C. Maes, A. Mesiarová-Zemánková, Cancellativity properties for t-norms and t-subnorms, *Information Sciences* 179 (9) (2009), 1221-1233.
7. R. Mesiar, A. Mesiarová-Zemánková, K. Ahmad, Level-Dependent Sugeno Integral, *IEEE Transactions on Fuzzy Systems* 17(1) (2009), 167-172.
8. A. Mesiarová-Zemánková, Semi-divisible triangular norms, *Journal of Soft Computing* 12 (2008), 535–542.
9. R. Mesiar, A. Mesiarová, Fuzzy integrals - what they are? *International Journal of Intelligent Systems* 23 (2008), 199–212.
10. R. Mesiar, A. Mesiarová, Fuzzy integrals and linearity, *International Journal of Approximate Reasoning* 47 (2008), 352–358.
11. R. Mesiar, A. Mesiarová-Zemánková, Convex combinations of continuous t-norms with the same diagonal function, *Journal of Nonlinear Analysis* 69 (2008), 2851–2856
12. A. Mesiarová, Approximation of k-Lipschitz t-norms by strict and nilpotent k-Lipschitz t-norms, *International Journal of General Systems* 36 (2) (2007), 205-218.
13. R. Mesiar, A. Mesiarová, L. Valášková, Basic Generated Universal Fuzzy Measures, *International Journal of Approximate Reasoning* 46 (2007), 447–457.
14. A. Mesiarová, k- $l_p$ -Lipschitz t-norms, *International Journal of Approximate Reasoning*, 46 (2007) 596-604.
15. A. Mesiarová-Zemánková, Semi-divisible triangular norms on discrete scales, *Fuzzy Sets and Systems*, 158(22) (2007), 2510-2515.
16. A. Mesiarová, H-transformation of t-norms, *Information Sciences* 176 (11) (2006), 1531-1545.
17. A. Mesiarová, Extremal k-Lipschitz t-conorms, *Int. J. Uncertain. Fuzziness Knowl.-Based Syst.* 14 (3) (2006), 247-257.
18. A. Mesiarová, A note on two open problems of Alsina, Frank and Schweizer, *Aequationes Mathematicae*, 72 (1-2) (2006), 41-46.
19. R. Mesiar, A. Mesiarová, L. Valášková, Generated universal fuzzy measures, *Modeling Decisions for Artificial Intelligence* (V. Torra, Y. Narukawa, A. Valls,

## Curriculum Vitae - Mgr. Andrea Zemánková, PhD.

- J. Domingo-Ferrer, eds.), LNAI 3885, Springer, Berlin, 2006, pp. 191-202.
20. A. Mesiarová, The structure of n-contractive t-norms, *International Journal of General Systems* 34 (2005), 625-637.
  21. A. Mesiarová, Continuous triangular subnorms, *Fuzzy Sets and Systems* 142 (2004), 75-83.
  22. R. Mesiar, A. Mesiarová, Residual implications and left-continuous t-norms, which are ordinal sums of semigroups, *Fuzzy Sets and Systems* 143 (1) (2004), 47-57.
  23. R. Mesiar, A. Mesiarová, Fuzzy integrals, *Modeling Decisions for Artificial Intelligence* (V. Torra, Y. Narukawa, eds.), LNAI 3131, Springer, Berlin, 2004, pp. 7-14.
  24. T. Calvo, A. Mesiarová, L. Valášková, Construction of aggregation operators - new composition method, *Kybernetika* 39 (2003), 643-650.

### Chapters in edited volumes

25. E. P. Klement, R. Mesiar, A. Mesiarová-Zemánková, S. Saminger-Platz, Logical connectives for granular computing. V: W. Pedrycz, A. Skowron, V. Kreinovich, editors. *Handbook of Granular Computing* John Wiley & Sons, Chichester, 2008, pp. 205-224.
26. A. Mesiarová, Generators of triangular norms. V: Logical, Algebraic, Analytic, and Probabilistic Aspects of Triangular Norms (E. P. Klement, R. Mesiar, eds.), Elsevier, 2005, pp. 95-111.

### Selected publications in Proceedings

1. R. Mesiar, A. Mesiarová-Zemánková, Symmetrization of Modular Aggregation Functions. Proc. IPMU 2010: Information Processing and Management of Uncertainty, Dortmund, Germany, 2010, pp. 390-397.
2. R. Mesiar, A. Mesiarová-Zemánková, K. Ahmad, Merging Choquet integral - A new extension of Choquet integral to real inputs, Proc. AGOP' 2009, Palma, Spain, 2009, pp. 41-46.
3. R. Mesiar, K. Ahmad, A. Mesiarová-Zemánková, Comonotone maxitivity and extended Sugeno integral. Proc. IPMU 2008: Information Processing and Management of Uncertainty, Malaga, Spain, 2008, pp. 1484-1489.
4. K. Ahmad, A. Mesiarová-Zemánková, Choosing t-Norms and t-Conorms for Fuzzy Controllers. Proc. FSKD 2007, Haikou, Hainan, China, pp. 641-646.
5. A. Mesiarová-Zemánková, Triangular norms and semi-divisibility, Proc. AGOP'2007, Gent, 77-81.
6. R. Ghiselli Ricci, R. Mesiar, and A. Mesiarová, Lipschitzianity of triangular subnorms, Proc. IPMU'2006, Paris, 2006, pp. 671-677.
7. A. Mesiarová, k-Lipschitz conjunctors Proc. Of Abstracts of FSTA'2006, Liptovský Ján, 2006, pp. 78-79.
8. A. Mesiarová, Triangular norms and k-Lipschitz property, Proc. EUSFLAT' 2005,

## **Curriculum Vitae - Mgr. Andrea Zemánková, PhD.**

- Barcelona, 2005, pp. 922-926.
9. A. Mesiarová, Lipschitz aggregation operators, Proc. AGOP'2005, Lugano, 2005, pp. 89-92.
  10. A. Mesiarová, Construction of t-norms based on an example of P. Hájek, Proc. IPMU'2004, Perugia, 2004, pp. 1099-1104.
  11. A. Mesiarová, Strong additive generators of t-norms Proc. Of Abstracts of FSTA'2004, Liptovský Ján, 2004, pp. 84-84.
  12. A. Mesiarová and P. Viceník, Cancellative t-norms, Proc. EUSFLAT' 2003, Zittau, 2003, pp. 289-291.
  13. A. Mesiarová and J. Lazaro, Bipolar Aggregation operators, Proc. AGOP'2003, Alcalá de Henares, 2003, pp. 119-123.
  14. A. Mesiarová, Triangular subnorms and residual implications, Proc. Of Abstracts of 24th Linz Seminar, Linz, 2003, pp. 36-44.
  15. A. Mesiarová, Continuous Archimedean t-subnorms and their generators, Proc. 10th Zittau East-West Fuzzy Colloquium, Zittau, 2002, pp. 48-55.
  16. A. Mesiarová, Continuous diagonals of triangular norms, Proc. Of Abstracts of SCAM'2001, Bratislava, 2001.
  17. A. Mesiarová, Wild t-norms, Proc. Of Abstracts of SCAM'2000, Bratislava, 2000.