

Prof. Marius M. Balas

Doctoral thesis, books, scientific papers, invention patents and invited lectures

A. Doctoral thesis

Regulatoare fuzzy interpolative adaptive și aplicații în construcția vagoanelor de călători (*Adaptive fuzzy interpolative controllers and their applications in railway coaches*). Scientific coordinator Prof. **Mircea A. Ciugudean**. Defended in December **2001** at Politehnica University of Timișoara, Romania.

B. Books and book chapters

B1. **M.M. Bălaș**, V.E. Bălaș. *Dispozitive și circuite electronice – îndrumător de lucrări de laborator*. Editura Universității “Aurel Vlaicu” Arad, **2000**, ISBN 973-9361-38-2.

B2. **M.M. Bălaș**. *Regulatoare fuzzy-interpolative*. Editura Politehnica Timișoara, **2002**. ISBN 973-625-036-9.

B3. **M.M. Bălaș**, V.E. Bălaș. *Curs de dispozitive electronice*. Editura Universității “Aurel Vlaicu” Arad, **2003**, ISBN 973-9361-83-8.

B4. V.E. Balas, **M.M. Balas**. *Traffic Management by Constant Time to Collision*. Chapter in *Knowledge-Based Intelligent Information and Engineering Systems*, Edited by I. Lovrek, R. Howlett and L. Jain, *Lecture Notes in Computer Science*, Springer-Verlag Berlin/Heidelberg, Vol. 5179, **2008**, pp. 658-663. ISBN 978-3-540-85566-8.

B5. **M.M. Balas**, V.E. Balas. *Postmodernism and Control Engineering*. Chapter 18 in *Views on Fuzzy Sets and Systems from Different Perspective. Philosophy, Logic, Criticism and Applications*. Edited by R. Seising, Springer Berlin/Heidelberg, **2009**, Vol. 243, pp. 377-391. ISBN 978-3-540-93801-9.

B6. **M.M. Balas**. *The Fuzzy Interpolative Methodology*. Chapter in *Studies in Computational Intelligence. Soft Computing Based Modeling in Intelligent Systems*, edited by V.E. Balas, A. Varkonyi-Koczy and J. Fodor, *Springer-Verlag*, Vol. 196, **2009**, pp. 145-167. Print ISBN 978-3-642-00447-6, online ISBN 978-3-642-00448-3.

B7. **M.M. Balas** and V.E. Balas. *The Fuzzy Interpolative Control for Passive Greenhouses*. Chapter 12 in *Intelligent Systems and Technologies*, edited by H.N. Teodorescu, J. Watada, and L.C. Jain, *Springer-Verlag*, **2009**, Vol. 217, pp. 219-231. Print ISBN 978-3-642-01884-8, Online ISBN 978-3-642-01885-5.

B8. **M.M. Balas** and V.E. Balas. *Adaptive Rule-Based Reasoning by Qualitative Analysis*, Chapter in *Proc. of 13th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems. Theory and Methods*, edited by E. Hullermeier, R. Kruse and F. Hoffman, *Springer-Verlag*, **2010**, pp. 553-560. Print ISBN 978-3-642-14054-9, Online ISBN 978-3-642-14055-6.

B9. **M.M. Balas**, C. Musca and S. Musca. *The Passive Greenhouses*, Chapter 5 in *Paths to Sustainable Energy*, edited by J. Nathwani and A. Ng, *InTech Open*, **2010**, pp. 75-92. <http://www.intech-open.com/books/paths-to-sustainable-energy/the-passive-greenhouses>. ISBN 978-953-307-401-6.

B10. V.E. Balas and **M.M. Balas**. *Fuzzy Systems towards Field Applications*, Chapter 3 *On Fuzziness. A Homage to Lotfi A. Zadeh*, edited by R. Seising, E. Trillas, C. Moraga and S. Termini, *Springer Verlag*, **2012**, Vol. 216, Chapter 25, pp. 189-195. Print ISBN: 978-3-642-35640-7, Online ISBN 978-3-642-35641-4.

B11. M.A. Ciugudean and **M.M. Balas**. *CMOS-Integrated Temperature Relay Based on Widlar Mirror*. Chapter in *Proceedings of the 5th International Workshop on Soft Computing Applications SOFA'12*, Szeged, Hungary, August 22-24. Series: *Advances in Intelligent and Soft Computing*, edited by V.E. Balas, J. Fodor, A. Varkonyi-Koczy, J. Dombi and L.C. Jain, *Springer*, **2013**, pp. 319-330. ISBN 978-3-642-33941-7.

B12. **M.M. Balas**, M. Socaci, O. Olaru. *A FPGA Floating Point Interpolator*. Chapter in *Proceedings of the 5th International Workshop on Soft Computing Applications SOFA'12*, Szeged, Hungary, August 22-24. Series: *Advances in Intelligent and Soft Computing*, edited by V.E. Balas, J. Fodor, A. Varkonyi-Koczy, J. Dombi and L.C. Jain, *Springer*, **2013**, pp. 331-336. ISBN 978-3-642-33941-7.

B13. **M.M. Balas**, N.A. Chira, S.A. Matisan and F.M. Suci. *Using License Plates Recognition for Automate Cruise Control*. Chapter in *Proc. of the 5th International Workshop on Soft Computing Applications SOFA'12*, Szeged, Hungary, August 22-24. Series: *Advances in Intelligent and Soft Computing*, edited by V.E. Balas, J. Fodor, A. Varkonyi-Koczy, J. Dombi and L.C. Jain, *Springer*, **2013**, pp. 605-609. ISBN 978-3-642-33941-7.

B14. **M.M. Balas**. *A New Generation of Biomedical Equipment Based on FPGA. Arguments and Facts*. Chapter in *Advanced Intelligent Computational Technologies and Decision Support Systems. Studies in Computational Intelligence*, edited by B. Iantovics and R. Kountchev, *Springer*, **2014**, Volume 486, pp. 123-134. Print ISBN 978-3-319-00466-2, Online ISBN 978-3-319-00467-9.

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- C1. **M. Balas**, V.E. Balas, L.S. Bocîi, I. Radu, I. Koles. *The real time evaluation of the weariness of the disk brake*. Proc. of VSDIA 2002 The 8-th International Mini-Conference on Vehicle System Dynamics, Identification and Anomalies, Budapest University of Technology and Economics, Department of Railway Vehicles, Nov. **2002**, Budapest, Hungary, pp. 241-246. ISBN 963 420 8177.
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- C3. R.E. Precup, S. Preitl, **M.M. Balas**, V.E. Balas. *Fuzzy controllers for tire slip control in anti-lock braking systems*. Proc. of FUZZ-IEEE'04 the IEEE International Conference on Fuzzy Systems, 25-29 July **2004**, Budapest, Hungary, Vol. 3, pp. 1317-1322. IEEE Catalog Number 04CH37542, ISBN 0-7803-8353-2, ISSN 1098-7584.
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- C5. **M.M. Balas**, V. E. Balas, C. Barna. *The Constant Effort Imposed Distance Braking for Urban Railway Vehicles*. Proc. of EUROCON 2005 The International Conference on "Computer as a Tool", Belgrade, Serbia and Montenegro, Nov. 21-24, **2005**, pp. 365-368. IEEE Catalog No: 05EX1255C, ISBN: 1-4244-0050-3.
- C6. **M.M. Balas**, V.E. Balas, S. Musca, C. Musca. *Ecological Reconstruction Using Energetic Passive Greenhouses*. Proc. of RSEE'06, 6th International Conference on Renewable Sources and Environmental Electro-Technologies, 8-10 June **2006**, Oradea, Romania, Computer Science And Control Systems Session, pp. 265-270.
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- C8. **M.M. Balas**, V.E. Balas. *Some Observations on Stability of Switching Adaptive Rule Based of Fuzzy Self-Adapted Interpolative Controllers*. Proc. of ISCIII'07 3rd International Symposium on Computational Intelligence and Intelligent Informatics, March 28-30, **2007**, Agadir, Morocco, pp. 63-66. IEEE Catalog Number 07EX1756, ISBN 1-4244-1157-2, Library of Congress 2007923135.
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- C11. **M.M. Balas**, V.E. Balas, J. Duplaix. *On the Switching Controllers' Issue*. Proc. of SOFA'07 2nd IEEE International Workshop on Soft Computing Applications, 21-23 August **2007**, Gyula-Hungary, Oradea-Romania, pp. 103-108. IEEE Catalog Number CFP0728D, ISBN 978-1-4244-1607-3, Library of Congress 2007905895.
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- C15. **M.M. Balas**, V.E. Balas. *Modeling passive greenhouses. The sun's influence*. Proc. of INES'08 12th International Conference on Intelligent Engineering Systems. 29-29 Feb. **2008**, Miami, USA, pp. 71-76. IEEE Catalog Number: CFP08IES-CDR, ISBN: 978-1-4244-2083-4, Library of Congress: 2008900450.

- C16. V.E. Balas, **M.M. Balas**, M.V. Putin-Racovita. *Passive Greenhouses and Ecological Reconstruction*. Proc. of INES'08 12th International Conference on Intelligent Engineering Systems. 29-29 Feb. **2008**, Miami, USA, pp. 77-81, IEEE Catalog Number: CFP08IES-CDR, ISBN: 978-1-4244-2083-4, Library of Congress: 2008900450.
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- C19. **M.M. Bălaș**, V.E. Bălaș. *Monoscopic CCD Cameras as Distance Sensors*. Proc. of 1st International Conference Bio-Inspired Computational Methods Used for Solving Difficult Problems BICS 2008 Tg. Mureș. *Development of Intelligent and Complex Systems*, edited by: C. Enachescu, B.L. Iantovics, G.F. Florin. American Institute of Physics, Conference Proceedings, Volume 1117, **2009**, pp. 67-73. ISBN: 978-0-7354-0654-4.
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- C29. **M.M. Balas**, R.A. Boran. *Basic Expert System*, Proc. of The 7th International Workshop Soft Computing Applications SOFA **2016**, Springer, Vol. 1, pp. 12-18.
- C30. **M.M. Balas**, A. Şofrag. *Multi Framing HDR for MRI Brain Images*, Proc. of The 7th International Workshop Soft Computing Applications SOFA **2016**, Springer, Vol. 1, pp. 290-298.
- C31. **M.M. Balas**, E.V. Muller and R. Lile. *Fuzzy-Expert System for Investments in Winemaking*, Proc. of The 7th International Workshop Soft Computing Applications SOFA **2016**, Springer, Vol. 2, pp. 278-286.
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C. Journal papers and conference proceedings

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E. Invited lectures

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F4. **M.M. Balas**. *Highway traffic management by constant time to collision cruise control*. Szechenyi Istvan University, Győr, Hungary, March 2009.

F5. **M.M. Balas**. *The Fuzzy-Interpolative Adaptive Controllers*. 10th WSEAS Conf. on Fuzzy Systems, Prague, Czech Rep., March 2009.

F6. **M.M. Balas**. *New achievements of the greenhouse industry*. Fuzzy Engineering and Intelligent Transportation FEIT'11, Xi'An, China, December 2011.

F7. **M.M. Balas** *Some innovations viewed through a system engineering perspective*. International Conference on Global Innovations in Technology, Saintgits College, Kottayam, Kerala, India, April 2013.