

---

## Curriculum Vitae: Edwin Lughofer

### Personal Data

**Name:** Edwin Lughofer  
**Date of Birth:** August 4, 1972  
**Place of Birth:** Ried i.I., Austria  
**Gender:** Male  
**Nationality:** Austrian  
**Marital Status:** Married

### Education, Employment

**1978–1982:** Elementary School: Volksschule Riedberg, Austria  
**1982–1990:** Secondary School: Bundesrealgymnasium Ried i.I.  
**10/1990–2/1997:** Studies in Technical Mathematics at the Johannes Kepler Universität Linz, Austria  
**02/1997:** Master degree in Technical Mathematics at the Johannes Kepler Universität Linz, Austria (Diploma Thesis: 'Application of Mathematical Signal Analysis for Detecting Noise on Compact Discs')  
**1997-2005:** Programmer (C++, MATLAB), Researcher and PhD student at the Fuzzy-Logic Laboratorium Linz-Hagenberg, Johannes Kepler Universität Linz  
**06/2005:** Phd-thesis in Applied Mathematics at the Johannes Kepler Universität Linz, Austria (PhD Thesis: 'Data-Driven Incremental Learning of Takagi-Sugeno Fuzzy Models')  
**From 2005 on:** Key Researcher at the Fuzzy-Logic Laboratorium Linz-Hagenberg / Department of Knowledge-Based Mathematical Systems, Johannes Kepler Universität Linz

---

**Awards, Grants, Expertise**

- 09/2006:** Best paper award for the invited paper 'Process safety enhancements for data-driven evolving fuzzy models' at the International Symposium on Evolving Fuzzy Systems 2006, Lake District
- 05/2007:** Royal Society Grant for know-how exchange in data-driven evolving fuzzy systems with Lancaster University
- 03/2008:** Best finalist paper award for the paper 'Applying Evolving Fuzzy Models with Adaptive Local Error Bars to On-Line Fault Detection' at the International Symposium on Genetic and Evolving Fuzzy Systems 2008, Witten-Bommerholz, Germany
- 06/2013:** Best paper award for the paper 'Condition Monitoring at Rolling Mills with Data-Driven Residual-Based Fault Detection' at the IFAC Conference on Manufacturing Modelling, Management and Control (MIM) 2013, Saint Petersburg, Russia
- 09/2016:** Best paper award for the paper 'Advanced Linguistic Explanations of Classifier Decisions for Users' Annotation Support' at the IEEE Intelligent Systems (IS) Conference 2016, Sofia, Bulgaria
- Specialized in:** Evolving (fuzzy systems) systems, soft computing, machine learning, active learning, data mining (clustering), decision making, system identification, fault detection and identification, sensor fusion, computer vision, quality control
- Publications:** 205 ("Publish and Perish")
- h-index:** 32 ("Publish and Perish")
- Citations:** 2899 ("Publish and Perish")
- URL:** <http://www.fll.jku.at/staff/edwin/>

---

## Selected Projects

**2002-2004:** Automatic Measurement Plausibility and Quality Assurance (**AMPA-EU Project**) (Key Researcher of JKU, WP leader)

**2005-2010:** **DynaVis (EU-Project):** Dynamically Reconfigurable Quality Control for Manufacturing and Production Processes Using Learning Machine Vision: [www.dynavis.org](http://www.dynavis.org) (Key Researcher of JKU, WP leader)

**SynTeX (EU-Project):** Measuring Feelings and Expectations Associated with Textures: [www.syntex.or.at](http://www.syntex.or.at) (Key Researcher of JKU, WP leader)

**ASHMOSD (National FFG Research Project, special Call in 'Aeronautics')**: Austrian Structural Health Monitoring System Demonstrator

**IMStar:** Transient and anomaly detection in measurement signals recorded at injection moulding machines

**Technology Transfer** sponsored by the Upper Austrian technology and research promotion (Key researcher of Department)

**Exchange of know-how in data-driven evolving fuzzy systems** with Lancaster University, sponsored by the Royal Society Grant, United Kingdom

**ND new:** MATLAB prototype for noise detection on analog tapes (Project leader)

---

## Selected Projects

**2010-2016:** **MVControl (IKT of the Future):** Generating process feedback from heterogeneous data sources in quality control (Key Researcher of JKU)

**useML (IKT of the Future):** increasing the useability of machine learning methods in visual surface inspection (Key Researcher of JKU)

**imPACTs (K-Project) — Industrial Methods for Process Analytical Chemistry - From Measurement Technologies to Information Systems:** 4 years K-project in collaboration with Recendt GmbH (coordinator) including 21 industrial and academic partners (Key Researcher of JKU in MP3)

**AEDA (K-Project) — Advanced Engineering Design Automation:** 4 years K-project in collaboration with v-Research GmbH (coordinator) including 15 industrial and academic partners

**HOPL (K-Project) — Heuristic Optimization in Production and Logistics:** 4 years K-project in collaboration with FH Hagenberg (coordinator), 14 industrial and academic partners (Key Person in the Area 'System Identification')

**PAC (K-Project):** Process Analytical Chemistry - Data Acquisition and Data Processing, national research project including 7 academic and 9 industrial partners, see <http://www.k-pac.at/> (Key Researcher of JKU, Initiator of Strategic Research Project).

**IREFS (FWF/DFG Lead Agency):** Interpretable and Reliable Evolving Fuzzy Systems - joint cooperation project with the Institute for Computational Intelligence and Bioinformatics, Phillips University Marburg (Project Leader, Initiator)

**CondMon — Condition Monitoring with Data-Driven Models:** 4 years strategic research project in collaboration with ACCM (Austrian Competence Center of Mechatronics) (Key Person of JKU)

**PerfOpt — Performance Optimization of Electrical Drives:** 4 years strategic research project in collaboration with ACCM (Austrian Competence Center of Mechatronics) (Key Person of JKU)

---

## Activities (Organization, Editing)

- Main organizer (conference chair) of the 'IEEE Conference on Evolving and Adaptive Intelligent Systems (IEEE EAIS) 2014': <https://www.fll.jku.at/eais/index.html>
- Publication chair of the 'IEEE Conference on Evolving and Adaptive Intelligent Systems (IEEE EAIS) 2015', Douai, France: <http://conference.mines-douai.fr/eais2015/>
- Area chair of the 'IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) 2015', Istanbul, Turkey: <http://fuzzieee2015.org/>
- Committee Member of the IEEE Students Research Grant: <http://cis.ieee.org/graduate-student-research-grants.html>
- 
- Associate editor and Member of the Editorial Board of the International Journal 'Information Fusion' (Elsevier) and 'Complex and Intelligent Systems' (Springer)
- Associate editor of the International Journals 'IEEE Transactions on Fuzzy Systems' (IEEE Press) and 'Soft Computing' (Springer)
- Guest Editor of the International Journal 'Evolving Systems' (Springer)
- 
- Co-Organized of the Special Issue 'Hybrid and ensemble techniques in soft computing: recent advances and emerging trends' (Springer) (21 papers accepted).
- Co-Organizer of the Special Issue 'Recent Advances on Evolving Intelligent Systems and Applications' at the Evolving Systems Journal (Springer) (5 invited papers accepted).
- Co-Organizer of the Special Issue 'Information Fusion in Smart Living Technology Innovations' at the Information Fusion Journal (Elsevier) (6 papers accepted).
- Co-Organizer of the Special Issue 'Evolving Soft Computing Techniques' at the Applied Soft Computing Journal (Elsevier) (16 papers accepted).

- 
- Co-Organizer of the Special Issue 'On-line Fuzzy Machine Learning and Data Mining' at the 'Information Sciences' journal (Elsevier) (15 papers accepted).
  - Co-Organizer of the Special Issue 'Hybrid and Ensemble Methods in Machine Learning' at the 'Journal of Universal Computer Science' (7 papers accepted).
  - Topic chair of the focal topic 'Evolving Fuzzy Systems and Modeling' of the 6th International Conference on Scalable Uncertainty Management (SUM) 2012
  - Co-Organizer of the Special Sessions 'Adaptive and on-line learning in non-stationary environments' at the 12th and 13th International Conference on Machine Learning and Applications (ICMLA 2013/2014), 'Fusion & Ensemble Techniques for Online Learning On Data Streams' at the 10th International Conference on Flexible Query Answering Systems (FQAS 2013), 'Learning from Static and Dynamic Data with Fuzzy Techniques' at the EUSFLAT 2013 conference (Milano, Italy), 'Fuzzy Machine Learning and On-line Modeling' at the IPMU 2012 conference (Catania, Sicilia), 'Learning in evolving environments and its application on real-world problems' at the ICMLA 2011 and 2012 conference (Honolulu, Hawaii), 'On-line Fuzzy Modeling and Pattern Recognition' at the EUSFLAT 2011 conference (Aix-Les-Bains), 'Dynamic Learning in Non-Stationary Environments' at the ICMLA 2010 conference (Washington), 'Fuzzy Machine Learning and Data Mining' at the IPMU 2010 conference (Dortmund), 'Recent Advances in Evolving Fuzzy Systems' at the EUSFLAT/IFSA 2009 conference (Lissabon)

#### **Activities (Committee Memberships, Reviewing)**

- Member of the Programme Committee at the IEEE SMC 2017, IJCCI 2017, ICICS 2017, ICMLC 2017, ICACCI 2017, ICCMIT 2017, ACIIDS 2017, AICCSA 2016, ICMLA 2016, ISI 2016, ICNC-FSKD 2016, SETCAC'16, AML ICSS 2016, SigTelCom 2017, SIMUL 2016, IEEE EAIS 2016, NAFOSTED 2016, IPMU 2016, SMC 2016, ICCCI 2016, NLP 2016, CoCoNet 2015, ICMLA 2015, IEEE EALS 2015, FCTA 2015, SIRS 2015, ComMan-Tel 2015, ACIIDS 2016, ICMLA 2015, IEEE EALS 2015, ICACCI 2015, NLP 2015, ICCCI

---

2015, ICIP 2015, ACCIDS 2015, ICCS 2015, IEEE SPICES 2015, PECCS 2015, ICMLA 2014, ICNC'14-FSKD'14, IEEE SMC 2014, Simultech 2014, ICIP 2014, ICAIS 2014, NLP-2014, ADM-2014, ICACCI-2014, FCTA 2014, ACIIDS 2014, IEEE SMC 2013 Conference, ICMLA 2013, FCTA 2013 and 2014, FSKD 2013, ISINCO 2013, 2012 and 2011, ADM'13, NLP'13, ACIIDS 2013 and 2014, SMPS 2012, FSKD'12, ICAIS'11, EAIS'11, EIS'10, MMAML 2013, 2012 and 2011, EUSFLAT/IFSA 2009, PICom 2009

- Member of the Working Group on Learning and Data Mining (Webpage <http://idbis.ugr.es/dami/>) and the ETTC Task Force on Machine Learning (Webpage [http://www.uni-marburg.de/fb12/kebi/research/TFML?language\\_sync=1](http://www.uni-marburg.de/fb12/kebi/research/TFML?language_sync=1))
- Reviewer for the Journals IEEE Transactions on Fuzzy Systems, IEEE Transactions on Systems, Men and Cybernetics part B: Cybernetics, Pattern Recognition, Information Sciences, Applied Soft Computing Int. Journal of Approximate Reasoning, International Journals of Uncertainty, Fuzziness and Knowledge-Based Systems, Soft Computing, Engineering Applications of Artificial Intelligence, Expert Systems with Applications, Fuzzy Sets and Systems, IEEE Transactions on Neural Networks, Signal Processing, Pattern Analysis and Applications, Chemometrics and Intelligent Laboratory Systems, Journal of Process Control and many more ...

---

## Books

1. Moamar Sayed-Mouchaweh and Edwin Lughofer. *Learning in Non-Stationary Environments: Methods and Applications*. Springer Verlag, New York, 2012.
2. Edwin Lughofer. *Evolving Fuzzy Systems - Methodologies, Advanced Concepts and Applications*, Springer Verlag, Berlin Heidelberg, 2011, ISBN: 978-3-642-18086-6,.

## Book Chapters

1. E. Lughofer. Evolving Fuzzy Systems — Fundamentals, Stability, Interpretability and Useability *in: Handbook on Computational Intelligence*, editor: Plamen Angelov, pp. 67–135, World Scientific, New York, 2016.
2. E. Lughofer. Flexible Fuzzy Inference Systems from Data Streams (FLEXFIS ++). In: *Learning in Non-Stationary Environments: Methodologies and Applications*, editors: M.-S. Mouchaweh, E. Lughofer. Springer Verlag, New York, pp. 205–246, 2012.
3. E. Lughofer, C. Eitzinger and C. Guardiola. On-line Quality Control with Flexible Evolving Fuzzy Systems. In: *Learning in Non-Stationary Environments: Methodologies and Applications*, editors: M.-S. Mouchaweh, E. Lughofer. Springer Verlag, New York, pp. 375–406, 2012.
4. D. Sannen, J.-M. Papy, S. Vandenplas, E. Lughofer, and H. Van Brussel. Incremental Classifier Fusion: Applications in Industrial Monitoring and Diagnostics. In: *Learning in Non-Stationary Environments: Methodologies and Applications*, editors: M.-S. Mouchaweh, E. Lughofer. Springer Verlag, New York, pp. 153–184, 2012.
5. E. Lughofer. Towards Robust Evolving Fuzzy Systems. *book chapter in Evolving Intelligent Systems - Methodologies and Applications*, editors: Plamen Angelov, Dimitar Filev and Nik Kasabov, John Wiley and Sons, pp. 87-126, 2010
6. E.P. Klement, E. Lughofer, J. Himmelbauer and B. Moser. Data-Driven and Knowledge-Based Modelling. *book chapter in Hagenberg Research*, editors: Michael Affenzeller,



---

Bruno Buchberger, Alois Ferscha, Michael Haller, Tudor Jebelean, Erich Peter Klement, Josef Kueng, Peter Paule, Birgit Proell, Wolfgang Schreiner, Gerhard Weiss, Roland Wagner, Wolfram Woess, Robert Stubenrauch and Wolfgang Windsteiger. Springer Verlag, pp. 237-279, 2009

7. C. Eitzinger, J.E. Smith, E. Lughofer and D. Sannen. Lernfaehige Inspektionssysteme. *Automatisierungsatlas, SPS Magazin 2009*, pp. 370-372.

### **Position Papers and Editorials**

1. E. Lughofer, R. Polikar and M.-Y. Chen. Data Stream Mining and Applications (Editorial). *Evolving Systems*, to appear, 2016.
2. P. Kazienko, E. Lughofer and B. Trawinski. Editorial on the special issue 'Hybrid and ensemble techniques in soft computing: recent advances and emerging trends'. *Soft Computing*, vol. 19 (12), pp. 3353–3355, 2015.
3. E. Lughofer and M. Sayed-Mouchaweh. Adaptive and On-line Learning in Non-Stationary Environments. *Evolving Systems*, vol. 6 (2), pp. 75–77, 2015.
4. F. Gomide and E. Lughofer. Recent advances on evolving intelligent systems and applications. *Evolving Systems*, vol. 5 (4), pp. 217–218, 2014.
5. M.-Y. Chen, E. Lughofer, K. Sakamura. Information Fusion in Smart Living Technology Innovations. *Information Fusion*, vol. 21, pp. 1–2, 2015.
6. A. Bouchachia and E. Lughofer and M. Sayed-Mouchaweh. Editorial of the Special Issue on: Evolving Soft Computing Techniques and Applications. *Applied Soft Computing*, vol. 14, pp. 141–143, 2014.
7. E. Lughofer. On-line Assurance of Interpretability Criteria in Evolving Fuzzy Systems — Achievements, New Concepts and Open Issues (Position Paper). *Information Sciences*, vol. 251, pp. 22–46, 2013.

- 
8. P. Kazienko and E. Lughofer and B. Trawinski. Editorial of the Special Issue on: Hybrid and Ensemble Methods in Machine Learning. *Journal of Universal Computer Science*, vol. 19 (4), pp. 457-461, 2013.
  9. A. Bouchachia, E. Lughofer and D. Sanchez. Editorial of the special issue: Online Fuzzy Machine Learning and Data Mining. *Information Sciences*, vol. 220, pp. 1–4, 2013.
  10. M.-Y. Chen and E. Lughofer. Editorial of the special issue: Smart Space Technology Innovations *Library Hi Tech*, vol. 31 (2), pp. 1-3, 2013.
  11. E. Lughofer. Human Inspired Evolving Machines - The Next Generation of Evolving Intelligent Systems? *IEEE SMC Newsletter*, vol. 36, 2011.

### Journal Papers

1. E. Lughofer and M. Pratama. On-line Active Learning for Data Stream Regression based on Single-Pass Certainty Sampling Criteria. *IEEE Transactions on Fuzzy Systems*, to appear, 2017.
2. F. Serdio, E. Lughofer, C. Zavoianu, K. Pichler, T. Buchegger, H. Efendic. Improved Fault Detection employing Hybrid Memetic Fuzzy Modeling and Adaptive Filters. *Applied Soft Computing*, vol. 51, pp. 60–82, 2017.
3. C. Zain, M. Pratama, E. Lughofer and S.G. Anavatti. Evolving Type-2 Web News Mining. *Applied Soft Computing*, on-line and in press, 2017, doi:10.1016/j.asoc.2016.11.034.
4. E. Lughofer, S. Kindermann, M. Pratama and J.d.J. Rubio. Top-Down Sparse Fuzzy Regression Modeling from Data with Improved Coverage. *International Journal of Fuzzy Systems*, on-line and in press, 2016, DOI: 10.1007/s40815-016-0271-0.
5. M. Pratama, E. Lughofer, M.J. Err and C.P. Lim. Data Driven Modelling Based on Recurrent Interval-Valued Metacognitive Scaffolding Fuzzy Neural Network. *Neurocomputing*, to appear, 2016.

- 
6. José de Jesús Rubio, L. Zhang, E. Lughofer, P. Cruz, A. Alsaedi, T. Hayat. Modeling and control with neural networks for a magnetic levitation system. *Neurocomputing*, vol. 227, pp. 113–121, 2017, DOI: 10.1016/j.neucom.2016.09.101.
  7. M. Pratama, J. Lu, E. Lughofer, G. Zhang, and M.J. Err. Incremental Learning of Concept Drift Using Evolving Type-2 Recurrent Fuzzy Neural Network. *IEEE Transactions on Fuzzy Systems*, on-line and in press, 2016, DOI: 10.1109/TFUZZ.2016.2599855.
  8. M. Pratama, E. Lughofer, C.P. Lim, W. Rahayu, T. Dillon and A. Budiyo. pClass+: A novel Evolving Semi-supervised Classifier, *International Journal of Fuzzy Systems*, on-line and in press, 2016, DOI: 10.1007/s40815-016-0236-3.
  9. C. Cernuda, E. Lughofer, H. Klein, M. Pawliczek, M. Brandstetter. On Improved Quantification of Essential Beer Characteristics based on Non-linear Calibration Methods from FT-MIR Spectra. *Analytical and Bioanalytical Chemistry (special issue "Process Analytics")*, vol. 409 (3), pp. 841–857, 2016, <http://dx.doi.org/10.1007/s00216-016-9785-4>.
  10. G. Bramerdorfer, A.-C. Zavoianu, W. Koppelstätter, E. Lughofer and W. Amrhein. Possibilities for Speeding Up the FE-based Optimization of Electrical Machines — A Case Study. *IEEE Transactions on Industry Applications*, vol. 52 (6), pp. 4668—4677, 2016.
  11. E. Lughofer, E. Weigl, W. Heidl, C. Eitzinger and T. Radauer. Recognizing Input Space and Target Concept Drifts with Scarcely Labelled and Unlabelled Instances. *Information Sciences*, vol. 355–356, pp. 127–151, 2016.
  12. M. Pratama, J. Lu, E. Lughofer, G. Zhang and S. Anavatti. Scaffolding Type-2 Classifier for Incremental Learning under Concept Drifts. *Neurocomputing*, vol. 191, pp. 304–329, 2016.
  13. E. Lughofer, C. Cernuda, S. Kindermann and M. Pratama. Generalized Smart Evolving Fuzzy Systems. *Evolving Systems*, vol. 6 (4), pp. 269–292, 2015.

- 
14. E. Lughofer and M. Sayed-Mouchaweh. Autonomous Data Stream Clustering implementing Incremental Split-and-Merge Techniques — Towards a Plug-and-Play Approach. *Information Sciences*, vol. 204, pp. 54–79, 2015.
  15. E. Weigl, W. Heidl, E. Lughofer, C. Eitzinger and T. Radauer. On Improving Performance of Surface Inspection Systems by On-line Active Learning and Flexible Classifier Updates. *Machine Vision and Applications*, vol. 27 (1), pp. 103–127, 2016.
  16. E. Lughofer, E. Weigl, W. Heidl, C. Eitzinger and T. Radauer. Integrating new Classes On the Fly in Evolving Fuzzy Classifier Designs and Its Application in Visual Inspection. *Applied Soft Computing*, vol. 35, pp. 558–582, 2015.
  17. P. Kazienko, E. Lughofer and B. Trawinski. Editorial on the special issue 'Hybrid and ensemble techniques in soft computing: recent advances and emerging trends'. *Soft Computing*, vol. 19 (12), pp. 3353–3355, 2015.
  18. K. Pichler, E. Lughofer, T. Buchegger, E.P. Klement and M. Huschenbett. Fault Detection in Reciprocating Compressor Valves under Varying Load Conditions *Mechanical Systems and Signal Processing*, vol. 70–71, pp. 104–119, 2016.
  19. M. Pratama, S.G. Anavatti, E. Lughofer, C.P. Lim. An Incremental Meta-cognitive-based Scaffolding Fuzzy Neural Network. *NeuroComputing*, vol. 171, pp. 89–105, 2016.
  20. J. Liu, E. Lughofer and X. Zeng. Aesthetic Perception of Visual Textures: A Holistic Exploration from Texture Analysis, Psychological Experiment to Perception Modeling. *Frontiers in Computational Neuroscience*, vol. 9: 134, pp. 1–14, 2015.
  21. C. Cernuda, E. Lughofer, P. Hintenaus, W. Märzinger and J. Kasberger. Self-Adaptive Non-linear Methods for Improved Calibration in Chemical Processes. *Lenzinger Berichte*, vol. 92, pp. 12–32, 2015.
  22. C. Zavoianu, E. Lughofer, W. Koppelstaetter, G. Weidenholzer, W. Amrhein and E.P. Klement. Performance Comparison of Generational and Steady-State Asynchronous Multi-

- 
- Objective Evolutionary Algorithms for Computationally-Intensive Problems. *Knowledge-Based Systems*, vol. 87, pp. 47–60, 2015.
23. J. Liu, E. Lughofer and X. Zeng. Could Linear Model Bridge the Gap between Low-level Statistical Features and Aesthetic Emotions of Visual Textures? *NeuroComputing*, vol. 168 (30), pp. 947–960, 2015.
  24. F. Serdio, E. Lughofer, K. Pichler, M. Pichler, T. Buchegger and H. Efendic. Fuzzy Fault Isolation using Gradient Information and Quality Criteria from System Identification Models *Information Sciences*, vol. 316, pp. 18–39, 2015.
  25. M. Sayed-Mouchaweh and E. Lughofer. Decentralized Fault Diagnosis Approach without a Global Model for Fault Diagnosis of Discrete Event Systems. *International Journal of Control*, vol. 88 (11), pp. 2228–2241, 2015.
  26. E. Lughofer and M. Sayed-Mouchaweh. Adaptive and On-line Learning in Non-Stationary Environments. *Evolving Systems*, vol. 6 (2), pp. 75–77, 2015.
  27. F. Gomide and E. Lughofer. Recent advances on evolving intelligent systems and applications. *Evolving Systems*, vol. 5 (4), pp. 217–218, 2014.
  28. K. Pichler, E. Lughofer, T. Buchegger, E.P. Klement and M. Huschenbett. Detecting cracks in reciprocating compressor valves using pattern recognition in the pV-diagram. *Pattern Analysis and Applications*, vol. 18 (2), pp. 461–472, 2015.
  29. C. Cernuda, E. Lughofer, G. Mayr, T. Röder, P. Hintenaus, W. Märzinger and J. Kasberger. Incremental and Decremental Active Learning for Optimized Self-Adaptive Calibration in Viscose Production. *Chemometrics and Intelligent Laboratory Systems*, vol. 138, pp. 14–29, 2014.
  30. A. Shaker, E. Lughofer. Self-Adaptive and Local Strategies for a Smooth Treatment of Drifts in Data Streams. *Evolving Systems (special issue)*, vol. 5 (4), pp. 239–257, 2014.

- 
31. F. Serdio, E. Lughofer, K. Pichler, T. Buchegger, M. Pichler and H. Efendic. Fault Detection in Multi-Sensor Networks based on Multivariate Time-Series Models and Orthogonal Transformations. *Information Fusion*, vol. 20, pp. 272–291, 2014.
  32. C. Zavoianu, E. Lughofer, Gerd Bramerdorfer, W. Amrhein, and E.P. Klement. DECMO2 - A Robust Hybrid Multi-Objective Evolutionary Algorithm. *Soft Computing (Special Issue on Hybrid and Ensemble Techniques)*, vol. 19 (12), pp. 3551–3569, 2015.
  33. M. Pratama, S.G. Anavatti, M.J. Er and E. Lughofer. pClass: An Effective Classifier for Streaming Examples. *IEEE Transactions on Fuzzy Systems*, vol. 23 (2), pp. 369–386, 2015.
  34. A. Bouchachia and E. Lughofer and M. Sayed-Mouchaweh. Editorial of the Special Issue on: Evolving Soft Computing Techniques and Applications. *Applied Soft Computing*, vol. 14, pp. 141–143, 2014.
  35. M.-Y. Chen, E. Lughofer, K. Sakamura. Information Fusion in Smart Living Technology Innovations. *Information Fusion*, vol. 21, pp. 1–2, 2015.
  36. C. Cernuda, E. Lughofer, Peter Hintenaus and W. Märzinger. Enhanced Waveband Selection in NIR Spectra using Enhanced Genetic Operators. *Journal of Chemometrics*, vol. 28 (3), pp. 123-136, 2014.
  37. E. Lughofer. On-line Assurance of Interpretability Criteria in Evolving Fuzzy Systems — Achievements, New Concepts and Open Issues (Position Paper). *Information Sciences*, vol. 251, pp. 22–46, 2013.
  38. M. Pratama, S.G. Anavatti, P. Angelov, E. Lughofer. PANFIS: A novel Incremental Learning Machine. *IEEE Transactions on Neural Networks (special issue on on-line learning)*, vol. 25 (1), pp. 55–68, 2014
  39. F. Serdio, E. Lughofer, K. Pichler, T. Buchegger and H.Efendic. Residual-Based Fault Detection using Soft Computing Techniques for Condition Monitoring at Rolling Mills. *Information Sciences (special issue on FD)*, vol. 259, pp. 304–320, 2014

- 
40. A.C. Zavoianu, G. Bramerdorfer, E. Lughofer, S. Silber, W. Amrhein, E.P. Klement. Hybridization of Multi-Objective Evolutionary Algorithms and Artificial Neural Networks for Optimizing the Performance of Electrical Drives. *Engineering Applications of Artificial Intelligence*, vol. 26 (8), pp. 1781–1794, 2013.
  41. M. Pratama and S.G. Anavatti and E. Lughofer. GENFIS: Towards an Effective Localist Network. *IEEE Transactions on Fuzzy Systems*, vol. 22 (3), pp. 547–562, 2014.
  42. E. Lughofer and O. Buchtala. Reliable All-Pairs Evolving Fuzzy Classifiers. *IEEE Transactions on Fuzzy Systems*, vol. 21 (4), pp. 625–641, 2013
  43. P. Kazienko and E. Lughofer and B. Trawinski. Editorial of the Special Issue on: Hybrid and Ensemble Methods in Machine Learning. *Journal of Universal Computer Science*, vol. 19 (4), pp. 457-461, 2013.
  44. C. Cernuda and E. Lughofer and P. Hintenaus and W. Märzinger and T. Reischer and M. Pawlicek and J. Kasberger. Hybrid Adaptive Calibration Methods and Ensemble Strategy for Prediction of Cloud Point in Melamine Resin Production. *Chemometrics and Intelligent Laboratory Systems*, vol. 126(15), pp. 60-75, 2013.
  45. M.-Y. Chen and E. Lughofer. Editorial of the special issue: Smart Space Technology Innovations *Library Hi Tech*, vol. 31 (2), pp. 1-3, 2013.
  46. A. Bouchachia, E. Lughofer and D. Sanchez. Editorial of the special issue: Online Fuzzy Machine Learning and Data Mining. *Information Sciences*, vol. 220, pp. 1–4, 2013.
  47. W. Heidl, Stefan Thumfart, E. Lughofer, C. Eitzinger and E.P. Klement. Machine Learning Based Analysis of Gender Differences in Visual Inspection Decision Making. *Information Sciences*, vol. 224, pp. 62-76, 2013, doi: 10.1016/j.ins.2012.09.054.
  48. M. Pratama, M.J. Er, X. Li, R.J. Oentaryo, Edwin Lughofer and Imam Arifin Data Driven Modeling Based on Dynamic Parsimonious Fuzzy Neural Network. *NeuroComputing*, vol. 110, pp. 18–28, 2013.

- 
49. E. Lughofer. Single-Pass Active Learning with Conflict and Ignorance. *Evolving Systems*, vol. 3 (4), pp. 251–271, 2012.
  50. C. Cernuda, E. Lughofer, L. Suppan, T. Röder, R. Schmuck, P. Hintenaus, W. Märzinger, J. Kasberger. Evolving Chemometric Models for Predicting Dynamic Process Parameters in Viscose Production. *Analytica Chimica Acta*, vol. 725, pp. 22–38, 2012.
  51. E. Lughofer. A Dynamic Split-and-Merge Approach for Evolving Cluster Models. *Evolving Systems (special issue on dynamic clustering)*, vol. 3 (3), pp. 135–151, 2012.
  52. E. Lughofer. Human Inspired Evolving Machines - The Next Generation of Evolving Intelligent Systems? *IEEE SMC Newsletter*, vol. 36, 2011.
  53. E. Lughofer. Hybrid Active Learning for Reducing Annotation Effort of Operators at Classification Systems. *Pattern Recognition*, vol. 45 (2), pp. 884–896, 2012.
  54. C. Cernuda, E. Lughofer, W. Maerzinger and J. Kasberger. NIR-based Quantification of Process Parameters in Polyetheracrylat (PEA) Production using Flexible Non-linear Fuzzy Systems. *Chemometrics and Intelligent Laboratory Systems*, vol. 109 (1), pp. 22–33, 2011.
  55. E. Lughofer, B. Trawinski, K. Trawinski, O. Kempa and T. Lasota. On Employing Fuzzy Modeling Algorithms for the Valuation of Residential Premises. *Information Sciences*, vol. 181 (23), pp. 5123–5142, 2011.
  56. E. Lughofer, J.-L. Bouchot and A. Shaker. On-line Elimination of Local Redundancies in Evolving Fuzzy Systems. *Evolving Systems*, vol. 2 (3), pp. 165-187, 2011.
  57. E. Lughofer. On-line Incremental Feature Weighting in Evolving Fuzzy Classifiers. *Fuzzy Sets and Systems*, vol 163 (1), pp. 1-23, 2011.
  58. E. Lughofer, V. Macian, C. Guardiola and Erich Peter Klement. Identifying Static and Dynamic Prediction Models for NO<sub>x</sub> Emissions with Evolving Fuzzy Systems. *Applied Soft Computing*, vol. 11 (2), pp. 2487–2500, 2011.



- 
59. E. Lughofer, P. Angelov. Handling Drifts and Shifts in On-Line Data Streams with Evolving Fuzzy Systems *Applied Soft Computing*, vol. 11 (2), pp. 2057–2068, 2011.
  60. S. Thumfart, R. Jacobs, E. Lughofer, C. Eitzinger, F. Cornelissen, W. Groissboeck, R. Richter. Modelling Human Aesthetic Perception of Visual Textures *ACM Transactions on Applied Perception*, vol. 8 (4): 27, 2011.
  61. E. Lughofer and S. Kindermann. SparseFIS: Data-driven Learning of Fuzzy Systems with Sparsity Constraints. *IEEE Transactions on Fuzzy Systems*, vol. 18 (2), pp. 396-411, 2010.
  62. W. Groissboeck, E. Lughofer and S. Thumfart. Associating Visual Textures with Human Perceptions using Genetic Algorithms. *Information Sciences*, vol. 180 (11), pp. 2065-2084, 2010.
  63. E. Lughofer. On-line Evolving Image Classifiers and Their Application to Surface Inspection. *Image and Vision Computing*, Vol. 28 (7), pp. 1065-1079, 2010.
  64. D. Sannen, E. Lughofer and H. van Brussel. Towards Incremental Classifier Fusion. *Intelligent Data Analysis*, vol. 14(1), 2010, pp. 3–30.
  65. C. Eitzinger, W. Heidl, E. Lughofer, S. Raiser, J.E. Smith, M.A. Tahir, D. Sannen and H. van Brussel. Assessment of the Influence of Adaptive Components in Trainable Surface Inspection Systems. *Machine Vision and Applications*, Vol. 21 (5), pp. 613-626, 2010.
  66. S. Raiser, E. Lughofer, C. Eitzinger and J.E. Smith. Impact of Object Extraction Methods on Classification Performance in Surface Inspection Systems. *Machine Vision and Applications*, vol. 21(5), pp. 627-641, 2010.
  67. E. Lughofer, J.E. Smith, M.A. Tahir, P. Caleb-Solly, C. Eitzinger, D. Sannen and M. Nuttin. Human-Machine Interaction Issues in Quality Control Based on On-Line Image Classification. *IEEE Transactions on Systems, Man and Cybernetics, part A: Systems and Humans*, vol. 39 (5), 2009, pp. 960-971.

- 
68. P. Angelov, E. Lughofer and Xiaowei Zhou. Evolving Fuzzy Classifiers using Different Model Architectures. *Fuzzy Sets and Systems*, vol.159 (23), pp. 3160-3182, 2008, doi:10.1016/j.fss.2008.06.019
  69. E. Lughofer. FLEXFIS: A Robust Incremental Learning Approach for Evolving TS Fuzzy Models. *IEEE Transactions on Fuzzy Systems*, vol. 16 (4), pp. 1393-1410, 2008
  70. E. Lughofer. Extensions of Vector Quantization for Incremental Clustering. *Pattern Recognition*, vol. 41(3), pp. 995-1011, 2008
  71. E. Lughofer and C. Guardiola. On-Line Fault Detection with Data-Driven Evolving Fuzzy Models. *Control and Intelligent Systems*, vol. 36 (2), pp. 307-317, 2008
  72. P. Angelov and E. Lughofer. Data-Driven Evolving Fuzzy Systems using eTS and FLEXFIS: Comparative Analysis. *International Journal of General Systems*, vol. 37(01), pp. 45 - 67, 2008
  73. P. Angelov, V. Giglio, C. Guardiola, E. Lughofer, and J. M. Luján. An approach to model-based fault detection in industrial measurement systems with application to engine test benches. *Measurement Science and Technology*, vol.17, pp. 1809–1818, 2006.

### Research Visits, Stays

- November/December 2012: Ecole Mines de Douai, France
- September 2012: Institute for Computational Intelligence and Bioinformatics, Phillips University Marburg
- January and November 2011: Institute for Computational Intelligence and Bioinformatics, Phillips University Marburg
- August 2008: Fraunhofer Institute Techno- and Wirtschaftinformatik, University Kaiserslautern

- 
- January 2008: Institute for Computational Intelligence and Bioinformatics, Phillips University Marburg
  - November 2007: Center for Bioimage Informatics and Departments of Biological Sciences, Biomedical Engineering, and Machine Learning Carnegie Mellon University, Pittsburgh, Pennsylvania, U.S.A.
  - September 2006 and May 2007: Department of Communication Systems, InfoLab21, Lancaster University
  - January 2006: Faculty for Informatics (ITI), Otto-von-Guericke-University

### Some Invited Talks

1. Robust Fuzzy Modeling and Symbolic Regression for Establishing Accurate and Interpretable Prediction Models in Supervising Tribological Systems, **Invited Talk** at the 8th International Conference on Fuzzy Computation Theory and Applications (10th of November 2016)
2. Recent Advances in Evolving Fuzzy Systems and in Their Application to On-line Quality Control and Predictive Maintenance, **Keynote Speech** at the IEEE EAIS 2016 Conference on Evolving and Adaptive Intelligent Systems (24th of May 2016)
3. Evolving Fuzzy Systems (EFS) - Fundamentals, Stability, Useability and Applications, **Keynote Speech** at the 7th International Conference on Fuzzy Computation Theory and Applications (12th of November 2015)
4. Evolving Fuzzy Systems (EFS) - Fundamentals, Stability, Useability and Applications, Linz, International Symposium "Fuzzy Logic and Related Aspects" (3rd of October 2014)
5. Evolving Fuzzy Systems - The big picture and new challenges, Ecole Mines de Douai, France (29th of November 2012)

- 
6. Evolving Fuzzy Systems - Advanced Concepts, Institute for Informatics, University of Osnabrück (20th of September 2012)
  7. Evolving Fuzzy Systems - An Overview, Institute of Measurement and Control Engineering, University of Siegen (15th of November 2011)
  8. Evolving Fuzzy Systems - Interpretability Aspects, Institute for Computational Intelligence and Bioinformatics, Phillips University Marburg (13th of January 2011)
  9. Evolving Fuzzy Systems - An Overview, Workshop Model Based Calibration Methods at the Technical University of Vienna (17th of September 2010)
  10. An Adaptive Image Classification Framework for On-Line Surface Inspection, Workshop at QCAV 2009 conference, Wels, Austria (29th May 2009)
  11. Workshop on Off-Line and On-Line Image Classification Framework for Surface Inspection, Fraunhofer Institut Techno- und Wirtschaftsmathematik, University Kaiserslautern (29th of August 2008)
  12. An On-Line Self-Adaptive and Interactive Image Classification Framework, Fachbereich Mathematik und Informatik, Phillips University Marburg (17th of January 2008)
  13. Components of an On-line Image Classification Framework, Center for Bio-image Informatics and Department of Biological Sciences, Biomedical Engineering, and Machine Learning Carnegie Mellon University, Pittsburgh, Pennsylvania, U.S.A. (14th of November 2007)
  14. Model-Based On-Line Fault Detection and Image Classification, InfoLab21, University of Lancaster (24th of May 2007)
  15. Data-Driven Evolving Fuzzy Models, InfoLab21, University of Lancaster (12. September 2006)
  16. Process safety enhancements for data-driven evolving fuzzy models, EFS06 conference, Lake District, Lancaster (7-9th of September 2006)

- 
17. Data-Driven Evolving Fuzzy Models - Algorithms and Applications, Otto von Guericke Universität Magdeburg (12.01.2006) - Algorithms and Advanced Aspects for Interpretability and Process Safety Enhancements,

### Conference Papers

1. G. Andonovski, E. Lughofer and I. Skrjanc. A Comparison of RECCO and FCPFC Controller on Nonlinear Chemical Reactor. The 36th IASTED International Conference on Modelling, Identification and Control, Innsbruck, Austria, 2017, to appear.
2. R. Nikzad-Langerodi, E. Lughofer, T. Zahel, P. Sagmeister, C. Herwig. A novel framework for automated feed phase identification. Proceedings of the 4th European Conference on Process Analytics and Control Technology (EuroPACT) 2017, Potsdam, to appear.
3. E. Lughofer, G. Kronberger, M. Kommenda, S. Saminger-Platz, A. Promberger, F. Nickel, S. Winkler and M. Affenzeller. Robust Fuzzy Modeling and Symbolic Regression for Establishing Accurate and Interpretable Prediction Models in Supervising Tribological Systems. Proceedings of the 8th International Conference on Fuzzy Computation Theory and Applications (FCTA) 2016, pp. 51–63, 2016.
4. C. Zavoianu, G. Bramerdorfer, E. Lughofer and S. Saminger-Platz. Multi-Objective Topology Optimization of Electrical Machine Designs using Evolutionary Algorithms with Discrete and Real Encodings. Proceedings of the 16th EuroCAST Conference, Las Palmas de Gran Canaria, 2017.
5. E. Weigl, A. Walch, U. Neissl, P. Meyer-Heye, W. Heidl, C. Eitzinger, T. Radauer and E. Lughofer. MapView: Graphical Data Representation for Active Learning. Proceedings of the iKnow Conference 2016, Graz, Austria, pp. 3–8, 2016.
6. E. Lughofer, R. Richter, U. Neissl, W. Heidl, C. Eitzinger, T. Radauer. Advanced Linguistic Explanations of Classifier Decisions for Operators' Annotation Support. Proceedings of the IEEE Intelligent Systems Conference 2016, Sofia, Bulgaria, pp. 421–432, 2016.

- 
7. F. Serdio and E. Lughofer. A Fault Detection and Isolation Framework for Repeatable and Comparable Experimentation. *Proceedings of the European conference of the Prognostics and Health Management Society, PHM 2016*, Bilbao, Spain, 2016, pp. 649–660.
  8. C. Cernuda, E. Lughofer, T. Reischer, W. Kantner, M. Pawliczek and M. Brandstetter. Online Outlier/Redundancy Filtering and Semisupervised Incremental Calibration Modeling in Melamine Resin Production using FT-NIR Spectra. *Proceedings of the CAC Conference 2016*, Barcelona, 2016.
  9. M. Pratama, E. Lughofer, T. Dillon and W. Rahayu. Evolving Type-2 Recurrent Fuzzy Neural Network. Proceedings of the IJCNN under the scope of the WCCI conference 2016, Vancouver, Canada, pp. 1841–1848, 2016.
  10. E. Lughofer, E. Weigl, W. Heidl, C. Eitzinger and T. Radauer. Drift Detection in Data Stream Classification without Fully Labelled Instances. Proceedings of the Evolving and Adaptive Intelligent Systems Conference (EAIS) 2015, Douai, France, pp. 1–8, 2015.
  11. J. Liu, E. Lughofer, X. Zeng and L. Wang. Affective Property Computation of Visual Texture. Proceedings of the 10<sup>th</sup> International Conference on Intelligent Systems and Knowledge Engineering (ISKE'15), Taiwan, November 2015, pp. 52–57.
  12. A.-C. Zavoianu, E. Lughofer, G. Bramerdorfer, W. Amrhein and S. Saminger-Platz. A Surrogate-Based Strategy for Multi-Objective Tolerance Analysis in Electrical Machine Design. Proceedings of the 17th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC) 2015, Timisoara, 2015, pp. 195–203.
  13. C. Cernuda, E. Lughofer, T. Reischer, W. Kantner, M. Pawliczek and M. Brandstetter. Dynamically Slided Chemometric Models for Robust On-line Prediction of Cloud Point in Melamine Resin Production. Proceedings of the Conferentia Chemometrica, Budapest, September 2014.
  14. C. Cernuda, E. Lughofer, H. Klein, C. Forster, M. Pawliczek and M. Brandstetter. Quantification of quality parameters in unfermented beer using a flexible support vector regression

- 
- variation. Proceedings of the SSC14 conference, to appear, Sardinia, Italy, 2015
15. G. Bramerdorfer, A.-C. Zavoianu, S. Silber, E. Lughofer, W. Amrhein. Speed Improvements for the Optimization of Electrical Machines - a Survey. Proceedings of the 2015 IEEE International Conference on Electric Machines Drives Conference (IEMDC), Coeur d'Alene, Idaho, USA, pp. 1748–1754.
  16. E. Lughofer. Efficient Sample Selection in Data Stream Regression using Evolving Generalized Fuzzy Models. Proceedings of the IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) 2015, Istanbul, Turkey, 2015.
  17. E. Lughofer, E. Weigl, W. Heidl, C. Eitzinger and T. Radauer. Fast and Economic Integration of New Classes On the Fly in Evolving Fuzzy Classifiers using Class Decomposition. Proceedings of the IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) 2015, Istanbul, Turkey, 2015.
  18. E. Lughofer, E. Weigl, W. Heidl and T. Radauer. Dynamic Inclusion of New Event Types in Visual Inspection Using Evolving Classifiers. Proceedings of the International Conference on Machine Learning and Applications (ICMLA) 2014, Detroit, Michigan, U.S.A, pp. 487–494.
  19. F. Serdio, C. Zavoianu, E. Lughofer, K. Pichler, T. Buchegger, H. Efendic. Hybrid Genetic-Fuzzy Systems for Improved Performance in Residual-Based Fault Detection. *Proceedings of the 2014 Sixth World Congress on Nature and Biologically Inspired Computing (NaBIC)*, pp. 91–96, Porto, Portugal, 2014.
  20. F. Serdio, E. Lughofer, K. Pichler, T. Buchegger, M. Pichler, H. Efendic. Reducing False Positives for Residual-Based On-line Fault Detection by Means of Adaptive Filters. *Proceedings of the IEEE SMC 2014 Conference*, San Diego, pp. 2803–2808, 2014.
  21. K. Pichler, M. Pichler, E. Lughofer, E.P. Klement, M. Huschenbett, Thomas Buchegger. On the robustness of fault detection in reciprocating compressor valves. *Proceedings of the IEEE SMC 2014 Conference*, San Diego, pp. 2733–2738, 2014.

- 
22. M. Pratama and S.G. Anavatti and E. Lughofer. An Incremental Classifier from Data Streams. in: A. Likas, K. Blekas, and D. Kalles (Eds.): SETN 2014, LNCS 8445, pp. 15–28, Springer International Publishing Switzerland, 2014.
  23. F. Serdio, E. Lughofer, K. Pichler, T. Buchegger, M. Pichler, H. Efendic. Gradient-based Fuzzy Fault Isolation in Residual-based Fault Detection Systems. *Proceedings of the WCCI 2014 Conference*, Beijing, China, pp. 1428–1435, 2014
  24. M. Pratama and S.G. Anavatti and M.J. Er and E. Lughofer. A Novel Meta-Cognitive-based Scaffolding Classifier to Sequential Non-stationary Classification Problems. *Proceedings of the WCCI 2014 Conference*, Beijing, China, pp. 369–376, 2014
  25. C. Cernuda and E. Lughofer and P. Hintenaus and W. Märzinger and J. Kasberger. Genetic Hybridization (Hybridgen): A Cooperative Coevolution Algorithm for Variable Selection. *Proceedings of the CAC 2014 conference*, Richmond, Virginia, 2014.
  26. C. Cernuda, E. Lughofer, W. Maerzinger, T. Reischer and J. Kasberger Fuzzy Finite State Machine for Multivariate Calibration. Application to Near Infra-Red Spectroscopy. *Proceedings of the EuroPACT Conference 2014*, Barcelona, Spain, 2014
  27. E. Lughofer, C. Cernuda and M. Pratama. Generalized Flexible Fuzzy Inference Systems from Data Streams. *Proceedings of the IEEE Conference on Machine Learning and Applications (ICMLA)*, pp. 1–7, 2013
  28. A.-C. Zavoianu, E. Lughofer, G. Bramerdorfer, W. Amrhein, and E.P. Klement. An Effective Ensemble-based Method for Creating On-the-Fly Surrogate Fitness Functions for Multi-Objective Evolutionary Algorithms. *Proceedings of the 5th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC) 2013*, Timisoara, Romania, pp. 235–242, 2013.
  29. A.-C. Zavoianu, E. Lughofer, W. Amrhein and E.P. Klement. Efficient Multi-Objective Optimization using 2-Population Cooperative Coevolution. *Proceedings of the EUROCAST 2013 Conference*, Las Palmas de Gran Canaria, Spain, 2013, pp. 251–258.



- 
30. C. Cernuda, E. Lughofer, G. Mayr, T. Röder, P. Hintenaus, W. Märzinger and J. Kasberger. Decremental Active Learning for Optimized Self-Adaptive Calibration in Viscose Production. *Proceedings of the SSC 2013 conference*, Stockholm, Sweden, 2013.
  31. F. Serdio, E. Lughofer, K. Pichler, T. Buchegger, M. Pichler and H. Efendic. Multivariate Fault Detection in the Residual Space using VARMA and Orthogonal Transformations. *PHM 2013 conference*, to appear, New Orleans, 2013, pp. 548-555.
  32. C. Cernuda, E. Lughofer, P. Hintenaus, W. Märzinger, T. Reischer, M. Pawliczek and J. Kasberger. Ensembled Self-Adaptive Fuzzy Calibration Models for On-line Cloud Point Prediction. *Proceedings of the EUSFLAT 2013 conference*, Milano, Italy, 2013, pp. 17–24.
  33. F. Serdio, E. Lughofer, K. Pichler, T. Buchegger and H. Efendic. Data-Driven Residual-Based Fault Detection for Condition Monitoring in Rolling Mills. *Proceedings of the IFAC Conference on Manufacturing Modeling, Management and Control (MIM) 2013*, St. Petersburg, 2013, pp. 1546–1551 (**awarded as best paper**).
  34. K. Pichler, E. Lughofer, M. Pichler, T. Buchegger, E.P. Klement, M. Huschenbett. Detecting broken Reciprocating Compressor Valves in the pV-diagram. *Proceedings of the 2013 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, 2013, pp. 1625–1630 .
  35. M. Pratama, S. Anavatti and E. Lughofer. Evolving Fuzzy Rule-Based Classifier Based on GENEFIS. *Proceedings of the FUZZ-IEEE 2013 Conference*, Hyderabad, India, 2013, pp. 1–8.
  36. C. Zavoianu, E. Lughofer, W. Koppelstaetter, G. Weidenholzer, W. Amrhein and E.P. Klement. On the Performance of Master-Slave Parallelization Methods for Multi-Objective Evolutionary Algorithms. *Proceedings of the International Conference on Artificial Intelligence and Soft Computing (ICAISC 2013)*, Lecture Notes in Artificial Intelligence, vol. 7895, Zakopane, Poland, pp. 122–134.

- 
37. A. Shaker and E. Lughofer. Resolving Global and Local Drifts in Data Stream Regression using Evolving Rule-Based Models. *2013 IEEE Conference on Evolving and Adaptive Intelligent Systems (EAIS) (under the scope of IEEE SSCI 2013 Conference)*, Singapore, pp. 9-16, 2013.
  38. E. Lughofer. eVQ-AM: An Extended Dynamic Version of Evolving Vector Quantization. *2013 IEEE Conference on Evolving and Adaptive Intelligent Systems (EAIS) (under the scope of IEEE SSCI 2013 Conference)*, Singapore, pp. 40-47, 2013.
  39. M. Pratama, S. Anavatti, M. Garret and E. Lughofer. Online Identification of Complex Multi-Input-Multi-Output System Based on Generic Evolving Neuro-Fuzzy Inference System. *2013 IEEE Conference on Evolving and Adaptive Intelligent Systems (EAIS) (under the scope of IEEE SSCI 2013 Conference)*, Singapore, pp. 106-113, 2013.
  40. G. Mayr, L. Suppan, F. Zeppetzauer, C. Cernuda, E. Lughofer, H. Trinker, P. Hintenaus, W. Märzinger and T. Röder. Scope and limitations of spectroscopic methods for on- and in-line analysis at the viscose production. *Proceedings of the 245th ACS National Meeting*, New Orleans, U.S.A., 2013.
  41. C. Cernuda, E. Lughofer, W. Märzinger and W. Summerer. Hybrid evolutionary particle swarm optimization and ant colony optimization for variable selection. Application to near infrared spectroscopy. *Proceedings of the 3rd World Conference on Information Technology 2012*, AWERProcedia Information Technology & Computer Science, Vol. 4, pp. 6–13, Barcelona, Spain, 2012.
  42. E. Lughofer. Navigating Interpretability Issues in Evolving Fuzzy Systems. *Proceedings of the SUM 2012 Conference*, Springer Lecture Notes, LNAI 7520, pp. 141–153, 2012.
  43. A.C. Zavoianu, G. Bramerdorfer, E. Lughofer, W. Amrhein, E.P. Klement. A Hybrid Soft Computing Approach for Optimizing Design Parameters of Electrical Drives. *Soft Computing Models in Industrial and Environmental Applications (Proceedings of the SOCO 2012 Conference)*, vol. 181, pp. 347–358, Springer, Berlin Heidelberg, 2012.

- 
44. K. Pichler, E. Lughofer, T. Buchegger, E.P. Klement, M. Huschenbett. A Visual Method to Detect Broken Reciprocating Compressor Valves Under Varying Load Conditions. *Proceedings of the 13th Mechatronics Forum International Conference*, 2012.
  45. K. Pichler, E. Lughofer, T. Buchegger, E.P. Klement, M. Huschenbett. Detecting Cracks in Reciprocating Compressor Valves using Pattern Recognition in Frequency Space. *Proceedings of the ASME 2012 Conference on Smart Materials, Adaptive Structures and Intelligent Systems SMASIS2012*, Stone Mountain, Georgia, USA, 2012, pp. 749–756.
  46. C. Cernuda, E. Lughofer, W. Märzinger, W. Summerer. Waveband Selection in NIR Spectra using Enhanced Genetic Operators. *Proceedings of the CAC 2012 conference*, Budapest, 2012, pp. 37.
  47. C. Cernuda, E. Lughofer, L. Suppan, T. Röder, R. Schmuck, P. Hintenaus, W. Märzinger, J. Kasberger. Dynamic Quantification of Process Parameters in Viscose Production with Evolving Fuzzy Systems. *Proceedings of the IPMU 2012, Advances on Computational Intelligence, CCIS, vol. 297*, Springer, pp. 1-10, 2012.
  48. E. Lughofer. On-line Active Learning with Enhanced Reliability Concepts. *Proceedings of the IEEE EAIS (Evolving and Adaptive Intelligent Systems) Conference*, pp. 1–6, 2012.
  49. E. Lughofer. Dynamic Evolving Cluster Models Using Split-and-Merge Operations. *Proceedings of the ICMLA 2011*, pp. 20–26, 2011.
  50. E. Lughofer, All-Pairs Evolving Fuzzy Classifiers for On-line Multi-Class Classification Problems, *Proceedings of the EUSFLAT 2011 conference*, Aix-Les-Bains, France, pp. 372–379, 2011.
  51. E. Lughofer and E. Hüllermeier, On-line Redundancy Elimination in Evolving Fuzzy Regression Models using a Fuzzy Inclusion Measure, *Proceedings of the EUSFLAT 2011 conference*, Aix-Les-Bains, France, pp. 380–387, 2011.
  52. M. Nasiri, E. Hüllermeier, R. Senge and E. Lughofer, Comparing Methods for Knowledge-Driven and Data-Driven Fuzzy Modeling: A Case Study in Textile Industry, *IFSA World*

- 
- Congress 2011, Surabaya and Bali Islands, Indonesia.
53. E. Lughofer, B. Trawinski, K. Trawinski, O. Kempa, T. Lasota. On-line Valuation of Residential Premises with Evolving Fuzzy Models. *Proceedings of the Hybrid Artificial Intelligence Systems Conference, HAIS 2011*, Wroclaw, Poland, pp. 107–115.
  54. B. Trawiński, K. Trawiński, E. Lughofer and T. Lasota. Investigation of Evolving Fuzzy Systems Methods FLEXFIS and eTS on Predicting Residential Prices. *Proceedings of the 9th International Workshop in Fuzzy Logic and Applications (WILF) 2011*, Trani, Italy, pp. 123–130.
  55. W. Heidl, S. Thumfart, C. Eitzinger, E. Lughofer, E.P. Klement. Decision Tree-Based Analysis Suggests Structural Gender Differences in Visual Inspection. *Proceedings of the IASTED Artificial Intelligence and Applications (AIA) Conference 2011*, Innsbruck, Austria, pp. 142–149, 2011.
  56. E. Lughofer. On Dynamic Selection of the Most Informative Samples in Classification Problems. *Proc. International Conference on Machine Learning and Applications (ICMLA) 2010*, Washington DC, pp. 573–579, 2010.
  57. W. Heidl, S. Thumfart, E. Lughofer, C. Eitzinger, E.P. Klement. Classifier-Based Analysis of Visual Inspection: Gender Differences in Decision-Making *Proceedings of IEEE Conference on Systems, Man and Cybernetics, SMC 2010*, pp. 113–120, Istanbul, 2010.
  58. E. Lughofer. On Dynamic Soft Dimension Reduction in Evolving Fuzzy Classifiers. *Proc. of the 13th International Conference on Information Processing and Management of Uncertainty (IPMU) 2010*, LNAI, vol. 6178, Springer, pp. 79–88, Dortmund, Germany, 2010.
  59. E. Lughofer, V. Macian, C. Guardiola, E.P. Klement. Data-Driven Design of Takagi-Sugeno Fuzzy Systems for Predicting NOx Emissions. *Proc. of the 13th International Conference on Information Processing and Management of Uncertainty, IPMU 2010, Part II (Applications)*, Communication in Computer and Information Science, CCIS 81, pp. 1–10, Dortmund, 2010.

- 
60. D. Sannen, E. Lughofer, H. van Brussel. Boosting Online Classification Performance Using Incremental Classifier Fusion. *Proceedings of the International Conference on Adaptive and Intelligent Systems (ICAIS)*, Klagenfurt, Austria, 2009, pp. 101–107.
  61. E. Lughofer and S. Kindermann. Rule Weight Optimization and Feature Selection in Fuzzy Systems with Sparsity Constraints. *Proc. of the Proceedings of the IFSA/EUSFLAT 2009 conference*, Lisbon, Portugal, 2009, pp. 950–956.
  62. E. Lughofer and P. Angelov. Detecting and Reacting on Drifts and Shifts in Online Data Streams with Evolving Fuzzy Systems. *Proc. of the Proceedings of the IFSA/EUSFLAT 2009 conference*, Lisbon, Portugal, 2009, pp. 931–937.
  63. E. Lughofer, J.E. Smith, M.A. Tahir, P. Caleb-Solly, C. Eitzinger, D. Sannen, H. van Brussels. On Human-Machine Interaction During Online Image Classifier Training. *in Proc. of the International Conference on Computational Intelligence for Modelling, Control and Automation (CIMCA)*, pp. 995–1001, Vienna, 2008.
  64. E. Lughofer. Evolving Vector Quantization for Classification of On-Line Data Streams. *in Proc. of the International Conference on Computational Intelligence for Modelling, Control and Automation (CIMCA)*, pp. 780–786, Vienna, 2008.
  65. H. Schoener, B. Moser and E. Lughofer. On Preprocessing Multi-Channel Data for Online Process Monitoring. *in Proc. of the International Conference on Computational Intelligence for Modelling, Control and Automation (CIMCA)*, pp. 414–420, Vienna, 2008.
  66. E. Lughofer and S. Kindermann. Improving the Robustness of Data-Driven Fuzzy Systems with Regularization. *in Proc. of the IEEE World Congress on Computational Intelligence (WCCI) 2008*, pp. 703–709, Hongkong, 2008
  67. C. Eitzinger, M. Gmainer, W. Heidl and E. Lughofer. Increasing Classification Robustness with Adaptive Features. *in International Conference on Computer Vision Systems 2008*, A. Gasteratos, M. Vincze, J.K. Tsotsos (Eds.), *Springer Lecture Notes 5008*, pp. 445–453, Santorini Island, Greece

- 
68. D. Sannen, M. Nuttin, J.E. Smith, M.A. Tahir, P. Caleb-Solly, E. Lughofer, C. Eitzinger. An On-Line Self-Adaptive and Interactive Image Classification Framework. *in International Conference on Computer Vision Systems 2008*, A. Gasteratos, M. Vincze, J.K. Tsotsos (Eds.), *Springer Lecture Notes 5008*, pp. 171–180, Santorini Island, Greece
  69. E. Lughofer and C. Guardiola. Applying Evolving Fuzzy Models with Adaptive Local Error Bars to On-Line Fault Detection. *to appear in 3rd International Workshop on Genetic and Evolving Fuzzy Systems, GEFS 2008*, pp. 35–40, Witten-Bommerholz (Germany), 2008
  70. E. Lughofer, P. Angelov and X. Zhou. Evolving single- and multi-model fuzzy classifiers with FLEXFIS-CLASS. *in Proceedings of FUZZ-IEEE 2007*, pp. 363–368, London, UK, 2007
  71. P. Angelov, X. Zhou, E. Lughofer and D. Filev. Architectures for evolving fuzzy rule-based classifiers. *in Proc. Systems, Man and Cybernetics conference (SMC) 2007*, pp. 2050–2055, Montreal, Canada, 2007
  72. E. Lughofer. Process safety enhancements for data-driven evolving fuzzy models. *In Proceedings of the International Symposium on Evolving Fuzzy Systems*, pp. 42–48, Lake District, UK, 2006 (**awarded as best paper**)
  73. J. Botzheim, E. Lughofer, E.P. Klement, L. Kóczy, and T.D. Gedeon. Separated antecedent and consequent learning for takagi-sugeno fuzzy systems. *In Proceedings of FUZZ-IEEE 2006*, Vancouver, Canada, 2006.
  74. E. Lughofer and U. Bodenhofer. Incremental learning of fuzzy basis function networks with a modified version of vector quantization. *In Proceedings of IPMU 2006*, pp. 56–63, Paris, France, 2006.
  75. E. Lughofer, E. Hüllermeier, and E.P. Klement. Improving the interpretability of data-driven evolving fuzzy systems. *In Proceedings of EUSFLAT 2005*, pages 28–33, Barcelona, Spain, 2005.

- 
76. E. Lughofer and E.P. Klement. FLEXFIS: A variant for incremental learning of Takagi-Sugeno fuzzy systems. In *Proceedings of FUZZ-IEEE 2005*, pages 915–920, Reno, Nevada, U.S.A., 2005.
  77. P. Angelov, E. Lughofer, and E.P. Klement. Two approaches to data-driven design of evolving fuzzy systems: ETS and FLEXFIS. In *Proceedings of NAFIPS 2005*, Ann Arbor, Michigan, U.S.A., 2005.
  78. W. Großböck, E. Lughofer, and E.P. Klement. A comparison of variable selection methods with the main focus on orthogonalization. In M. López-Díaz, M. Á. Gil, P. Grzegorzewski, O. Hryniewicz, J. Lawry (Eds.), *Soft Methodology and Random Information Systems, Advances in Soft Computing*, Springer, Berlin, Heidelberg, New York, pp. 479–486, 2004.
  79. E. Lughofer and E.P. Klement. Premise parameter estimation and adaptation in fuzzy systems with open-loop clustering methods. In *Proceedings of FUZZ-IEEE 2004*, Budapest, Hungary, 2004.
  80. E. Lughofer, E.P. Klement, J.M. Lujan, and C. Guardiola. Model-based fault detection in multi-sensor measurement systems. In *Proceedings of IEEE IS 2004*, pages 184–189, Varna, Bulgaria, 2004.
  81. J. Galindo, J.M. Lujan, C. Guardiola, E. Lughofer, and E.P. Klement. Fault detection in engine measurement systems by a model-based approach. In *Proc. SAE 2004*. SAE, 2004.
  82. E. Lughofer, H. Efendic, L. Del Re, and E.P. Klement. Filtering of dynamic measurements in intelligent sensors for fault detection based on data-driven models. In *Proceedings IEEE CDC — IEEE CDC Conference, Maui, Hawaii*, pages 463–468, 2003.
  83. E. Lughofer and E.P. Klement. Online adaptation of Takagi-Sugeno fuzzy inference systems. In *Proceedings of CESA'2003—IMACS Multiconference*, Lille, France, 2003. CD-Rom, paper S1-R-00-0175.

84. A. Schrempf, L. Del Re, W. Großböck, E. Lughofer, E.P. Klement, and G. Frizberg. Automatic engine modelling for failure detection. In *Proc. 2001 ASME International Mechanical Engineering Congress and Exposition*, 2001.