

FH-Prof. PD DI Dr. Stephan M. Winkler:

Lists of Publications and Patents

December 2020

Publications in Peer-Reviewed Journals:

41. Georg Pirklbauer, Christian E. Stieger, Manuel Matzinger, Stephan M. Winkler, Karl Mechtler and Viktoria Dorfer: **MS Annika: A new Cross-Linking Search Engine**. To be submitted to *Journal of Proteomics*, 2021.
40. Julia Vetter, Jonathan Burghofer, Theodora Malli, Anna Lin, Gerald Webersinke, Markus Wiederstein, Stephan M. Winkler, and Susanne Schaller: **Design and Implementation of a Workflow for Automated Identification of Low Frequent Point Mutations in Chronic Myeloid Leukemia**. To be submitted to *Journal of Biotechnology*, Special Issue on Austrian Bioinformatics, 2021.
39. Aurelia Tschida, Verena Stadlbauer, Bettina Schwarzinger, Martin Maier, Johannes Pitsch, Flora Stübl, Ulrike Müller, Peter Lanzerstorfer, Markus Himmelsbach, Jürgen Wruss, Gerald Klanert, Jonas Schurr, Lothar Wurm, Franz Rosner, Otmar Höglinger, Stephan M. Winkler, and Julian Weghuber: **Nutrients, bioactive compounds, and minerals in the juices of 16 varieties of apple (*Malus domestica*) harvested in Austria: A four-year study investigating putative correlations with weather conditions during ripening**. *Food Chemistry*, Vol. 338, 2020.
38. Bianca Buchegger, Andreas Haghofer, Dominik Höglinger, Jaroslaw Jacak, Stephan M. Winkler, and Armin Hochreiner: **Beam Shaping of Femtosecond Laser Pulses by a LC-SLM for Lithography Applications Utilizing a Raspberry Pi Camera in Bayer Mode for Machine Learning**. Submitted to *Optics Express*, 2020.
37. Evgeniia Korotchenko, Victoria Schießl, Sandra Scheibhofer, Isabella Joubert, Helen Strandt, Theresa Neuper, Muamera Sarajlic, Renate Bauer, Mark Geppert, David Joedicke, Sabrina Wildner, Susanne Schaller, Stephan M. Winkler, Gabriele Gadermaier, Jutta Horejs-Hoeck, and Richard Weiss: **Laser-facilitated epicutaneous immunotherapy with hypoallergenic beta-glucan neoglycoconjugates suppresses lung inflammation and avoids local side effects in a mouse model of allergic asthma**. *Allergy: European Journal of Allergy and Clinical Immunology*, 2020.
36. Andreas Haghofer, Sebastian Dorl, Andre Oszwald, Johannes Breuss, Jaroslaw Jacak, and Stephan M. Winkler: **Evolutionary Optimization of Image Processing for Cell Detection in Microscopy Images**. *Soft Computing*, Springer, June 2020. <https://doi.org/10.1007/s00500-020-05033-0>
35. Gabriel Kronberger, J. Manuel Colmenar, Stephan M. Winkler, and J. Ignacio Hidalgo: **Multi-layer Analysis of Population Diversity in Grammatical Evolution for Symbolic Regression**. *Soft Computing*, Springer, June 2020. <https://doi.org/10.1007/s00500-020-05062-9>
34. Klaus Arthofer, Marina Strobl, Julia Vetter, and Stephan M. Winkler: **Datenaufbereitung für KI braucht auch Governance: Governance für Medizin-Benchmarking**. *BI-Spektrum*, 2020.
33. Constantin Aschauer, Kira Jelencsics, Karin Hu, Andreas Heinzl, Julia Vetter, Thomas Fraunhofer, Susanne Schaller, Stephan M. Winkler, Lisabeth Pimenov, Guido Gualdoni, Michael Eder, Alexander Kainz, Heinz Regele, Roman Reindl-Schwaighofer, and Rainer Oberbauer: **Next generation sequencing based assessment of the alloreactive T cell receptor repertoire in kidney transplant patients during rejection: a prospective cohort study**. *BMC Nephrology*, 2019.
32. Renate Haselgrübler, Peter Lanzerstorfer, Clemens Röhl, Flora Stübl, Jonas Schurr, Bettina Schwarzinger, Clemens Schwarzinger, Mario Brameshuber, Stefan Wieser, Stephan M. Winkler, and Julian Weghuber: **Hypolipidemic effects of herbal extracts by reduction of adipocyte differentiation, intracellular neutral lipid content, lipolysis, fatty acid exchange and lipid droplet motility**. *Scientific Reports* 9, article no. 10492, 2019.
31. Gabriel Kronberger, Michael Kommenda, Edwin Lughofer, Susanne Saminger-Platz, Andreas Promberger, Falk Nickel, Stephan M. Winkler, and Michael Affenzeller: **Using robust generalized fuzzy modeling and enhanced symbolic regression to model tribological systems**. *Applied Soft Computing*, Vol. 69, pp. 610–624. Elsevier, 2018.
30. Viktoria Dorfer, Sergey Maltsev, Stephan M. Winkler, and Karl Mechtler: **CharmeRT: Boosting peptide identifications by chimeric spectra identification and retention time prediction**. *Journal of Proteome Research*, 17 (8), pp. 2581–2589, 2018.
29. Sebastian Dorl, Stephan M. Winkler, Karl Mechtler, and Viktoria Dorfer: **PhoStar: Identifying Tandem Mass Spectra of Phosphorylated Peptides before Database Search**. *Journal of Proteome Research*, 17 (1), pp. 290–295, 2018.

28. Almedina Kurtaj, Christoph Hillebrand, Gerda Fichtinger, Eva Hattinger, Melanie Lietzenmayer, Yoan Machado, Sandra Scheiblhofer, Angelika Stoecklinger, Theresa Thalhamer, Susanne Suessner, Martin Danzer, Sabine Keplinger, Johannes Weinberger, Susanne Schaller, Stephan M. Winkler, Christian Gabriel, Josef Thalhamer, and Richard Weiss: **Natural protective immunity against grass pollen allergy is maintained by a diverse spectrum of response types.** *Journal of Allergy and Clinical Immunology*, 140(6), Elsevier, 2017.
27. J. Ignacio Hidalgo, J. Manuel Colmenar, Gabriel Kronberger, Stephan M. Winkler, Oscar Garnica, and Juan Lanchares: **Data Based Prediction of Blood Glucose Concentrations Using Evolutionary Methods.** *Journal of Medical Systems*, 41(9), 2017.
26. J. Rafael Sendra and Stephan M. Winkler: **A Heuristic and Evolutionary Algorithm to Optimize the Coefficients of Curve Parametrizations.** *Journal of Computational and Applied Mathematics*, 305, p. 18-35, Elsevier 2016.
25. Daniela Borgmann, Sandra Mayr, Helene Polin, Susanne Schaller, Viktoria Dorfer, Christian Gabriel, Stephan M. Winkler, and Jaroslaw Jacak: **Single Molecule Fluorescence Microscopy and Machine Learning for Rhesus D Antigen Classification.** *Scientific Reports* 6, article no. 32317, <https://www.nature.com/articles/srep32317>, 2016.
24. Verena Stadlbauer, Renate Haselgrübler, Peter Lanzerstorfer, Birgit Plochberger, Daniela M. Borgmann, Jaroslaw Jacak, Stephan M. Winkler, Klaus Schröder, Otmar Höglinger, and Julian Weghuber: **Biomolecular Characterization of Putative Antidiabetic Herbal Extracts.** *PLOS ONE* 11(1), 2016.
23. Stephan M. Winkler, Susanne Schaller, Gabriel Kronberger, Michael Affenzeller, Bonifacio Castaño, and Sergio Luengo: **Heterogenous model ensembles for short term prediction of stock market trends.** *International Journal of Simulation and Process Modelling*, Vol. 11, No. 6, pp. 504-513, Inderscience, 2016.
22. Stephan M. Winkler, Susanne Schaller, Michael Affenzeller, and Gerald Petz: **Data Based Prediction of Sentiments Using Heterogeneous Model Ensembles.** *Soft Computing, Special Issue on Hybrid and Ensemble Techniques in Soft Computing: Recent Advances and Emerging Trends*, 19:3401-3412, Springer, 2015.
21. Johannes Weinberger, Raul Jimenez-Heredia, Susanne Schaller, Susanne Suessner, Judith Sunzenauer, Roman Reindl-Schwaighofer, Richard Weiss, Stephan Winkler, Christian Gabriel, Martin Danzer, and Rainer Oberbauer: **Immune Repertoire Profiling Reveals that Clonally Expanded B and T Cells Infiltrating Diseased Human Kidneys Can also Be Tracked in the Blood.** *PLOS ONE* 10(11), 2015.
20. Jaroslaw Jacak, Susanne Schaller, Daniela M. Borgmann, and Stephan M. Winkler: **Characterization of the Distance Relationship between Localized Serotonin Receptors and Glia Cells on Fluorescence Microscopy Images of Brain Tissue.** *Microscopy and Microanalysis*, Vol. 21, No. 4, Cambridge University Press, 2015.
19. Susanne Schaller, Johannes Weinberger, Raúl Jiménez Heredia, Martin Danzer, Rainer Oberbauer, Christian Gabriel, and Stephan M. Winkler: **ImmunExplorer (IMEX): A Software Framework for Diversity and Clonality Analyses of Immunoglobulins and T Cell Receptors on the Basis of IMGT/HighV-QUEST Preprocessed NGS Data.** *BMC Bioinformatics*, Vol. 16, No. 252, 2015.
18. J. Rafael Sendra and Stephan M. Winkler: **Optimization of Coefficients of Lists of Polynomials by Evolutionary Algorithms.** *Annales Mathematicae et Informaticae*, 2015.
17. Gerd Bramerdorfer, Stephan M. Winkler, Michael Kommenda, Guenther Weidenholzer, Siegfried Silber, Gabriel Kronberger, Michael Affenzeller, and Wolfgang Amrhein: **Using FE Calculations and Data-Based System Identification Techniques to Model the Nonlinear Behavior of PMSMs.** *IEEE Transactions of Industrial Electronics*, 61(11):6454-6462, 2014.
16. Viktoria Dorfer, Peter Pichler, Thomas Stranzl, Johannes Stadlmann, Thomas Taus, Stephan M. Winkler, and Karl Mechtler: **MS Amanda, a Universal Identification Algorithm Optimized for High Accuracy Tandem Mass Spectra.** *Journal of Proteome Research*, Vol. 13(8):3679-84, 2014.
15. Peter Lanzerstorfer, Stephan M. Winkler, Otmar Höglinger, and Julian Weghuber: **Quantification and Kinetic Analysis of Grb2-EGFR Interaction on Micropatterned Surfaces for the Characterization of EGFR-modulating Substances.** *PLOS-ONE*, Vol. 3, No. 9, 2014.
14. Peter Lanzerstorfer, Verena Stadlbauer, Lilia Chtcheglova, Renate Haselgrübler, Daniela Borgmann, Jürgen Wruss, Peter Hinterdorfer, Klaus Rudolf Schröder, Stephan M. Winkler, Otmar Höglinger, and Julian Weghuber: **Identification of Novel Insulin Mimetic Drugs by Quantitative Total Internal Reflection Fluorescence (TIRF) Microscopy.** *British Journal of Pharmacology*, 171(23):5237-5251, Wiley, 2014.
13. Peter Lanzerstorfer, Jürgen Wruss, Stefan Huemer, Andrea Steininger, Ulrike Müller, Markus Himmelsbach, Daniela Borgmann, Stephan M. Winkler, Otmar Höglinger, and Julian Weghuber: **Bioanalytical Characterization of Apple Juice from 88 Grafted and Nongrafted Apple Varieties Grown in Upper Austria.** *Journal of Agricultural and Food Chemistry*, 62(5):1047-1056, ACS Publications, 2014.

12. Stephan M. Winkler, Michael Affenzeller, Gabriel Kronberger, Michael Kommenda, Stefan Wagner, Viktoria Dorfer, and Witold Jacak: **On the use of estimated tumour marker classifications in tumour diagnosis prediction - a case study for breast cancer**. *Int. J. Simulation and Process Modelling*, 8(1):29-41. Inderscience Publishers, 2013.
11. Stephan M. Winkler, Gabriel K. Kronberger, Michael Affenzeller, and Herbert Stekel: **Variable interaction networks in medical data**. *International Journal of Privacy and Health Information Management*, 1(2):1-16, 2013.
10. Christoph Büschl, Bernhard Kluger, Franz Berthiller, Gerald Lirk, Stephan M. Winkler, Rudolf Krska, and Rainer Schuhmacher: **MetExtract: A new software tool for the automated comprehensive extraction of metabolite-derived LC/MS signals in metabolomics research**. *Bioinformatics*, Oxford Journals, 28(5): 736-738, 2012.
9. Stephan M. Winkler: **Structural Versus Evaluation Based Solutions Similarity in Genetic Programming Based System Identification**. Nature Inspired Cooperative Strategies for Optimization, pp. 269-282. *Studies in Computational Intelligence*, No. 284, Springer, 2010.
8. Michael Affenzeller, Stephan M. Winkler, and Stefan Wagner: **Effective Allele Preservation by Offspring Selection: An Empirical Study for the TSP**. *International Journal of Simulation and Process Modelling*, Vol. 6, No. 1, pp. 29-39. Inderscience Publishers, 2010.
7. Stephan M. Winkler, Michael Affenzeller, and Stefan Wagner: **Using Enhanced Genetic Programming Techniques for Evolving Classifiers in the Context of Medical Diagnosis**. *Genetic Programming and Evolvable Machines*, Vol. 10, No. 2, pp. 111-140. Springer, 2009.
6. Stephan M. Winkler, Michael Affenzeller, and Stefan Wagner: **Variables Diversity in Systems Identification Based on Extended Genetic Programming**. *Journal of Systems Science*, Vol. 34, No. 2, pp. 27-34. Oficyna Wydawnicza Politechniki Wrocławskiej, 2008, PL ISSN 0137-1223.
5. Stephan M. Winkler, Michael Affenzeller, and Stefan Wagner: **Advanced Genetic Programming Based Machine Learning**. *Journal of Mathematical Modelling and Algorithms*, ISSN 1570-1166 (print), 1572-9214 (online), DOI 10.1007/s10852-007-9065-6. Springer Netherlands, 2007.
4. Stephan M. Winkler, Hajrudin Efendic, Michael Affenzeller, Luigi del Re, and Stefan Wagner: **On-Line Modeling Based on Genetic Programming**. *International Journal on Intelligent Systems Technologies and Applications*, Vol. 2, NOs. 2/3, pp. 255-270. Inderscience Publishers, 2007.
3. Stephan M. Winkler, Michael Affenzeller, and Stefan Wagner: **New Methods for the Identification of Nonlinear Model Structures Based Upon Genetic Programming Techniques**. *Journal of Systems Science*, Vol. 31, No. 1, pp. 5-13. Oficyna Wydawnicza Politechniki Wrocławskiej, 2005.
2. Michael Affenzeller, Stefan Wagner, and Stephan M. Winkler: **GA Selection Revisited from an ES-Driven Point of View**. *Artificial Intelligence and Knowledge Engineering Applications: A Bioinspired Approach*, Lecture Notes in Computer Science 3562, pp. 262-271. Springer, 2005.
1. Luigi del Re, Peter Langthaler, Christian Furtmüller, Stephan M. Winkler, and Michael Affenzeller: **NOx Virtual Sensor Based on Structure Identification and Global Optimization**. *SAE Transaction Journal of Engines*, 2005-01-0050. SAE International, 2005.

Books and Book Chapters:

21. Stephan M. Winkler, Andreas Haghofer, and Hannah Janout: **Learning based approaches for multimodal imaging**. Accepted to be published in *Imaging Modalities for Biological and Preclinical Research: A compendium*, IoP-IPEM ebook Series in Physics and Engineering in Medicine and Biology, 2020.
20. Lukas Kammerer, Gabriel Kronberger, Bogdan Burlacu, Stephan M. Winkler, Michael Kommenda, and Michael Affenzeller: **Symbolic Regression by Exhaustive Search – Reducing the Search Space using Syntactical Constraints and Efficient Semantic Structure Deduplication**. Accepted to be published in *Genetic Programming Theory and Practice XVII*, Springer, 2020.
19. Gabriel Kronberger, Lukas Kammerer, Bogdan Burlacu, Stephan M. Winkler, Michael Kommenda, and Michael Affenzeller: **Cluster Analysis of a Symbolic Regression Search Space**. *Genetic Programming Theory and Practice XVI*, Springer, 2019.
18. J. Ignacio Hidalgo, J. Manuel Colmenar, J. Manuel Velasco, Gabriel Kronberger, Stephan M. Winkler, Oscar Garnica, and Juan Lanchares: **Identification of Models for Glucose Blood Values in Diabetics by Grammatical Evolution**. In C. Ryan et al (eds.): *Handbook of Grammatical Evolution*, pp. 367–393. Springer, 2018.
17. Bogdan Burlacu, Michael Affenzeller, Michael Kommenda, Gabriel Kronberger, and Stephan M. Winkler: **Schema Analysis in Tree-Based Genetic Programming**. In *Genetic Programming Theory and Practice XV*, pp. 17–37, Springer, 2018.

16. Stephan M. Winkler, Michael Affenzeller, Gabriel Kronberger, Michael Kommenda, Bogdan Burlacu, and Stefan Wagner: **Similarity-based Analysis of Population Dynamics in Genetic Programming Performing Symbolic Regression**. In *Genetic Programming Theory and Practice XIV*, Springer, 2017.
15. Michael Kommenda, Gabriel Kronberger, Michael Affenzeller, Stephan M. Winkler, and Bogdan Burlacu: **Evolving Simple Symbolic Regression Models by Multi-Objective Genetic Programming**. In *Genetic Programming Theory and Practice XIII*, pp.1-19, Springer, 2016.
14. Stephan M. Winkler, Michael Affenzeller, Gabriel Kronberger, Michael Kommenda, Bogdan Burlacu, and Stefan Wagner: **Sliding Window Symbolic Regression for Detecting Changes of System Dynamics**. In *Genetic Programming Theory and Practice XII*, pp. 91-107, Springer, 2015.
13. Bogdan Burlacu, Michael Affenzeller, Stephan M. Winkler, Michael Kommenda, and Gabriel Kronberger: **Methods for Genealogy and Building Block Analysis in Genetic Programming**. In *Studies in Computational Intelligence*, Vol. 595, pp. Chapter 5, 61-74, Springer, 2015.
12. Michael Kommenda, Michael Affenzeller, Gabriel Kronberger, Bogdan Burlacu and Stephan M. Winkler: **Multi-Population Genetic Programming with Data Migration for Symbolic Regression**. In *Studies in Computational Intelligence*, Vol. 595, Chapter 6, pp. 75-87, Springer, 2015.
11. Stephan M. Winkler, Susanne Schaller, Daniela Borgmann, Lisa Obritzberger, Viktoria Dorfer, Christian Haider, Sandra Mayr, Peter Lanzerstorfer, Claudia Loimayr, Simone Hennerbichler-Lugscheider, Andrea Lindenmair, Heinz Redl, Michael Affenzeller, Julian Weghuber, and Jaroslaw Jacak: **Identification and Classification of Objects and Motions in Microscopy Images of Biological Samples Using Heuristic Algorithms**. In *Studies in Computational Intelligence*, Vol. 595, Chapter 8, pp. 103-117, Springer, 2015.
10. Michael Affenzeller, Andreas Beham, Stefan Vonolfen, Erik Pitzer, Stephan M. Winkler, Stephan Hutterer, Michael Kommenda, Monika Kofler, Gabriel Kronberger, and Stefan Wagner: **Simulation-Based Optimization with HeuristicLab: Practical Guidelines and Real-World Applications**. In *Applied Simulation and Optimization*, pp. 3-38, Springer, 2015.
9. Michael Affenzeller, Stephan M. Winkler, Gabriel Kronberger, Michael Kommenda, Bogdan Burlacu, and Stefan Wagner: **Gaining Deeper Insights in Symbolic Regression**. *Genetic Programming Theory and Practice XI*, Springer, 2014.
8. Stephan M. Winkler, Michael Affenzeller, Gabriel K. Kronberger, Michael Kommenda, Stefan Wagner, Witold Jacak, and Herbert Stekel: **On the Identification of Virtual Tumor Markers and Tumor Diagnosis Predictors Using Evolutionary Algorithms**. *Advanced Methods and Applications in Computational Intelligence*, Topics in Intelligent Engineering and Informatics, Vol. 6, pp. 95-122. Springer, 2014.
7. Stefan Wagner, Gabriel Kronberger, Andreas Beham, Michael Kommenda, Andreas Scheibenpflug, Erik Pitzer, Stefan Vonolfen, Monika Kofler, Stephan M. Winkler, Viktoria Dorfer, and Michael Affenzeller: **Architecture and Design of the HeuristicLab Optimization Environment**. *Advanced Methods and Applications in Computational Intelligence*, Topics in Intelligent Engineering and Informatics, Vol. 6, pp. 197-261. Springer, 2014.
6. Witold Jacak and Karin Pröll and Stephan M. Winkler: **Neural Networks Based Feature Selection in Biological Data Analysis**. *Advanced Methods and Applications in Computational Intelligence*, Topics in Intelligent Engineering and Informatics, Vol. 6, pp. 79-94. Springer, 2014.
5. Peter Lanzerstorfer, Andrea Steininger, Otmar Höglinger, Julian Weghuber, Daniela Borgmann, Susanne Schaller, Stephan M. Winkler, Mario Brameshuber, Stefan Sunzenauer, and Gerhard Schütz: **Analysis of Protein-Protein Interactions in Live Cells - The μ -Patterning Approach**. In *Basic Methods in Protein Purification and Analysis*, iConcept Press, 2012.
4. Michael Affenzeller, Andreas Beham, Monika Kofler, Gabriel Kronberger, Stefan Wagner, and Stephan M. Winkler: **Metaheuristic Optimization**. In Buchberger et al. (eds.): *Hagenberg Research*. Springer, Berlin; ISBN: 978-3642021268. 2009.
3. Michael Affenzeller, Stephan M. Winkler, Stefan Wagner, and Andreas Beham: **Genetic Algorithms and Genetic Programming - Modern Concepts and Practical Applications**. *Chapman & Hall / CRC Press*. ISBN 978-1584886297. 2009.
2. Stephan M. Winkler, Michael Affenzeller, and Stefan Wagner: **On the Reliability of Nonlinear Modeling Using Enhanced Genetic Programming Techniques**. In C. Skiadas, I. Dimotikalis, and C. Skiadas (eds.): *Topics on Chaotic Systems*, pp. 398 - 405. World Scientific Publishing, 2009.
1. Michael Affenzeller, Stephan M. Winkler, and Stefan Wagner: **Evolutionary Systems Identification: New Algorithmic Concepts and Applications**. In *Advances in Evolutionary Algorithms*, pp. 29-48. IN-TECH Education and Publishing, 2008, ISBN 978-953-7619-11-4.

Theses:

3. Stephan M. Winkler: *Evolutionary Computation and Symbolic Regression in Scientific Modeling*. Habilitation Thesis for the *venia docendi* in “Data Based Modeling” Department for Computer Science, Johannes Kepler University Linz, Austria. 2018.
2. Stephan M. Winkler: *Evolutionary System Identification - Modern Concepts and Practical Applications*. PhD Thesis. Institute for Formal Models and Verification, Johannes Kepler University Linz, Austria. 2008.
1. Stephan M. Winkler: *Identifying Nonlinear Model Structures By Genetic Programming*. Diploma Thesis. Institute of Systems Theory and Simulation, Johannes Kepler University Linz, Austria, 2004.

Peer-Reviewed Conference Papers:

121. Thomas Ebner, Philipp Kainz, Michael Mayrhofer-Reinhartshuber, Nassim Ghaffari-Tabrizi-Wizsy, Isra Hatab, Josef Scharinger and Stephan M. Winkler: **Optimized Image Segmentation of Microscopy Images of Blood Vessels**. Submitted to *Proceedings of BIOIMAGING 2021*, Doctoral Consortium on Biomedical Engineering Systems and Technologies, Vienna, 2021.
120. Jonas Schurr, Peter Lanzerstorfer, and Stephan M. Winkler: **Motility Tracking and Classification of Lipid Droplets**. Submitted to *Proceedings of BIOIMAGING 2020*, Doctoral Consortium on Biomedical Engineering Systems and Technologies, Vienna, 2021.
119. David Jödicke, Oscar Garnica, Gabriel Kronberger, José Manuel Colmenar, Stephan M. Winkler, Jose Manuel Velasco, Sergio Contador, and Ignacio Hidalgo: **Analysis of the Performance of Genetic Programming on the Blood Glucose Level Prediction Challenge 2020**. *International Workshop on Knowledge Discovery in Healthcare Data*, 2020.
118. Stefan Anlauf, Andreas Haghofer, Nina Affenzeller, and Stephan M. Winkler: **Data-Based Herbs Contamination Prediction and Harvest Recommendation**. *International Food Operations and Processing Simulation Workshop*, International Multidisciplinary Modeling & Simulation Conference, 2020.
117. Andreas Haghofer, Josef Scharinger, and Stephan M. Winkler, and Armin Hochreiner: **Evolutionary Optimization of Image Processing for Cell Detection in Microscopy Images**. *Proceedings of BIOIMAGING 2020*, Doctoral Consortium on Biomedical Engineering Systems and Technologies, Malta, 2020.
116. Hannah Janout, Bianca Buchegger, Andreas Haghofer, Dominic Höglinger, Jaroslaw Jacak, Stephan M. Winkler, and Armin Hochreiner: **PySpot: A Python based Framework for the Assessment of Laser-modified 3D Microstructures for Windows and Raspbian**. *Proceedings of BIOIMAGING 2020*, Malta, 2020.
115. Michael Affenzeller, Bogdan Burlacu, Viktoria Dorfer, Sebastian Dorl, Gerhard Halmerbauer, Tilman Königswieser, Michael Kommenda, Julia Vetter, and Stephan M. Winkler: **White Box vs. Black Box Modeling: On the Performance of Deep Learning, Random Forests, and Symbolic Regression in Solving Regression Problems**. *Computer Aided Systems Theory - EUROCAST 2019*, Springer Lecture Notes in Computer Science, Vol. 12013, pp. 288–295, 2020.
114. Kathrin Kefer, Roland Hanghofer, Patrick Kefer, Markus Stöger, Michael Affenzeller, Stephan M. Winkler, Stefan Wagner, and Bernd Hofer: **A Model-Based Learning Approach for Controlling the Energy Flows of a Residential Household Using Genetic Programming to Perform Symbolic Regression**. *Computer Aided Systems Theory - EUROCAST 2019*, Springer Lecture Notes in Computer Science, Vol. 12013, pp. 405–412, 2020.
113. Stephan M. Winkler, Susanne Schaller, Viktoria Dorfer, Gabriel Kronberger, and Michael Affenzeller: **Machine Learning in Medizin- und Bioinformatik - Wie künstliche Intelligenz hilft, biologische und medizinische Prozesse zu verstehen**. In *Coming Soon – The Future of Work, Education & Living*, FH OÖ, 2019.
112. Stephan M. Winkler and J. Rafael Sendra: **Fitness Landscape Analysis in the Optimization of Coefficients of Curve Parametrizations**. In *Computer Aided Systems Theory - EUROCAST 2017*, Springer Lecture Notes in Computer Science, Vol. 10671, pp. 464–472, 2018.
111. Gabriel Kronberger, Bogdan Burlacu, Michael Kommenda, Stephan M. Winkler, and Michael Affenzeller: **Measures for the Evaluation and Comparison of Graphical Model Structures**. In *Computer Aided Systems Theory - EUROCAST 2017*, Springer Lecture Notes in Computer Science, Vol. 10671, pp. 283–290, 2018.
110. Bogdan Burlacu, Michael Affenzeller, Michael Kommenda, Gabriel Kronberger, and Stephan M. Winkler: **Analysis of Schema Frequencies in Genetic Programming**. In *Computer Aided Systems Theory - EUROCAST 2017*, Springer Lecture Notes in Computer Science, Vol. 10671, pp. 432–438, 2018.

109. Michael Affenzeller, Bogdan Burlacu, Stephan M. Winkler, Michael Kommenda, Gabriel Kronberger, Stefan Wagner, and Stephan M. Winkler: **Offspring Selection Genetic Algorithm Revisited: Improvements in Efficiency by Early Stopping Criteria in the Evaluation of Unsuccessful Individuals.** In *Computer Aided Systems Theory - EUROCAST 2017*, Springer Lecture Notes in Computer Science, Vol. 10671, pp. 424-431, 2018.
108. J. Manuel Colmenar, Stephan M. Winkler, Gabriel Kronberger, Esther Maqueda, Marta Botella, Almudena Sánchez, Sergio Contador, Jose Manuel Velasco, Oscar Garnica, Juan Lanchares, and Ignacio Hidalgo: **Predicción del nivel de glucosa en sangre para pacientes con diabetes utilizando técnicas evolutivas.** *Proceedings of the XI Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados (MAEB 2016)*, Salamanca, September 2016.
107. J. Manuel Colmenar, Stephan M. Winkler, Gabriel Kronberger, Esther Maqueda, Marta Botella, J. Ignacio Hidalgo: **Predicting Glycemia in Diabetic Patients By Evolutionary Computation and Continuous Glucose Monitoring.** *Proceeding of the Genetic and Evolutionary Computation Conference GECCO 2016, conference companion*, pp. 1393-1400, ACM, 2016.
106. Viktoria Dorfer, Sergey Maltsev, Stephan Dreiseitl, Karl Mechtler, and Stephan M. Winkler: **A Symbolic Regression Based Scoring System Improving Peptide Identifications for MS Amanda.** *Proceedings of the Genetic and Evolutionary Computation Conference GECCO 2015*, pp. 1335-1341, ACM, 2015.
105. J. Manuel Velasco, Stephan M. Winkler, J. Ignacio Hidalgo, Oscar Garnica, Juan Lanchares, J. Manuel Colmenar, Esther Maqueda, Marta Botella, and Jose-Antonio Rubio: **Data-Based Identification of Prediction Models for Glucose.** *Proceedings of the Genetic and Evolutionary Computation Conference GECCO 2015, conference companion*, pp. 1327-1334, ACM, 2015.
104. Lisa Obritzberger, Daniela Borgmann, Susanne Schaller, Viktoria Dorfer, Andrea Lindenmair, Susanne Wolbank, Heinz Redl, and Stephan M. Winkler: **Prediction of Mineralization Degree in Human Amniotic Membrane Using Image Processing Techniques and Machine Learning.** *Proceedings of 11th Metaheuristics International Conference MIC 2015*, Agadir, Morocco, 2015.
103. Sergio Luengo, Stephan M. Winkler, David F. Barrero, and Bonifacio Castano: **Optimization of Trading Rules for the Spanish Stock Market by Genetic Programming.** *Proceedings of The 28th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems IEA/AIE 2015*.
102. Michael Affenzeller, Karin Zölzer, Stephan M. Winkler, Erwin Hopf, Herbert Stekel, Rupert Frechinger, and Stefan Wagner: **Increasing the Sensitivity of Cancer Predictors Using Confidence Based Ensemble Modeling.** *Computer Aided Systems Theory - EUROCAST 2015*, Springer Lecture Notes in Computer Science, Vol. 9520, pp. 350-358, 2015.
101. Andreas Beham, Judith Fechter, Michael Kommenda, Stefan Wagner, Stephan M. Winkler, and Michael Affenzeller: **Optimization Strategies for Integrated Knapsack and Traveling Salesman Problems.** *Computer Aided Systems Theory - EUROCAST 2015*, Springer Lecture Notes in Computer Science, Vol. 9520, pp. 359-366, 2015.
100. Daniela Borgmann, Sandra Mayr, Helene Polin, Lisa Obritzberger, Susanne Schaller, Viktoria Dorfer, Jaroslaw Jacak, and Stephan M. Winkler: **Classifying Human Blood Samples Using Characteristics of Single Molecules and Cell Structures on Microscopy Images.** *Computer Aided Systems Theory - EUROCAST 2015*, Springer Lecture Notes in Computer Science, Vol. 9520, pp. 310-317, 2015.
99. Gabriel Kronberger, Michael Kommenda, Stephan M. Winkler, and Michael Affenzeller: **Using Contextual Information in Sequential Search for Grammatical Optimization Problems.** *Computer Aided Systems Theory - EUROCAST 2015*, Springer Lecture Notes in Computer Science, Vol. 9520, pp. 417-424, 2015.
98. Lisa Obritzberger, Susanne Schaller, Viktoria Dorfer, Andrea Lindenmair, Susanne Wolbank, Heinz Redl, and Stephan M. Winkler: **Prediction of Stem Cell Differentiation in Human Amniotic Membrane Images Using Machine Learning.** *Computer Aided Systems Theory - EUROCAST 2015*, Springer Lecture Notes in Computer Science, Vol. 9520, pp. 318-325, 2015.
97. Susanne Schaller, Johannes Weinberger, Martin Danzer, and Stephan M. Winkler: **Classification of the States of Human Adaptive Immune Systems by Analyzing Immunoglobulin and T Cell Receptors Using ImmunExplorer.** *Computer Aided Systems Theory - EUROCAST 2015*, Springer Lecture Notes in Computer Science, Vol. 9520, pp. 302-309, 2015.
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