

## Brief CV of Pr. George E. Tsekouras

George E. Tsekouras received the Diploma (5 years Studies including Master Degree Thesis) and PhD degrees in Chemical Engineering in 1994, and 2000, respectively, from the School of Chemical Engineering at the National Technical University of Athens, Greece. His PhD dissertation focused on the use of computational intelligence methods in modelling chemical processes. For several years he was with the Hyperion Systems Engineering S.A., where he worked as process control engineer in petrochemical industry with projects in many petrochemical plants (e.g. Abu Dhabi National Oil Company Refinery Plant, Abu Dhabi, UAE; OMV Ethylene Plant, Burghausen, South Germany; Borealis Ethylene Plant, Sines, Portugal; OMV Ethylene Plant, Vienna, Austria). Now, he is with the Department of Cultural Technology and Communication, University of the Aegean, Greece, where he currently serves as a Professor. His research interests include data analysis and modelling using statistics and machine learning techniques, interpretability (i.e. explain ability) of machine learning models, transformation of high-dimensional data into low-dimensional data, image processing, and pattern analysis with applications to environmental processes that include highly nonlinear geo-spatial data, cultural informatics such as media framing, digitized art paintings and art designers, social data, and engineering processes. He has developed a significant number of machine learning algorithms for the analysis and modelling of a wide range of data sets/systems. He has published more than 80 articles in peer-reviewed journal, international conferences, and edited books. He has been a reviewer in more than 40 international journals while he has joined the program committees of several international conferences.

**Scopus Author ID:** 6601988472

**Google Scholar:** <https://scholar.google.gr/citations?user=tQoukVYAAAAJ&hl=el>

### Selected Publications

1. A. Chatzipavlis, G. E. Tsekouras, V. Trygonis, A. F. Velegarakis, J. Tsimikas, A. Rigos, T. Hasiotis, C. Salmas, "A novel backtracking search algorithm to optimize neuro-fuzzy network for modelling the shoreline realignment phenomenon", *Neural Computing and Applications*, 31 (6), 1747-1763, 2019.
2. G. E. Tsekouras, V. Trigonis, A. Maniatopoulos, A. Rigos, A. Chatzipavlis, J. Tsimikas, N. Mitianoudis, A. F. Velegarakis, "A Hermite neural network incorporating artificial bee colony optimization to model shoreline realignment at a reef-fronted beach", *Neurocomputing*, 280, 32-45, 2018.
3. G. E. Tsekouras, and J. Tsimikas, C. Kalloniatis, and S. Gritzalos, "Interpretability constraints for fuzzy modeling implemented by constrained particle swarm optimization", *IEEE Transactions on Fuzzy Systems*, 26 (4), pp. 2348 – 2361, 2018.
4. A. Rigos, G. E. Tsekouras, M.I. Vousdoukas, A. Chatzipavlis, and A.F. Velegarakis, "A Chebyshev polynomial RBF neural network for the coastal shoreline extraction problem using SIGMA images", *Integrated Computer-Aided Engineering*, 23, 141–160, 2016.

5. G. E. Tsekouras, "Fuzzy rule base simplification using multidimensional scaling and constrained optimization", *Fuzzy Sets and Systems*, 297, 46–72, 2016.
6. G. E. Tsekouras, A. Manousakis, C. Vasilakos, K. Kalabokidis, "Improving the effect of fuzzy clustering on RBF network's performance in terms of particle swarm optimization", *Advances in Engineering Software*, 82, 25–37, 2015.
7. G. E. Tsekouras, "A Simple and Effective Algorithm for Implementing Particle Swarm Optimization in RBF Network's Design Using Input-Output Fuzzy Clustering", *Neurocomputing*, 108, 36–44, 2013.
8. G.E. Tsekouras, and J. Tsimikas, "On Training RBF Neural Networks Using Input-Output Fuzzy Clustering and Particle Swarm Optimization", *Fuzzy Sets and Systems*, 221, 65–89, 2013.
9. D. Tsolakis, G. E. Tsekouras, A. D. Niros, and A. Rigos, "On the Systematic Development of Fast Fuzzy Vector Quantization for Grayscale Image Compression", *Neural Networks*, 36, 83–96, 2012.
10. A.D. Niros, G. Tsekouras, "A novel training algorithm for RBF neural network using a hybrid fuzzy clustering approach", *Fuzzy Sets and Systems*, 193, 62–84, 2012.