

# José Camacho Páez



## CONTACT INFORMATION

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Date of Birth **17/09/1979**

## EDUCATION

Ph. D. in Control Engineering Technical University of Valencia, 2007.

M. Sc. in Control Engineering Technical University of Valencia, 2005.

B. Sc. in Computer Science University of Granada, 2003.

## ACADEMIC POSITIONS HELD

Full Professor Dpt. of Signal Theory, Networking and Communications, University of Granada, since July 2021

Associate Professor Dpt. of Signal Theory, Networking and Communications, University of Granada, since June 2012

Assistant Professor Dpt. of Signal Theory, Networking and Communications, University of Granada, since September 2009.

## RESEARCH

RESEARCH INTERESTS Multivariate Analysis, Experimental Design, Exploratory Data Analysis, Multivariate Statistical Monitoring, Optimization, Big Data, Biostatistics, Precision Medicine, Computer Networks.

BOOKS CHAPTERS  
(5 LAST YEARS IN  
BOLD)

1. **Camacho, J.; Saccenti, E. Chemometrics Analysis of Big Data. In Comprehensive Chemometrics: Chemical and Biochemical Data Analysis; Brown, S., Tauler, R., Walczak, B., Eds., Elsevier, 2020; pp 437–458.**
2. **Saccenti, E., Camacho, J., Multivariate exploratory data analysis using component models. Omics data treatment, System Biology and Foodomics. Comprehensive Foodomics. Elsevier. 2020**
3. Camacho, J., Exploratory Data Analysis using latent subspace models. Chemometrics in Practical Applications. INTECH. ISBN 978-953-51-0438-4, 2012, 63-90.

RESEARCH ARTICLES  
(5 LAST YEARS IN  
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1. **Camacho J, Vitale R, Morales-Jimenez D. and Gómez-Llorente C. Variable-Selection ANOVA Simultaneous Component Analysis. Bioinformatics. 2022 (ISI'20): 6,931 (5/57 – D1 in MATHEMATICAL & COMPUTATIONAL BIOLOGY)**
2. **García-Teodoro, P., Camacho, J., Maciá-Fernández, G., Gómez-Hernández, J.A., López-Marín, V. A Novel Zero-Trust Network Access Control Scheme based on the Security Profile of Devices and Users. Computer Networks, 2022, 212: 109068. (ISI'20): 4,474 (18/91 – Q1 in TELECOMMUNICATIONS)**
3. **Camacho, J., Díaz, C., Sánchez-Rovira, P. Permutation Tests for ASCA in Multivariate Longitudinal Intervention Studies. Journal of Chemometrics, 2022: e3398 -. (ISI'20): 2,467 (29/125 – Q1 in STATISTICS & PROBABILITY)**
4. **Díaz, C., et al. Predicting dynamic response to neoadjuvant chemotherapy in breast cancer: a novel metabolomics approach. Molecular Oncology, 2022, 16(14): 2658-2671. (ISI'20): 6,603 (52/242 – Q1 in ONCOLOGY)**
5. **Gómez-Hernández, J.A., Camacho, J., Holgado-Terriza, J.A., García-Teodoro, P., Maciá-Fernández, G. ARANAC: A Bring-Your-Own-Permissions Network Access Control Methodology for Android Devices. IEEE Access, 2021, 9: 101321-101334. (ISI'20): 3,367 (36/91 – Q2 in TELECOMMUNICATIONS)**
6. **Fuentes-García, N.M., Camacho, J., Maciá-Fernández, G. Present and Future of Network Security Monitoring. IEEE Access, 2021, : -. (ISI'20): 3,367 (36/91 – Q2 in TELECOMMUNICATIONS)**
7. **Camacho, J., Smilde, A.K., Saccenti, E., Westerhuis, J., Bro, R. All Sparse PCA Models Are Wrong, But Some Are Useful. Part II: Limitations and Problems of Deflation. Chemometrics and Intelligent Laboratory Systems, 2021, 208: 104212. (ISI'20): 3,491 (16/125 – Q1 in STATISTICS & PROBABILITY)**
8. **Jiménez-Carvelo, A.M., Martín-Torres, S., Ortega-Gavilán, F., Camacho, J. PLS-DA vs Sparse PLS-DA in food traceability. A case study: authentication of avocado samples. Talanta, 2021, 224: 121904-. (ISI'19): 6,057 (12/83 – Q1 in ANALYTICAL CHEMISTRY)**
9. **Gómez-Llorente, A., et al., Gómez-Llorente, C. A Multi-omics Approach Reveals New Signatures in Obese Allergic Asthmatic Children. Biomedicines , 2020, 8 (9): 359-.. (ISI'20): 4,717 (30/139 – Q1 in MEDICINE RESEARCH & EXPERIMENTAL)**
10. **Tortorella, S., Servili, M., Toschi, T.G., Cruciani, G., Camacho, J. Subspace Discriminant Index to Expedite Exploration of Multi-Class Omics Data. Chemometrics and Intelligent Laboratory Systems, 2020, 206: 104160-. (ISI'20): 3,491 (16/125 – Q1 in STATISTICS & PROBABILITY)**
11. **Camacho, J., Acar, E., Rasmussen, M., Bro, R. Cross-product Penalized Component Analysis (X-CAN). Chemometrics and Intelligent Laboratory Systems, 2020, 203: 104038-. (ISI'20): 3,491 (16/125 – Q1 in STATISTICS & PROBABILITY)**
12. **Magán-Carrión, R., Camacho, J., Maciá-Fernández, G., Ruiz-Zafra, A. MSNM-Sensor: An Effective Tool for Real-Time Monitoring and Anomaly Detection in Complex Networks and Systems. International Journal of Distributed Sensor Networks, 2020, 16 (5): -. (ISI'20): 1,640 (74/91 – Q4 in TELECOMMUNICATIONS)**
13. **Camacho, J., McDonald, C., Peterson, R., Zhou, X. Longitudinal Analysis of a Campus Wi-Fi**

14. Camacho, J., Smilde, A.K., Saccenti, E., Westerhuis, J. All Sparse PCA Models Are Wrong, But Some Are Useful. Part I: Computation of Scores, Residuals and Explained Variance. *Chemometrics and Intelligent Laboratory Systems*, 2020, 196:. (ISI'20): 3,491 (16/125 – Q1 in STATISTICS & PROBABILITY)
15. Camacho, J., García-Giménez, J.M, Fuentes-García, N.M., Maciá-Fernández, G., Multivariate Big Data Analysis for Intrusion Detection: 5 steps from the haystack to the needle. *Computers & Security*, 2019, 87:101603. (ISI'19): 3,579 (42/156 – Q2 in COMPUTER SCIENCE, INFORMATION SYSTEMS)
16. Fuentes-Garcia, N.M., González-Martínez, J., Maciá-Fernández, G., Camacho, J., PARAMO: Enhanced Data Pre-processing in Batch Multivariate Statistical Process Control. *Journal of Chemometrics*, 2019. (ISI'19): 1,633 (40/124 – Q2 in STATISTICS & PROBABILITY)
17. Camacho, J., Therón, R., García-Giménez, J.M., Maciá-Fernández, G., García-Teodoro, P., Group-Wise Principal Component Analysis for Exploratory Intrusion Detection. *IEEE Access*, 2019, 7: 113081 - 113093. (ISI'19): 3,745 (26/90 – Q2 in TELECOMMUNICATIONS)
18. Tenorio-Jiménez, C., Martínez-Ramírez, M.J., Del Castillo-Codes, I., Arraiza-Irigoyen, C., Tercero-Lozano, M., Camacho, J., Chueca, N., García, F., Olza, J., Plaza-Díaz, J., Fontana, L. Olivares, M., Gil, A., Gómez-Llorente, C., *Lactobacillus reuteri* V3401 Reduces Inflammatory Biomarkers and Modifies the Gastrointestinal Microbiome in Adults with Metabolic Syndrome: The PROSIR Study. *Nutrients*, 2019, 11:1761. (ISI'19): 4,546 (17/89 – Q1 en NUTRITION & DIETETICS)
19. Camacho, J., Maciá-Fernández, G., Fuentes-García, N.M., Saccenti, E., Semi-supervised Multivariate Statistical Network Monitoring for Learning Security Threats. *IEEE Transactions on Information Forensics and Security*, 2019, 14(8): 2179 – 2189. (ISI'19): 6,013 (9/108 – D1 in COMPUTER SCIENCE, THEORY & METHODS)
20. González-Martinez, J.M., Camacho, J., Ferrer, A.J. MVBatch: A matlab toolbox for batch process modeling and monitoring. *Chemometrics and Intelligent Laboratory Systems*, 2018, 183: 122-133. (ISI'18): 2,786 (11/123 – D1 in STATISTICS & PROBABILITY)
21. Saccenti, E., Smilde, A.K., Camacho, J. Group-wise ANOVA simultaneous component analysis for designed omics experiments. *Metabolomics*, 2018, 14(6): 73. (ISI'18): 3,167 (71/145 – Q2 in ENDOCRINOLOGY & METABOLISM)
22. Suárez-Tangil, G., Kumar Dash, S., García-Teodoro, P., Camacho, J., Cavallaro, L. Anomaly-based Exploratory Analysis and Detection of Exploits in Android Mediaserver. *IET Information Security*, 2018, 12(5): 404 - 413. (ISI'18): 0.949 (71/104 – Q3 in COMPUTER SCIENCE, THEORY & METHODS).
23. Fuentes-García, M., Maciá-Fernández, G., Camacho, J. Evaluation of diagnosis methods in PCA-based Multivariate Statistical Process Control, *Chemometrics and Intelligent Laboratory Systems*, 2018, 172:194-210. (ISI'18): 2,786 (11/123 – D1 in STATISTICS & PROBABILITY)
24. Maciá-Fernández, G., Camacho, J., Magán-Carrión, R., García-Teodoro, P., Therón, R. Ugr'16: a new dataset for the evaluation of cyclostationarity-based network IDSs. *Computer & Security*, 2018, 73:411-424. (ISI'18): 3,062 (43/155 – Q2 in COMPUTER SCIENCE, INFORMATION SYSTEMS)
25. Camacho, J, Saccenti, E. Group-wise Partial Least Square Regression. *Journal of Chemometrics*, 2018, 32(3):1:11 (ISI'18): 1,847 (29/123 – Q1 in STATISTICS & PROBABILITY)
26. Magán-Carrión, R., Camacho, J., García-Teodoro, P., Flushing, E., Caro, G. A Dynamical Relay Node placement Solution for MANETs. *Computer Communications*, 2017, 114 (1): 36-50. (ISI'17): 2,613 (32/87 – Q2 in TELECOMMUNICATIONS)
27. Camacho, J. On the Generation of Random Multivariate Data. *Chemometrics and Intelligent Laboratory Systems* 160:40-51, 2017. (ISI'17): 2,701 (7/123 – D1 in STATISTICS & PROBABILITY)
28. Camacho, J., Rodríguez-Gómez, R.A., Saccenti, E. Group-wise Principal Component Analysis for Exploratory Data Analysis. *Journal of Computational and Graphical Statistics*, 26(3):501-512, 2017. (ISI'17): 1,790 (28/123 – Q1 in STATISTICS & PROBABILITY)
29. Camacho, J., Magán, R., García-Teodoro, P., Treinen, J.J. Networkmetrics: Multivariate Big Data

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- Analysis in the Context of the Internet. *Journal of Chemometrics*, 2016, 30 (9): 488-505. (ISI'16): 1,884 (18/124 – Q1 in STATISTICS & PROBABILITY)
30. Magán-Carrión, R., Rodríguez-Gómez, R.A., Camacho, J., García-Teodoro, P. "Optimal Relay Placement in Multi-Hop Wireless Networks", *Ad Hoc Networks*, Vol. 46, 2016, pp. 23-36. (ISI'16): 3,047 (24/89 – Q2 in TELECOMMUNICATIONS)
  31. Camacho, J., Pérez-Villegas, A., García-Teodoro, P., Maciá-Fernández, G. "PCA-based Multivariate Statistical Network Monitoring for Anomaly Detection" *Computers & Security*, Vol. 59, 2016, pp. 118-137. (ISI'16): 2,849 (37/146 – Q2 in COMPUTER SCIENCE, INFORMATION SYSTEMS)
  32. Saccenti, E., Camacho, J. "Determining the number of components in principal components analysis: A comparison statistical, crossvalidation and approximated methods" *Chemometrics and Intelligent Laboratory Systems*, Vol. 149, Dec, 2015, pp. 99-116. (ISI'15): 2,217 (9/123 – D1 in STATISTICS & PROBABILITY)
  33. Camacho, J., Pérez-Villegas, A., Rodríguez-Gómez, R. A., Jiménez-Mañas, E. "Multivariate Exploratory Data Analysis (MEDA) Toolbox for Matlab" *Chemometrics and Intelligent Laboratory Systems*, Vol. 143, 2015, pp. 49-57. (ISI'15): 2,217 (9/123 – D1 in STATISTICS & PROBABILITY)
  34. Magán-Carrión, R., Camacho, J., García-Teodoro, P. "Multivariate Statistical Approach for Anomaly Detection and Lost Data Recovery in Wireless Sensor Networks", *International Journal of Distributed Sensor Networks*, Vol. 2015, May, 2015, pp. 1-20. (ISI'15): 0,906 (52/82 –Q3 in TELECOMMUNICATIONS)
  35. Saccenti, E., Camacho, J. "On the use of the observation-wise k-fold operation in PCA cross-validation", *Journal of Chemometrics*, Vol. 29. 2015, pp. 467-478 (ISI'15): 1,873 (15/123 – Q1 in STATISTICS & PROBABILITY)
  36. Camacho, J., Laurí, D., Lennox, B., Escabias, M., Valderrama, M. Evaluation of smoothing techniques in the run to run optimization of fed-batch processes with u-PLS. *Journal of Chemometrics*, 2015. 29(6):338-348. (ISI'15): 1,873 (15/123 – Q1 in STATISTICS & PROBABILITY)
  37. Camacho, J. Visualizing Big data with Compressed Score Plots: Approach and Research Challenges. *Chemometrics and Intelligent Laboratory Systems*, 2014, 135: 110-125. (ISI'14): 2,321 (26/123 – Q1 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
  38. Camacho, J., Ferrer, A.J. Cross-validation in PCA models with the element-wise k-fold (ekf) algorithm: Practical aspects. *Chemometrics and Intelligent Laboratory Systems*, 2014, 131:37-50. (ISI'14): 2,321 (26/123 – Q1 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
  39. Laurí, D., Lennox, B., Camacho, J. Model predictive control for batch processes: Ensuring validity of predictions. *Journal of Process Control*, 2014, 24(1): 239-249. (ISI'14): 2,653 (7/58 – Q1 in AUTOMATION & CONTROL SYSTEMS)
  40. González-Martínez, J.M., Camacho, J., Ferrer, A.J. Bilinear Modelling of Batch Processes. Part III: Parameter Stability. *Journal of Chemometrics*, 2014, 28(1): 10-27. (ISI'14): 1,5 (25/122 – Q1 in STATISTICS & PROBABILITY)
  41. Camacho, J., Padilla, P., García-Teodoro, P., Díaz-Verdejo, J. A Generalizable Dynamic Flow Pairing Method for Traffic Classification. *Computer Networks*, 2013, 57 (14) : 2718-2732 (ISI'13): 1,282 (35/78 – Q2 in TELECOMMUNICATIONS)
  42. Padilla, P., Camacho, J., Maciá-Fernández, G., Díaz-Verdejo, J., García-Teodoro, P., Gómez-Calero, C. On the Influence of the Propagation Channel in the Performance of Energy-Efficient Geographic Routing Algorithms for Wireless Sensor Networks (WSN). *Wireless Personal Communications*, 2013, 70 (1): 15-38. (ISI'13): 0,979 (45/78 – Q3 in TELECOMMUNICATIONS)
  43. Camacho, J., Ferrer, A.J. Cross-validation in PCA models with the element-wise k-fold (ekf) algorithm: theoretical aspects. *Journal of Chemometrics*, 2012, 26:361-373. (ISI'12): 1,959 (26/115 – Q1 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
  44. Camacho, J. Observation-based MEDA (oMEDA) to unveil the connection between observations and variables in latent subspace models. *Journal of Chemometrics*, 2011, 25:592-600. (ISI'11): 1,952 (26/111 – Q1 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)

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45. Camacho, J., Padilla, P., Díaz-Verdejo, J.E., Smith, K., Lovett, D. Least-squares Approximation of a Space Distribution for a given Covariance and Latent Sub-space. *Chemometrics and Intelligent Laboratory Systems*, 2011, 105: 171-180. (ISI'11): 1,920 (28/111 – Q1 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
  46. Camacho, J. Missing-data theory in the context of Exploratory Data Analysis. *Chemometrics and Intelligent Laboratory Systems*, 2010, 103: 8-18. (ISI'10): 2,222 (23/108 – Q1 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
  47. Camacho, J., Picó, J., Ferrer, A.J. Data understanding with PCA: Structural and Variance Information plots. *Chemometrics and Intelligent Laboratory Systems*, 2010, 100(1): 48-56. (ISI'10): 2,222 (23/108 – Q1 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
  48. Camacho, J., Picó, J., Ferrer, A.J. On-line monitoring of batch processes based on PCA: Does the modelling structure matter? *Analytica Chimica Acta*, 2009, 642(1-2):59-68 (ISI'09): 3,757 (5/70 – D1 in CHEMISTRY, ANALYTICAL)
  49. Camacho, J., Picó, J., Ferrer, A.J. Multi-Phase Analysis Framework for Handling Batch Process Data. *Journal of Chemometrics*, 2008, 22:632-643. (ISI'08): 1,415 (25/92 – Q2 in STATISTICS & PROBABILITY)
  50. Camacho, J., Picó, J., Ferrer, A.J. Bilinear Modelling of Batch Processes. Part II: A comparison of PLS soft-sensors. *Journal of Chemometrics*, 2008, 22(10):533-547. (ISI'08): 1,415 (25/92 – Q2 in STATISTICS & PROBABILITY)
  51. Camacho, J., Picó, J., Ferrer, A.J. Bilinear Modelling of Batch Processes. Part I: Theoretical Discussion. *Journal of Chemometrics*, 2008, 22(5): 299-308. (ISI'08): 1,415 (25/92 – Q2 in STATISTICS & PROBABILITY)
  52. Camacho, J., Picó, J., Ferrer, A.J. Self-tuning run to run optimization of fed-batch processes using unfold-PLS. *AIChE Journal*, 2007, 53(7): 1789-1804. (ISI'07): 1,607 (24/114 – Q1 in CHEMICAL ENGINEERING)
  53. Camacho, J., Picó, J. Online Monitoring of Batch Processes using Multi-Phase Principal Component Analysis. *Journal of Process Control*, 2006, 10 (16): 1021-1035. (ISI'06): 1,716 (13/110 – D1 in CHEMICAL ENGINEERING)
  54. Camacho, J., Picó, J. Multi-phase principal component analysis for batch processes modelling. *Chemometrics and Intelligent Laboratory Systems*, 2006, 81(2): 127-136. (ISI'06): 2,45 (9/85 – Q1 in COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE)
  55. Camacho, J., Morillas, S., Latorre, P. Efficient impulsive noise suppression based on statistical confidence limits. *Journal of Imaging Science and Technology*, 2006, 50(5), 427 - 436. (ISI'06): 0,622 (8/11 – Q3 in IMAGING SCIENCE TECHNOLOGY)

INTERNATIONAL  
WORKSHOPS AND  
CONFERENCES  
(5 LAST YEARS IN  
BOLD)

1. **Camacho, J., Polushkina, O.A., Gómez-Llorente, C., Díaz, C., Sánchez-Rovira, P. Improved statistical inference in omics analysis with Variable-selection Anova Simultaneous Component Analysis (VASCA). X Bioinformatics and Genomics Symposium. Valencia (Spain), 2022.**
2. **Wasielawska, K., Cejka, T., Soukup, D., Camacho, J. Evaluation of Detection Limit in Network Dataset Quality Assessment with Permutation Testing. 4th Workshop on MACHINE LEARNING FOR CYBERSECURITY. Grenoble (France), 2022**
3. **Camacho, J., Díaz, C., Sánchez-Rovira, P. Analyzing omics data from clinical interventions with ASCA. SEIO 2022, Granada (Spain), 2022.**
4. **Villar-Argaiz, M., et al. The heat is on: Rising trend in water temperature of high mountain lakes with variable depth and geomorphometric features. International Mountain Conference, Innsbruck (Austria), 2022.**
5. **Villar-Argaiz, M., et al. Citizen Science in Sierra Nevada: a necessary step forward in mountain**

- water research and conservation. International Mountain Conference, Innsbruck (Austria), 2022.
6. Camacho, J. Networkmetrics for Network Monitoring and Security- Invited Keynote. The 10<sup>th</sup> Prague Embedded Systems Workshop. Prague (Czech Republic), 2022.
  7. Wasielewska, K., Soukup, D., Cejka, T., Camacho, J. Dataset Quality Assessment in Autonomous Networks with Permutation Testing. The 10<sup>th</sup> Prague Embedded Systems Workshop. Prague (Czech Republic), 2022.
  8. Camacho, J., Wasielewska, K. Dataset Quality Assessment in Autonomous Networks with Permutation Testing. Seventh IEEE/IFIP International Workshop on Analytics for Network and Service Management, Bucarest (Hungary), 2022.
  9. Cuberos, F.J., Herrera, I., Wasielewska, K., Camacho, J. Network Tomography and Partial Least Squares for Traffic Matrix Estimation. Poster. 17th International Conference on Network and Service Management (CNSM 2021), October 25-29, Izmir (Turkey), 2021
  10. Mañas-Martínez, E., Cabrera, E., Wasielewska, K., Kotz, D., Camacho, J. Mining Social Interactions in Connection Traces of a Campus Wi-Fi Network. Poster. ACM SIGCOMM'21, August 23–27, 2021, Virtual.
  11. Peters, T., Pierson, T.J., Sen, S., Camacho, J., Kotz, D. Recurring Verification of Interaction Authenticity Within Wireless Networks. 14th ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec 2021), Abu Dhabi (UAE), 2021.
  12. Gómez-Hernández, J.A., García-Teodoro, P., Holgado-Terriza, J.A., Maciá-Fernández, G., Camacho, J., Noguera-Comino, J. Monitoring Android Communications for Security, Poster, IEEE INFOCOM, 2021
  13. Gómez-Hernández, J.A., García-Teodoro, P., Holgado-Terriza, J.A., Maciá-Fernández, G., Camacho, J., Robles-Carrillo, M. AMon: A Monitoring Multidimensional Feature Android Application to Secure Mobile Environments, 6th International Workshop on Traffic Measurements for Cybersecurity (WTMC 2021), 2021.
  14. Camacho, J. Machine Learning for Intrusion Detection in CyberDefense. South Tech Week, Granada (Spain), 2020.
  15. Camacho, J., Bro, R., Kotz, D. MBDA in Action. Network Traffic Measurement and Analysis Conference (TMA), Berlin (Germany), 2020.
  16. N. M. Fuentes-García, J. M. González-Martínez, G. Maciá-Fernández and J. Camacho, "PARAMO: Enhanced Data Pre-processing in Batch Multivariate Statistical Process Control", Oral Presentation in the Scandinavian Symposium on Chemometrics (SSC16), Norway, 2019.
  17. J. Camacho, E. Acar, M. Rasmussen and R. Bro. "X-CAN: Cross-Penalized Component Analysis", Oral Presentation in the Scandinavian Symposium on Chemometrics (SSC16), Norway, 2019.
  18. J. Camacho, A.K. Smilde, E. Saccenti and J.A. Westerhuis. "All sparse PCA models are wrong, but some are useful", Poster Presentation in the Scandinavian Symposium on Chemometrics (SSC16), Norway, 2019.
  19. J. Camacho. "Multivariate Statistical Control in the Big Data Context", II Arctic Analysis, Island, 2018.
  20. González-Martínez, J. M., Fuentes-García, N. M., Camacho, J., Maciá-Fernández, Gabriel. Parameter stability and its effects on bilinear modelling of batch processes. In Mini Arctic Workshop, Valencia. 2017.
  21. Camacho, J., Saccenti, E. & González-Martínez, J. M. Cross validation in Sparse PLS. In Mini Arctic Workshop, Valencia. 2017.
  22. Arteaga, F., Camacho, J. & Ferrer, A 2017. Orthogonal Procrustes Problem to generate multivariate datasets by simultaneously controlling the covariances structure and the rows distribution. In Mini Arctic Workshop, Valencia. 2017.
  23. Tortorella, S. Camacho, J. & Cruciani, G. "GPCA for improved multivariate analysis interpretation in lipidomics", Wenvomics, Barcelona (Spain), October 2017.

24. Theron, R. Magán-Carrión, R. Camacho, J. & Maciá-Fernández, G. "Network-wide intrusion detection supported by multivariate analysis and interactive visualization", VizSec. Phoenix (EEUU), October 2017.
25. Fuentes-García, N.M. Maciá-Fernández G., Camacho J. "A UNIVARIATE APPROACH FOR DIAGNOSIS IN PCA-MSPC". Scandinavian Symposium on Chemometrics (SSC15). Naantali (Finland). June, 2017
26. Camacho, J., Saccenti, E., Therón. R. "GROUP-WISE PRINCIPAL COMPONENT ANALYSIS". Scandinavian Symposium on Chemometrics (SSC15). Naantali (Finland). June, 2017
27. Camacho, J., García-Teodoro, P., Maciá-Fernández, G. "Traffic Monitoring and Diagnosis with Multivariate Statistical Network Monitoring: A Case Study", IEEE Security & Privacy International Workshop on Traffic Measurements for Cybersecurity (WTMC 2017). San Jose (CA, USA). May, 2017.
28. Maciá-Fernández, G., Camacho, J., García-Teodoro, P., Rodríguez-Gómez, R. Hierarchical PCA-Based Multivariate Statistical Network Monitoring for Anomaly Detection. 8th IEEE International Workshop on Information Forensics and Security (WIFS). Abu Dhabi (UAE). December 2016.
29. Iturbe, M., Camacho, J., Garitano, I., Zurutuza, U., Uribeetxeberria, R. "On the Feasibility of Distinguishing Between Process Disturbances and Intrusions in Process Control Systems using Multivariate Statistical Process Control". The 3rd International Workshop on Reliability and Security Aspects for Critical Infrastructure. Toulouse (France). June. 2016
30. Therón, R., Camacho, J., "Visual Steering in Multivariate Exploratory Data Analysis". 16th Chemometrics in Analytical Chemistry. Barcelona (Spain). June, 2016.
31. Fuentes-García, M., Camacho, J., Maciá-Fernández G., "Fault Diagnosis: Contribution plots Vs oMEDA". 16th Chemometrics in Analytical Chemistry. Barcelona (Spain). June, 2016.
32. Camacho, J. Invited Keynote: "Multivariate Big Data Analysis and its Application on Internet" 16th Chemometrics in Analytical Chemistry. Barcelona (Spain). June, 2016.
33. Magán-Carrión, R., Camacho, J., García-Teodoro, P., Flushing, E. F., Caro, G. A. "DRNS: Dynamical Relay Node Placement Solution". Advances in Practical Applications of Scalable Multi-agent Systems. The PAAMS Collection. 14th International Conference, PAAMS 2016, Sevilla (Spain), June 1-3, 2016.
34. Camacho, J. Invited Keynote: "*Exploratory Analysis in Big Data based on PCA and PLS*" 14th Scandinavian Symposium on Chemometrics. Sardinia (Italy), 2015.
35. Camacho J., Maciá-Fernández G., Díaz-Verdejo J.E., García-Teodoro P. "Tackling the Big Data 4 Vs for Anomaly Detection". INFOCOM'2014 Workshop on Security and Privacy in Big Data. Toronto (Canada) 2014.
36. Magán-Carrión, R., Camacho, J., García-Teodoro, P. "A Multiagent Self-healing System against Security Incidents in MANETs". Workshop on Active Security through Multi-Agent Systems (WASMAS). Salamanca (Spain). 2014.
37. Magán R., Pulido F., Camacho J., García-Teodoro P. "Tampered Data Recovery in WSNs through Dynamic PCA and Variable Routing Strategies", ICCNS - Journal of Communications, Vol. 8, November, 2013, pp. 738-750.
38. González-Martínez, J.M, Camacho J., de Noord, O., Ferrer, A. "Equalization and data-driven compression as a prior step to batch modelling", 13th Scandinavian Symposium on Chemometrics, Djuronaset (Sweden), 2013.
39. Magán, R., Camacho, J., García-Teodoro, P. *A Security Response Approach Based on the Deployment of Mobile Agents: A Practical Vision*. 11th International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS 2013), Salamanca (Spain), 2013.
40. Magán, R., Camacho, J., García-Teodoro, P. *A Security Response Approach based on the Deployment of Mobile Agents*. 11th International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS 2013), Salamanca (Spain), 2013.
41. González-Martínez, J.M, Camacho J., Ferrer, A. "Enhancement of Batch Process Understanding and Monitoring", Chemometrics in Analytical Chemistry, Budapest (Hungary), 2012.
42. Ferrer, A.J, Camacho, J., González-Martínez, J., Chemometric tools for process understanding and

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- monitoring with bilinear models: a review of novel proposals, Fifth International Chemometrics Research Meeting, Berg en Dal (The Netherlands), 2011.
43. Camacho, J., Padilla, P., Díaz-Verdejo, J.E. Exploratory data analysis: a latent subspace approach, ICRM, 2011.
  44. Camacho, J., Padilla, P., Salcedo-Campos, J., Díaz-Verdejo, J.E., García-Teodoro, P. Pair-wise Similarity Criteria for Flows Identification in P2P/non-P2P Traffic Classification, AP2PS, 2011.
  45. Ferrer, A.J., Camacho, J., González-Martínez, J., Issues on Batch Multi-Variate Statistical Process Control. Eastern Analytical Symposium and Exposition, 2010.
  46. Camacho, J., Picó, J., Ferrer, A.J. Crossvalidation in Principal Component Analysis: searching for the "best" approach, 12<sup>th</sup> conference on Chemometrics in Analytical Chemistry, 2010.
  47. Camacho, J., Bondía, J., Vehí, J., Fernández-Real, J.M. Application of missing data methods for exploratory data analysis in medical research, VII Colloquium Chemometricum Mediterraneum, Granada, 2010.
  48. Camacho, J., Díaz-Verdejo, J.E. Principal Component Analysis for very large data sets, VII Colloquium Chemometricum Mediterraneum, Granada, 2010.
  49. Camacho, J., Picó, J., Ferrer, A.J. Data Understanding with Principal Component Analysis. 11th Scandinavian Symposium on Chemometrics, Loen/Stryn (Norway), 2009.
  50. Camacho, J., Picó, J., Ferrer, A.J. Covariance Maps for Batch Process Modelling. 11th Scandinavian Symposium on Chemometrics, Loen/Stryn (Norway), 2009.
  51. Camacho, J., Picó, J., Ferrer, A.J. Run-to-run optimization of fed-batch processes with unfold-PLS. IFPAC, Baltimore (USA), 2009.
  52. Camacho, J., Picó, J., Ferrer, A.J. Multi-phase analysis framework: pattern recognition for batch process modelling. IFPAC, Baltimore (USA), 2009.
  53. Camacho, J., Picó, J., Ferrer, A.J. On-line monitoring of batch processes: Does the modelling structure matter? 11<sup>th</sup> Chemometrics in Analytical Chemistry, Montpellier (France), 2008.
  54. Camacho, J., Picó, J., Ferrer, A.J. Leave-n-Samples-Out Cross-validation in PCA for Missing Data Recovery and Robustness in front of Measurement Noise. 11th Chemometrics in Analytical Chemistry, Montpellier (France), 2008.
  55. Camacho, J. Invited Presentation: New Methods Based on the Projection to Latent Structures for Monitoring, Prediction and Optimization of Batch Processes, 9th Belgian Chemometrics Symposium, Gembloux (Belgium), 2008.
  56. Camacho, J., Picó, J., Ferrer, A.J. New advances in the on-line monitoring of batch processes. IFPAC, Baltimore (USA), 2008.
  57. Camacho, J., Picó, J., Ferrer, A.J. A new look at the dynamic covariance structure of various approaches for batch process modelling. 10th Scandinavian Symposium on Chemometrics, Laapperanta, Finland, 2007.
  58. Camacho, J., Picó, J., Ferrer, A.J. New Cross-Validation Methods in Principal Component Analysis. 10th Scandinavian Symposium on Chemometrics, Laapperanta, Finland, 2007.
  59. Camacho, J., Picó, J., Ferrer, A.J. A new algorithm for selecting the unfolding method and the number of sub-models in batch process modelling with PCA. 10th Scandinavian Symposium on Chemometrics, Laapperanta, Finland, 2007.
  60. Camacho, J., Picó, J., Ferrer, A.J. Multi-Phase Analysis Framework for Handling Batch Process Data, 10th Scandinavian Symposium on Chemometrics, Laapperanta, Finland, 2007.
  61. Camacho, J., de Molina, R.M., Martín, E., Mellado, M. Implementing a Cooperative Framework among Bio-inspired Robots based on Phonotaxis. Multi Agent Robotic Systems, International Conference on Informatics in Control, Automation and Robotics. Barcelona (Spain), 2005, pp:31-38.
  62. Camacho, J., de Molina, R.M., Martín, E. Control Adaptativo para el Seguimiento de Robots. Workshop



en Agentes Físicos (Congreso Español De Informática). Granada (Spain), 2005, pp:101-108.

63. Mellado, M., Correcher, C., de Molina, R.M., Camacho, J., Benet, G. Simulation of mobile robot applications with VirtualRobot. International Industrial Simulation Conference. Berlin (Germany), 2005, pp:68-72.

RESEARCH  
PROJECTS  
(5 LAST YEARS IN  
BOLD)

1. **Research Member. Refugios biogenicos como moduladores del cambio climático. Proyectos de Transición Ecológica y Transición Digital.**
2. **Research Member. SENSORIZACIÓN ACÚSTICA DISTRIBUÍDA DE LA FIBRA DE COMUNICACIONES DE LAS CIUDADES: PRUEBA DE CONCEPTO DE UN GEMELO DIGITAL DE LA MOVILIDAD URBANA (DASTUM). Proyectos de Transición Ecológica y Transición Digital.**
3. **Research Member. MSCA-ETN IMPROVE. Innovative Multi-disciplinary European Research training network on VolcanoEs. Horizon 2020 Framework Programme.**
4. **Research Member. LifeWatch-2019-10-UGR-01. Thematic Center on Mountain Ecosystem & Remote sensing, Deep learning-AI e-Services University of Granada-Sierra Nevada (Smart Ecomountains). FEDER, Ministerio de Ciencia e Innovación, Diputación de Granada.**
5. **Principal Researcher. Bioinformatic Sparse models for Omics and Microbiome Analysis in Health (BioSOMAH). Proyectos I+D+i del Programa Operativo FEDER 2020. Spain. B-TIC-136-UGR20**
6. **Principal Researcher. Advanced Networkmetrics: Interpretable Machine Learning for Intelligent Communication Systems (ANIMaLICoS). Ministerio de Ciencia e Innovación. Spain. PID2020-113462RB-I00**
7. **Supervisor. H2020-MSCA-IF-2019-893146, Multivariate Analysis of Big Data in Software Defined Networks (MAD-SDN). European Commission - MSCA. Investigador principal: Wasielewska, K.**
8. Principal Researcher. BIOT FINGERPRINT: BIG-DATA, IOT AND OMICS TECHNOLOGY FOR INTELLIGENT EARLY RISK PREDICTION AND INTERVENTION. Ministerio de Ciencia, Innovación y Universidades. Spain. EIN2019-103359
9. Principal Researcher. Visiting Scholar Program. Collaboration with Prof. Age K. Smilde (Univ. Amsterdam). University of Granada.
10. Co-Principal Researcher. Gestión Dinámica de Seguridad de Dispositivos Móviles. Ministerio de Economía y Competividad. Spain. TIN2017-83494-R
11. Principal Researcher. Visiting Scholar Program. Collaboration with Prof. Rasmus Bro (Univ. Copenhagen). University of Granada.
12. Principal Researcher. Visualización de Eventos en Red Inteligente para el Tratamiento y Análisis de la Seguridad (VERITAS). Ministerio de Economía y Competividad. Spain. TIN2014-60346-R
13. Research Member. Supervivencia de redes MANET ante incidentes de seguridad. Ministerio de Ciencia e Innovación. Spain CICYT TEC2011-22579.
14. Research Member. Verificación de proteínas Tpp17, Tpp15 y Tp47 para la detección de bio-marcadores protéicos de la sífilis. GREIB.PT.2011.04, Campues de Excelencia Internacional.
15. Principal Researcher. Networkmetrics: The application of multivariate data analysis methods in networking. Principal Researcher. CEI BioTIC GENIL (CEB09-0010). Granada. PYR-2010-12
16. Research Member. Seguridad del entorno en redes peer-to-peer, Ministerio de Ciencia y Tecnología. Spain. CICYT TEC2008-06663-C03-02.
17. Research Member. Modelado multiescala en biología de sistemas. Aplicación a la monitorización, optimización y control de bioprocesos, Ministerio de Ciencia y Tecnología, Spain. DPI2008-06880-C03-01.
18. Research Member. Aplicación de técnicas de lógica difusa para mejora de calidad de imágenes médicas

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de tomografía por emisión de positrones, Generalitat Valenciana, GVPRE/2008/257.

19. Research Member. Diseño de un sistema integrado de monitorización y control en el proceso de fermentación en biorreactores, Generalitat Valenciana, GVPRE/2008/298.
20. Research Member. INSULAI2 – Control de glucemia en lazo cerrado en pacientes con diabetes mellitus 1 y pacientes críticos, Ministerio de Ciencia y Tecnología. Spain. CICYT DPI2007-66728-C02-01.
21. - Research Member. Automatic quality control for industrial printing (MONOTONE), European Union, G1RD-CT-2002-00783

#### REVIEWER

(5 LAST YEARS IN  
BOLD)

1. **Information Sciences (IF 8.506, 2010-2022, 10 Revs)**
2. **Metabolites (IF 4.754, 2022, 1 Rev)**
3. **Frontiers in Molecular Biosciences (IF 5.246, 2022, 1 Rev)**
4. **Frontiers in Analytical Science (2022, 1 Rev)**
1. **Transactions on Network & Service Management (IF 4.195, 2022, 2 Revs)**
2. **Agencia Nacional de Evaluación y Prospectiva, Spain (2015-2022, 5 Revs)**
3. **Advances in Data Analysis and Classification (IF 1.603, 2022, 3 Revs)**
4. **Transactions on Information Forensics & Security (IF 6.211, 2020-2022, 5 Revs)**
5. **Transactions on Artificial Intelligence (2021, 1 Rev)**
6. **DNV (2015-2020, 6 Revs)**
7. **Cancer (IF 5.742, 2020, 1 Rev)**
8. **Signal Processing (IF 4.384, 2020-2021, 2 Revs)**
9. **Journal of Chemometrics (IF 1.500, 2015-2022, 7 Revs)**
10. **Computers & Security (IF 2.849, 2018-2020, 4 Revs)**
11. **Transactions on Dependable and Secure Computing (IF 6.404, 2019, 1 Rev)**
12. **Transactions on Knowledge and Data Engineering (IF 3.857, 2012-2021, 3 Revs)**
13. **Chemometrics and Intelligent Laboratory Systems (IF 2.786, 2007-2021, 32 Revs)**
14. **Computers & Chemical Engineering (IF 3.334, 2019, 2 Revs)**
15. **IEEE Access (IF 3.557, 2018, 1 Rev)**
16. **Journal Networks and Computer Applications (IF 3.991, 2018, 1 Rev)**
17. **Expert Systems With Applications (IF 6.954, 2022, 2 Revs)**
18. **Energies (IF 2.226, 2017, 1 Rev)**
19. **Chemical Engineering Research and Design (IF 2.538, 2017, 1 Rev)**
20. **Chemical Engineering Science (IF 2.337, 2008-2016, 3 Revs)**
21. **Bioinformatics (IF 4.981, 2016, 2 Revs)**
22. **Peer to peer Networking and Applications (IF 0.632, 2014-2016, 2 Revs)**
23. **National Science Centre, Poland (2016, 1 Rev)**

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24. Symmetry (2016, 1 Rev)
  25. Separation and Purification Technology (IF 3.091, 2011, 1 Rev)
  26. IEEE-Transactions on Control System Technology (IF 2.474, 2013, 1 Rev)
  27. Journal of Process Control (IF 2.653, 2010-2013, 3 Revs)
  28. AIChE Journal (IF 2.748, 2007-2013, 3 Revs)
  29. Industrial & Engineering Chemistry Research (IF 2.587, 2007, 1 Rev)
  30. Biosystems Engineering (IF 1.619, 2008, 1 Rev)
  31. Wiley (2008, 1 Rev)

## EDITORIAL BOARD

1. International Journal of Distributed Sensor Networks <https://journals.sagepub.com/home/dsn> (2012 – 2021, IF 1.640)
2. Journal of Chemometrics <https://onlinelibrary.wiley.com/journal/1099128x> (2019 - Today, IF 2.467)
3. Frontiers In Analytical Science <https://www.frontiersin.org/journals/analytical-science> (New creation)

## TEACHING

### COURSES

(5 LAST YEARS IN  
BOLD)

1. **2021-2022: Network and Services Design and Exploitation, Management of Cybersecurity Incidents, Network Design, Doctorate Course: Multivariate Exploratory Data Analysis (In collaboration with Prof. Rasmus Bro)**
2. **2020-2021: Network and Services Design and Exploitation, Management of Cybersecurity Incidents, Network Design, Doctorate Course: Multivariate Exploratory Data Analysis (In collaboration with Prof. Rasmus Bro)**
3. **2019-2020: Network Fundamentals, Network and Services Design and Exploitation, Management of Cybersecurity Incidents, Network Design, Doctorate Course: Multivariate Exploratory Data Analysis (In collaboration with Prof. Rasmus Bro)**
4. **2018-2019: Network Fundamentals, Network and Services Design and Exploitation, Management of Cybersecurity Incidents, Network Design, Doctorate Course: Multivariate Exploratory Data Analysis (In collaboration with Prof. Rasmus Bro)**
5. **2017-2018: Network Fundamentals, Network and Services Design and Exploitation, Management of Cybersecurity Incidents (18 ECTS)**
6. 2016-2017: Network Fundamentals, Network and Services Design and Exploitation, Management of Cybersecurity Incidents (18 ECTS)
7. 2015-2016: Network Fundamentals, Network and Services Design and Exploitation (15 ECTS)
8. 2014-2015: Network Fundamentals, Network Design, Network and Services Design and Exploitation, Network Security (21 ECTS)
9. 2013-2014: Network Fundamentals, Network Design, Network Management, Network Security (21 ECTS)
10. 2012-2013: Data Transmission and Computer Networks, Network Fundamentals, Network Management, Communication Infrastructures and Networks (21 ECTS)
11. 2011-2012: Networks, Data Transmission and Computer Networks, Communication Networks, Network

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Management, Communication Technology (24 ECTS)

12. 2010-2011: Networks, Data Transmission and Computer Networks, Communication Networks, Network Management (24 ECTS)
13. 2009-2010: Networks, Computer Networks, Communication Networks, Applied Telematics, Network Management (24 ECTS)
14. 2008-2009: Automatic Regulation (8 ECTS)
15. 2007-2008: Industrial Control, Dynamic Systems Modelling (3 ECTS).
16. 2006-2007: Industrial Control, Distributed Control, Basic Automatics, Advanced Control Methods (3 ECTS).
17. - 2005-2006: Algebra and Statistics (1 ECTS).

## KNOWLEDGE TRANSFER

### SOFTWARE

1. Power Curves for ASCA <https://github.com/josecamachop/PowerCurvesASCA>
2. X-CAN. <https://github.com/josecamachop/XCAN>
3. Feature as a Counter Parser (FCParser). <https://github.com/josecamachop/FCParser>
4. MVBatch for its use in Matlab. <https://github.com/jogonmar/MVBatch>
5. Multivariate Exploratory Data Analysis Toolbox. MEDA toolbox for its use in Matlab. <https://github.com/josecamachop/MEDA-Toolbox>
6. Multivariate Statistical Network Monitoring (MSNM) Sensor. <https://github.com/nesg-ugr/msnm-sensor>

### COMPANIES

1. Cofounder of Rekom Biotech (2011-Today). <http://www.rekombiotech.com/>
2. Cofounder of SHYOS (2015-2017).

### PATENTS

1. J. Camacho, G. Maciá-Fernandez. Dispositivo para el Intercambio seguro de Información Sensible en una Red de Comunicación (IPR-489-2) University of Granada. Application in Spain. 2015

### CONTRACTS

1. Research Member. Auditoría de seguridad de los sistemas y redes del cloud center de grupo trevenque, Grupo Trevenque, Spain, Jun. 2015 to May 2016.
2. Principal Researcher. Contract for Anomaly Detection in Network Security using Multivariate Techniques, ProtectWise Inc, USA. July 2014 to Feb. 2016
3. Research Member. Mejora de la gestión de red mediante análisis y caracterización del tráfico en redes corporativas, SADESI (Junta de Andalucía), Spain, Sep. 2010 to June 2011.
4. Research Member. Instalación y puesta a punto de biorreactores, Biopolis, Spain. May 2008 to Mar. 2009
5. Research Member. Técnicas estadísticas avanzadas para la mejora de la calidad y la productividad, Repsol YPF, Spain. Sep. 2008 to Jan. 2009
6. Research Member. Fabricación de mosaico cerámico de piezas irregulares, CRISAN S.L., Spain. Sep. 2003 to Sep. 2004

## OTHER MERITS

### AWARDS:

1. **International “Wolfgang Mehr” Fellowship Award. Leibniz Institute for High Performance**

**(5 LAST YEARS IN  
BOLD)**

**Microelectronics (IHP), Frankfurt (Oder), Germany, 2021.**

2. Coauthor of the paper Multivariate Statistical Approach for Anomaly Detection and Lost Data Recovery in Wireless Sensor Networks, awarded with the best research work in II Jornadas Nacionales de Investigación en Ciberseguridad, Spain, 2016.
3. Coauthor of the paper *Bilinear Modelling of Batch Processes. Part III: Parameter Stability*. Journal of Chemometrics, 2014, awarded with the 4th Siemens Process Analytics Prize to a young scientist (younger than 30 years of age) for an outstanding publication in the field of Process Analytics.
4. Second best poster award (from a total of 110): Principal Component Analysis for very large data sets, VII Colloquium Chemometricum Mediterraneum, 2010.
5. Doctoral Dissertation Award, Universidad Politécnica de Valencia, 2009.
6. D.L. Massart Award in Chemometrics for PhD theses worldwide (Biannual and International), Belgian Chemometric Society, 2008.
7. Second award to the best Thesis Project in Information Technologies and Communications in Spain, IX Rosina Ribalta, 2007.
8. First Exaequo award to the best Computer Science Project, University of Granada, 2003.

**FELLOWSHIPS:  
(5 LAST YEARS IN  
BOLD)**

1. **Fulbright Program, Dartmouth College, Hanover, New Hampshire, USA, July-September 2018.**
2. Postdoctoral Fellowship Juan de la Cierva, Ministry of Science and Technology, Spain, 2009.
3. Predoctoral Fellowship Formación de Profesorado Universitario, Ministry of Science and Technology, Spain. (2004-2007)

**RESEARCH STAYS:  
(5 LAST YEARS IN  
BOLD)**

1. **University of Amsterdam, The Netherlands, May-June 2019.**
2. **University of Copenhagen, Denmark, March 2019.**
3. **Dartmouth College, Hanover, New Hampshire, USA, July-September 2018.**