# Ludovic Duponchel

List of Publications by Year
in descending order

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Version: 2024-02-01

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|---|---|---|---|
| 84<br>papers | 2,317<br>citations | 218592<br>26<br>h-index | 243529<br>44<br>g-index |
| 86<br>all docs | 86<br>docs citations | 86<br>times ranked | 2739<br>citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Data fusion of LIBS and PIL hyperspectral imaging: Understanding the luminescence phenomenon of a complex mineral sample. Analytica Chimica Acta, 2022, 1192, 339368. | 2.6 | 15 |
| 2 | Archaeological Mortar Characterization Using Laser-Induced Breakdown Spectroscopy (LIBS) Imaging Microscopy. Applied Spectroscopy, 2022, , 000370282110711. | 1.2 | 8 |
| 3 | Fusing spectral and spatial information with 2-D stationary wavelet transform (SWT 2-D) for a deeper exploration of spectroscopic images. Talanta, 2021, 224, 121835. | 2.9 | 11 |
| 4 | Towards a new pseudo-quantitative approach to evaluate the ionization response of nitrogen compounds in complex matrices. Scientific Reports, 2021, 11, 6417. | 1.6 | 9 |
| 5 | Robust variable selection in the framework of classification with label noise and outliers: Applications to spectroscopic data in agri-food. Analytica Chimica Acta, 2021, 1153, 338245. | 2.6 | 6 |
| 6 | Saturated signals in spectroscopic imaging: why and how should we deal with this regularly observed phenomenon?. Analytica Chimica Acta, 2021, 1157, 338389. | 2.6 | 4 |
| 7 | Novel four-dimensional approach for the structural characterization of neutral nitrogen compounds in vacuum gas oils using UHPLC-IM-QqToF analysis. Analytica Chimica Acta, 2021, 1169, 338611. | 2.6 | 3 |
| 8 | Comparability of Raman Spectroscopic Configurations: A Large Scale Cross-Laboratory Study. Analytical Chemistry, 2020, 92, 15745-15756. | 3.2 | 46 |
| 9 | Sulfur compounds characterization using FT-ICR MS: Towards a better comprehension of vacuum gas oils hydrodesulfurization process. Fuel Processing Technology, 2020, 210, 106529. | 3.7 | 8 |
| 10 | UDP-GLYCOSYLTRANSFERASE 72E3 Plays a Role in Lignification of Secondary Cell Walls in Arabidopsis. International Journal of Molecular Sciences, 2020, 21, 6094. | 1.8 | 16 |
| 11 | Exploration of the Reactivity of Heteroatomic Compounds Contained in Vacuum Gas Oils during Hydrotreatment Using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. Energy & Fuels, 2020, 34, 10752-10761. | 2.5 | 5 |
| 12 | Classification of challenging Laser-Induced Breakdown Spectroscopy soil sample data - EMSLIBS contest. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2020, 169, 105872. | 1.5 | 47 |
| 13 | Evaluating the Benefits of Data Fusion and PARAFAC for the Chemometric Analysis of FT-ICR MS Data Sets from Gas Oil Samples. Energy & Fuels, 2020, 34, 8195-8205. | 2.5 | 2 |
| 14 | Should we prefer inverse models in quantitative LIBS analysis?. Journal of Analytical Atomic Spectrometry, 2020, 35, 794-803. | 1.6 | 13 |
| 15 | Low-Level Fusion of Fourier Transform Ion Cyclotron Resonance Mass Spectrometry Data Sets for the Characterization of Nitrogen and Sulfur Compounds in Vacuum Gas Oils. Analytical Chemistry, 2020, 92, 2815-2823. | 3.2 | 9 |
| 16 | Second-order universal calibration. Talanta, 2020, 212, 120787. | 2.9 | 3 |
| 17 | Randomised SIMPLISMA: Using a dictionary of initial estimates for spectral unmixing in the framework of chemical imaging. Talanta, 2020, 217, 121024. | 2.9 | 7 |
| 18 | Detection of minor compounds in complex mineral samples from millions of spectra: A new data analysis strategy in LIBS imaging. Analytica Chimica Acta, 2020, 1114, 66-73. | 2.6 | 32 |

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| 19 | Determination of the Reactivity Degree of Various Alkaline Solutions: A Chemometric Investigation. Applied Spectroscopy, 2019, 73, 1361-1369. | 1.2 | 6 |
| 20 | Chemometric Exploration of APPI(+)-FT-ICR MS Data Sets for a Comprehensive Study of Aromatic Sulfur Compounds in Gas Oils. Analytical Chemistry, 2019, 91, 11785-11793. | 3.2 | 12 |
| 21 | Insights from Nitrogen Compounds in Gas Oils Highlighted by High-Resolution Fourier Transform Mass Spectrometry. Analytical Chemistry, 2019, 91, 12644-12652. | 3.2 | 16 |
| 22 | Image Fusion. Data Handling in Science and Technology, 2019, , 311-344. | 3.1 | 8 |
| 23 | Multi-excitation hyperspectral autofluorescence imaging for the exploration of biological samples. Analytica Chimica Acta, 2019, 1062, 47-59. | 2.6 | 15 |
| 24 | A detailed analysis of the influence of Î²-cyclodextrin derivates on the thermal denaturation of lysozyme. International Journal of Pharmaceutics, 2019, 554, 1-13. | 2.6 | 6 |
| 25 | Angle Distribution of Loading Subspace (ADLS) for estimating chemical rank in multivariate analysis: Applications in spectroscopy and chromatography. Talanta, 2019, 194, 90-97. | 2.9 | 8 |
| 26 | Effect of image processing constraints on the extent of rotational ambiguity in MCR-ALS of hyperspectral images. Analytica Chimica Acta, 2019, 1052, 27-36. | 2.6 | 12 |
| 27 | Tracking hidden organic carbon in rocks using chemometrics and hyperspectral imaging. Scientific Reports, 2018, 8, 2396. | 1.6 | 12 |
| 28 | Exploration of megapixel hyperspectral LIBS images using principal component analysis. Journal of Analytical Atomic Spectrometry, 2018, 33, 210-220. | 1.6 | 67 |
| 29 | Exploring hyperspectral imaging data sets with topological data analysis. Analytica Chimica Acta, 2018, 1000, 123-131. | 2.6 | 20 |
| 30 | Fast epi-detected broadband multiplex CARS and SHG imaging of mouse skull cells. Biomedical Optics Express, 2018, 9, 245. | 1.5 | 16 |
| 31 | Topological data analysis (TDA) applied to reveal pedogenetic principles of European topsoil system. Science of the Total Environment, 2017, 586, 1091-1100. | 3.9 | 8 |
| 32 | Studying radiolytic ageing of nuclear power plant electric cables with FTIR spectroscopy. Talanta, 2017, 172, 139-146. | 2.9 | 10 |
| 33 | Neighbouring pixel data augmentation: a simple way to fuse spectral and spatial information for hyperspectral imaging data analysis. Journal of Chemometrics, 2017, 31, e2882. | 0.7 | 9 |
| 34 | Multivariate statistical process control (MSPC) using Raman spectroscopy for in-line culture cell monitoring considering time-varying batches synchronized with correlation optimized warping (COW). Analytica Chimica Acta, 2017, 952, 9-17. | 2.6 | 42 |
| 35 | Mammalian cell culture monitoring using in situ spectroscopy: Is your method really optimised?. Biotechnology Progress, 2017, 33, 308-316. | 1.3 | 15 |
| 36 | Detection of formaldehyde oxidation catalysis by MCR-ALS analysis of multiset ToF-SIMS data in positive and negative modes. Chemometrics and Intelligent Laboratory Systems, 2017, 171, 80-85. | 1.8 | 8 |

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| 37 | A Cell Wall Proteome and Targeted Cell Wall Analyses Provide Novel Information on Hemicellulose Metabolism in Flax. Molecular and Cellular Proteomics, 2017, 16, 1634-1651. | 2.5 | 23 |
| 38 | Developing global regression models for metabolite concentration prediction regardless of cell line. Biotechnology and Bioengineering, 2017, 114, 2550-2559. | 1.7 | 23 |
| 39 | Super-Resolution in Vibrational Spectroscopy. Data Handling in Science and Technology, 2016, 30, 477-517. | 3.1 | 1 |
| 40 | Coherent anti-Stokes Raman scattering under electric field stimulation. Physical Review B, 2016, 94, . | 1.1 | 9 |
| 41 | Water quality assessment of a small peri-urban river using low and high frequency monitoring. Environmental Sciences: Processes and Impacts, 2016, 18, 624-637. | 1.7 | 19 |
| 42 | New strategy to identify radicals in a time evolving EPR data set by multivariate curve resolution-alternating least squares. Analytica Chimica Acta, 2016, 947, 9-15. | 2.6 | 3 |
| 43 | Topological data analysis: A promising big data exploration tool in biology, analytical chemistry and physical chemistry. Analytica Chimica Acta, 2016, 910, 1-11. | 2.6 | 59 |
| 44 | Has your ancient stamp been regummed with synthetic glue? A FT-NIR and FT-Raman study. Talanta, 2016, 149, 250-256. | 2.9 | 6 |
| 45 | Complete determination of plant tissues based only on autoâ€fluorescence and the advanced image analysis â€“ study of needles and stamens. Journal of Chemometrics, 2015, 29, 521-527. | 0.7 | 0 |
| 46 | Extraction of Pure Spectral Signatures and Corresponding Chemical Maps from EPR Imaging Data Sets: Identifying Defects on a CaF<sub>2</sub> Surface Due to a Laser Beam Exposure. Analytical Chemistry, 2015, 87, 3929-3935. | 3.2 | 8 |
| 47 | Pushing back the limits of Raman imaging by coupling super-resolution and chemometrics for aerosols characterization. Scientific Reports, 2015, 5, 12303. | 1.6 | 35 |
| 48 | Metal-induced malformations in early Palaeozoic plankton are harbingers of mass extinction. Nature Communications, 2015, 6, 7966. | 5.8 | 66 |
| 49 | In-line and real-time prediction of recombinant antibody titer by inÂsitu Raman spectroscopy. Analytica Chimica Acta, 2015, 892, 148-152. | 2.6 | 58 |
| 50 | Simultaneous data pre-processing and SVM classification model selection based on a parallel genetic algorithm applied to spectroscopic data of olive oils. Food Chemistry, 2014, 148, 124-130. | 4.2 | 104 |
| 51 | New chemometric approach MCR-ALS to unmix EPR spectroscopic data from complex mixtures. Journal of Magnetic Resonance, 2014, 248, 27-35. | 1.2 | 11 |
| 52 | Monitoring polymorphic transformations by using in situ Raman hyperspectral imaging and image multiset analysis. Analytica Chimica Acta, 2014, 819, 15-25. | 2.6 | 63 |
| 53 | Combining near and mid infrared spectroscopy for heavy oil characterisation. Fuel, 2014, 133, 310-316. | 3.4 | 10 |
| 54 | Chemometric Strategies To Unmix Information and Increase the Spatial Description of Hyperspectral Images: A Single-Cell Case Study. Analytical Chemistry, 2013, 85, 6303-6311. | 3.2 | 43 |

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| 55 | Increasing the spatial resolution of near infrared chemical images (NIR-CI): The super-resolution paradigm applied to pharmaceutical products. Chemometrics and Intelligent Laboratory Systems, 2012, 117, 183-188. | 1.8 | 12 |
| 56 | Highly sensitive terahertz spectroscopy in microsystem. RSC Advances, 2012, 2, 10064. | 1.7 | 18 |
| 57 | Trappist beer identification by vibrational spectroscopy: A chemometric challenge posed at the â€˜ChimiomÃ©trie 2010â€™ congress. Chemometrics and Intelligent Laboratory Systems, 2012, 113, 2-9. | 1.8 | 22 |
| 58 | Resolution and segmentation of hyperspectral biomedical images by Multivariate Curve Resolution-Alternating Least Squares. Analytica Chimica Acta, 2011, 705, 182-192. | 2.6 | 100 |
| 59 | Characterisation of heavy oils using near-infrared spectroscopy: Optimisation of pre-processing methods and variable selection. Analytica Chimica Acta, 2011, 705, 227-234. | 2.6 | 54 |
| 60 | Combination of mid-infrared spectroscopy and curve resolution method to follow the antioxidant action of alkylated diphenylamines. Chemometrics and Intelligent Laboratory Systems, 2011, 106, 210-215. | 1.8 | 10 |
| 61 | Parallel genetic algorithm co-optimization of spectral pre-processing and wavelength selection for PLS regression. Chemometrics and Intelligent Laboratory Systems, 2011, 107, 50-58. | 1.8 | 47 |
| 62 | Gaussian mixture models for the classification of highâ€dimensional vibrational spectroscopy data. Journal of Chemometrics, 2010, 24, 719-727. | 0.7 | 21 |
| 63 | Infrared chemical imaging: Spatial resolution evaluation and super-resolution concept. Analytica Chimica Acta, 2010, 674, 220-226. | 2.6 | 19 |
| 64 | Combination of mid-infrared spectroscopy and chemometric factorization tools to study the oxidation of lubricating base oils. Catalysis Today, 2010, 155, 255-260. | 2.2 | 30 |
| 65 | The Organization Pattern of Root Border-Like Cells of Arabidopsis Is Dependent on Cell Wall Homogalacturonan Â Â Â. Plant Physiology, 2009, 150, 1411-1421. | 2.3 | 94 |
| 66 | Support vector machines (SVM) in near infrared (NIR) spectroscopy: Focus on parameters optimization and model interpretation. Chemometrics and Intelligent Laboratory Systems, 2009, 96, 27-33. | 1.8 | 211 |
| 67 | Super-resolution and Raman chemical imaging: From multiple low resolution images to a high resolution image. Analytica Chimica Acta, 2008, 607, 168-175. | 2.6 | 30 |
| 68 | Chemometric strategies for the study of the complexation of Al(III) ions with model molecule of humic substances from UVâ€“vis data sets. Analytica Chimica Acta, 2005, 544, 337-344. | 2.6 | 22 |
| 69 | Quality Evaluation of Sugar Beet(Beta vulgaris)by Near-Infrared Spectroscopy. Journal of Agricultural and Food Chemistry, 2004, 52, 1055-1061. | 2.4 | 56 |
| 70 | Multivariate curve resolution of step-scan FTIR spectral data. Vibrational Spectroscopy, 2004, 35, 21-26. | 1.2 | 16 |
| 71 | Matrix merging arrangements for the study protein dynamics by time-resolved step-scan Fourier transform infrared spectroscopy and multivariate curve resolution. Analytica Chimica Acta, 2004, 515, 183-190. | 2.6 | 11 |
| 72 | Comparison of supervised pattern recognition methods with McNemarâ€™s statistical test. Analytica Chimica Acta, 2003, 477, 187-200. | 2.6 | 83 |

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| 73 | Statistical tests for comparison of quantitative and qualitative models developed with near infrared spectral data. Journal of Molecular Structure, 2003, 654, 253-262. | 1.8 | 36 |
| 74 | Time-Resolved Step-Scan FT-IR Spectroscopy:â€‰ Focus on Multivariate Curve Resolution. Journal of Chemical Information and Computer Sciences, 2003, 43, 1966-1973. | 2.8 | 27 |
| 75 | Multivariate Curve Resolution Methods in Imaging Spectroscopy:â€‰ Influence of Extraction Methods and Instrumental Perturbations. Journal of Chemical Information and Computer Sciences, 2003, 43, 2057-2067. | 2.8 | 63 |
| 76 | Interpretation and improvement of an artificial neural network MIR calibration. Chemometrics and Intelligent Laboratory Systems, 2002, 62, 189-198. | 1.8 | 10 |
| 77 | Degree of hydrolysis from mid-infrared spectra. Analytica Chimica Acta, 2001, 446, 255-266. | 2.6 | 5 |
| 78 | Neural network modelling for very small spectral data sets: reduction of the spectra and hierarchical approach. Chemometrics and Intelligent Laboratory Systems, 2000, 54, 93-106. | 1.8 | 18 |
| 79 | Hydrolysis of hemoglobin surveyed by infrared spectroscopy. Analytica Chimica Acta, 1999, 396, 241-251. | 2.6 | 13 |
| 80 | Classification of edible fats and oils by principal component analysis of Fourier transform infrared spectra. Food Chemistry, 1996, 57, 245-251. | 4.2 | 86 |
| 81 | Quantitative determination of polymer and mineral content in paper coatings by infrared spectroscopy. Improvements by non-linear treatments. Analytica Chimica Acta, 1996, 335, 79-85. | 2.6 | 13 |
| 82 | Classification of Green Coffees by FT-IR Analysis of Dry Extract. Applied Spectroscopy, 1995, 49, 580-585. | 1.2 | 29 |
| 83 | Quantitative analysis of latex in paper coatings by ATR-FTIR spectroscopy. Journal of Chemometrics, 1994, 8, 333-347. | 0.7 | 26 |
| 84 | When remote sensing meets topological data analysis. Journal of Spectral Imaging, 0, , . | 0.0 | 7 |