

João Carlos Mesquita Coelho
Researcher

DCM - Departamento de Ciência dos Materiais

CENIMAT-i3N - Centro de Investigação de Materiais (Lab. Associado I3N)

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Personal information

João Coelho is a researcher at NOVA School of Science and Technology (FCT NOVA), one of the three largest and most prestigious schools of Engineering and Sciences in Portugal. In 2007, he received his Bachelor degree in physics followed by a Master degree in 2009 (Faculty of Sciences, University of Porto). In 2016, he was awarded his PhD degree by Trinity College Dublin, Ireland. During this period, he became a materials scientist focused on the processing of 2D-materials for energy storage/conversion applications. Throughout this process, he developed crucial skills not only on materials synthesis and characterization, but in the design, fabrication and testing of supercapacitors and lithium-ion batteries. He had the chance to work with world renowned scientists and companies, such as Nokia Bell Labs and to participate in several international scientific meeting, such as MRS Spring and ECS Prime. These collaborations led to publications in high impact journals, namely Science and Nature, resulting a h-index of 19. Besides technical and scientific work, he is passionate about teaching and science outreach activities. Up to now, he has supervised several BSc, MSc and one PhD thesis.

In 2020, after being selected for the prestigious Individual Call to Scientific Employment Stimulus, he joined the Materials Research Center (CENIMAT) of the Associated Laboratory i3N, the Institute of Nanostructures, Nanomodeling and Nanofabrication (FCT NOVA). Currently, his research objectives are focused on the development and integration of flexible energy storage devices, produced by inkjet printing and laser engraving.

Qualifications

Chemistry/Materials Science, Doctorate, Electrochemical Properties of Nanomaterials Processed by Ultrasound Irradiation, Trinity College, Dublin

1 Oct 2012 → 1 May 2016

Award Date: 11 Nov 2016

Physics, Master, Universidade do Porto

2007 → 2009

Award Date: 19 Feb 2010

Physics, Bachelor, Universidade do Porto

2003 → 2007

Award Date: 26 Dec 2007

Employment

Researcher

DCM - Departamento de Ciência dos Materiais

Universidade NOVA de Lisboa

Portugal

1 Sept 2020 → present

Researcher

CENIMAT-i3N - Centro de Investigação de Materiais (Lab. Associado I3N)

Universidade NOVA de Lisboa

Caparica, Portugal

1 Sept 2020 → present

PostDoc

Trinity College, Dublin

Ireland

1 May 2016 → 31 Mar 2020

Research outputs

Paper-based laser-induced graphene for sustainable and flexible microsupercapacitor applications

Coelho, J., Correia, R. F., Silvestre, S., Pinheiro, T., Marques, A. C., Correia, M. R. P., Pinto, J. V., Fortunato, E. & Martins, R., 30 Dec 2022, In: *Microchimica Acta*. 190, 1, 10 p., 40.

Water Peel-Off Transfer of Electronically Enhanced, Paper-Based Laser-Induced Graphene for Wearable Electronics

Pinheiro, T., Correia, R., Morais, M., Coelho, J., Fortunato, E., Sales, M. G. F., Marques, A. C. & Martins, R., 27 Dec 2022, In: *ACS Nano*. 16, 12, p. 20633-20646 14 p.

Sustainable carbon sources for green laser-induced graphene: A perspective on fundamental principles, applications, and challenges

Claro, P. I. C., Pinheiro, T., Silvestre, S. L., Marques, A. C., Coelho, J., Marconcini, J. M., Fortunato, E., Luiz, L. H. & Martins, R., Dec 2022, In: *Applied Physics Reviews*. 9, 4, 28 p., 041305.

Carbon-Yarn-Based Supercapacitors with In Situ Regenerated Cellulose Hydrogel for Sustainable Wearable Electronics

Carvalho, J. T., Cunha, I., Coelho, J., Fortunato, E., Martins, R. & Pereira, L., 24 Oct 2022, In: *ACS Applied Energy Materials*. 5, 10, p. 11987-11996 10 p.

Biocompatible Parylene-C Laser-Induced Graphene Electrodes for Microsupercapacitor Applications

Correia, R., Deuermeier, J., Correia, M. R., Vaz Pinto, J., Coelho, J., Fortunato, E. & Martins, R., 19 Oct 2022, In: *ACS Applied Materials and Interfaces*. 14, 41, p. 46427-46438 12 p.

Two-dimensional material inks

Pinilla, S., Coelho, J., Li, K., Liu, J. & Nicolosi, V., Sept 2022, In: *Nature Reviews Materials*. 7, 9, p. 717-735 19 p.

Postsynthetic treatment of nickel-iron layered double hydroxides for the optimum catalysis of the oxygen evolution reaction

Tyndall, D., Jaskaniec, S., Shortall, B., Roy, A., Gannon, L., O'Neill, K., Browne, M. P., Coelho, J., McGuinness, C., Duesberg, G. S. & Nicolosi, V., Dec 2021, In: *npj 2D Materials and Applications*. 5, 1, 73.

Laser-Induced Graphene on Paper toward Efficient Fabrication of Flexible, Planar Electrodes for Electrochemical Sensing

Pinheiro, T., Silvestre, S., Coelho, J., Marques, A. C., Martins, R., Sales, M. G. F. & Fortunato, E., 23 Nov 2021, In: *Advanced Materials Interfaces*. 8, 22, 2101502.

Inclusion of 2d transition metal dichalcogenides in perovskite inks and their influence on solar cell performance

Taurisano, N., Bravetti, G., Carallo, S., Liang, M., Ronan, O., Spurling, D., Coelho, J., Nicolosi, V., Colella, S., Gigli, G., Listorti, A. & Rizzo, A., Jul 2021, In: *Nanomaterials*. 11, 7, 1706.

Qualifications

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