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## Employment

### Assistant Professor

DCM - Departamento de Ciência dos Materiais  
Universidade NOVA de Lisboa  
Portugal  
2 Feb 2023 → present

### Researcher

CENIMAT-i3N - Centro de Investigação de Materiais (Lab. Associado I3N)  
Universidade NOVA de Lisboa  
Caparica, Portugal  
1 Oct 2008 → present

### Researcher

UNINOVA-Instituto de Desenvolvimento de Novas Tecnologias  
Universidade NOVA de Lisboa  
11 Aug 1973 → present

### Invited Assistant Professor

DCM - Departamento de Ciência dos Materiais  
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Portugal  
1 Sept 2015 → 1 Feb 2023

## Research output

### **Characterization of bacterial cellulose produced by *Komagataeibacter xylinus* strains grown in styrene/glucose mixtures**

Esmail, A., Torres, C. A. V., Ortiz-Albo, P., Marques, A. C., Gonçalves, A., Neves, L. A., Pinto, J. V., Reis, M. A. M. & Freitas, F., Nov 2023, In: Cellulose. 30, 17, p. 10811-10824 14 p.

### **Self-sensing metallic material based on PZT particles produced by friction stir processing envisaging structural health monitoring applications**

Ferreira, P. M., Machado, M. A., Carvalho, M. S., Vilaça, P., Sorger, G., Pinto, J. V., Deuermeier, J. & Vidal, C., Nov 2023, In: Materials Characterization. 205, 19 p., 113371.

### **Parylene C as a Multipurpose Material for Electronics and Microfluidics**

Coelho, B. J., Pinto, J. V., Martins, J., Rovisco, A., Barquinha, P., Fortunato, E., Baptista, P. V., Martins, R. & Igreja, R., 12 May 2023, In: *Polymers*. 15, 10, 23 p., 2277.

### **Parylene-Sealed Perovskite Nanocrystals Down-Shifting Layer for Luminescent Spectral Matching in Thin Film Photovoltaics**

Pinheiro, A., Ruivo, A., Rocha, J., Ferro, M., Pinto, J. V., Deuermeier, J., Mateus, T., Santa, A., Mendes, M. J., Martins, R., Gago, S., Laia, C. A. T. & Águas, H., 3 Jan 2023, In: *Nanomaterials*. 13, 1, 15 p., 210.

### **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., 2023, In: *Microchimica Acta*. 190, 1, 10 p., 40.

### **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.

### **The Influence of Raw Materials on the Stability of Grisaille Paint Layers**

Machado, C., Vilarigues, M., Pinto, J. V. & Palomar, T., 18 Oct 2022, In: *Applied Sciences*. 12, 20, 27 p., 10515.

### **Solution Combustion Synthesis of Hafnium-Doped Indium Oxide Thin Films for Transparent Conductors**

Firmino, R., Carlos, E., Pinto, J. V., Deuermeier, J., Martins, R., Fortunato, E., Barquinha, P. & Branquinho, R., 23 Jun 2022, In: *Nanomaterials*. 12, 13, 14 p., 2167.

### **Sputtering Deposition of TiO<sub>2</sub> Thin Film Coatings for Fiber Optic Sensors**

Silva, D., Monteiro, C. S., Silva, S. O., Frazão, O., Pinto, J. V., Raposo, M., Ribeiro, P. A. & Sérgio, S., 13 May 2022, In: *Photonics*. 9, 5, 15 p., 342.

### **Enhanced solar photocatalysis of TiO<sub>2</sub> nanoparticles and nanostructured thin films grown on paper**

Freire, T., Fragoso, A. R., Matias, M., Pinto, J. V., Marques, A. C., Pimentel, A., Barquinha, P., Huertas, R., Fortunato, E., Martins, R. & Nunes, D., 1 Dec 2021, In: *Nano Express*. 2, 4, 040002.

### **Enhanced solar photocatalysis of TiO<sub>2</sub> nanoparticles and nanostructured thin films grown on paper**

Freire, T., Fragoso, A. R. P., Matias, M., Pinto, J. V., Marques, A. C., Pimentel, A. C. M. B. G., Barquinha, P. M. C., Huertas, R. M., Fortunato, E., Martins, R. & Nunes, D., 22 Oct 2021, In: *Nano Express*. 2, 4

### **Uv-responsive screen-printed porous zno nanostructures on office paper for sustainable and foldable electronics**

Ferreira, S. H., Cunha, I., Pinto, J. V., Neto, J. P., Pereira, L., Fortunato, E. & Martins, R., Aug 2021, In: *Chemosensors*. 9, 8, 192.

### **Transparent and Flexible Electrocardiography Electrode Arrays Based on Silver Nanowire Networks for Neural Recordings**

Neto, J. P., Costa, A., Vaz Pinto, J., Marques-Smith, A., Costa, J. C., Martins, R., Fortunato, E., Kampff, A. R. & Barquinha, P., 25 Jun 2021, In: *ACS APPLIED NANO MATERIALS*. 4, 6, p. 5737-5747 11 p.

### **Ta<sub>2</sub>O<sub>5</sub>/SiO<sub>2</sub> Multicomponent Dielectrics for Amorphous Oxide TFTs**

Martins, J., Kiazadeh, A., Pinto, J. V., Rovisco, A., Gonçalves, T., Deuermeier, J., Alves, E., Martins, R., Fortunato, E. & Barquinha, P., 29 Dec 2020, In: *Electronic Materials*. 2, 1, p. 1-16

### **Hydrothermal Synthesis of Zinc Tin Oxide Nanostructures for Photocatalysis, Energy Harvesting and Electronics**

Rovisco, A., Branquinho, R., Sarmiento, J. M. D. V. P. M., Martins, R. F. D. P., Fortunato, E. & Barquinha, P. M. C., 19 Nov 2020, *Novel Nanomaterials*. Krishnamoorthy, K. (ed.). IntechOpen

### **Electro-Mechanical Co-optimization of MEMS Devices in Python**

Esteves, R., Wang, C., Pinto, J. V. & Kraft, M., 25 Oct 2020, *IEEE Sensors, SENSORS 2020 - Conference Proceedings*. Institute of Electrical and Electronics Engineers (IEEE), 9278723. (Proceedings of IEEE Sensors; vol. 2020-October).

### **Self-Cleaned Photonic-Enhanced Solar Cells with Nanostructured Parylene-C**

Centeno, P., Alexandre, M. F., Chapa, M., Pinto, J. V., Deuermeier, J., Mateus, T., Fortunato, E., Martins, R., Águas, H. & Mendes, M. J., 1 Aug 2020, In: *Advanced Materials Interfaces*. 7, 15, 2000264.

### **Ultrafast Low-Temperature Crystallization of Solar Cell Graded Formamidinium-Cesium Mixed-Cation Lead Mixed-Halide Perovskites Using a Reproducible Microwave-Based Process**

Brites, M. J., Barreiros, M. A., Corregidor, V., Alves, L. C., Pinto, J. V., Mendes, M. J., Fortunato, E., Martins, R. & Mascarenhas, J., 25 Mar 2019, In: *ACS Applied Energy Materials*. 2, 3, p. 1844-1853 10 p.

### **Enhanced UV Flexible Photodetectors and Photocatalysts Based on TiO<sub>2</sub> Nanoplateforms**

Nunes, D., Pimentel, A., Araújo, A., Calmeiro, T. R., Panigrahi, S., Pinto, J. V., Barquinha, P., Gama, M., Fortunato, E. & Martins, R., 1 Oct 2018, In: *Topics in Catalysis*. 61, 15-17, p. 1591-1606 16 p.

### **"Electro-Typing" on a Carbon-Nanoparticles-Filled Polymeric Film using Conducting Atomic Force Microscopy**

Goswami, S., Nandy, S., Banerjee, A. N., Kiazadeh, A., Dillip, G. R., Vaz Pinto, J., Joo, S. W., Martins, R. & Fortunato, E., 20 Dec 2017, In: *Advanced Materials*. 29, 47, 1703079.

### **Quantitative real-time monitoring of RCA amplification of cancer biomarkers mediated by a flexible ion sensitive platform**

Veigas, B., Pinto, J., Vinhas, R., Calmeiro, T., Martins, R., Fortunato, E. & Baptista, P. V., 15 May 2017, In: *Biosensors & Bioelectronics*. 91, p. 788-795 8 p.

### **Syngas production by electrochemical CO<sub>2</sub> reduction in an ionic liquid based-electrolyte**

Pardal, T., Messias, S., Sousa, M., Machado, A. S. R., Rangel, C. M., Nunes, D., Pinto, J. V., Martins, R. & da Ponte, M. N., Mar 2017, In: *Journal of CO<sub>2</sub> Utilization*. 18, p. 62-72 11 p.

### **Barium, zinc & strontium yellows in late 19th-early 20th century oil paintings**

Otero, V., Campos, M. F., Sarmiento, J. M. D. V. P. M., Vilarigues, M., Carlyle, L. A. & Melo, M. J., 2017, In: *Heritage Science*. 5, 46.

### **Nineteenth century chrome yellow and chrome deep from Winsor & Newton<sup>TM</sup>**

Otero, V., Pinto, J. V., Carlyle, L., Vilarigues, M., Cotte, M. & Melo, M. J., 2017, In: *Studies in Conservation*. 62, 3, p. 123-149 27 p.

### **Improving positive and negative bias illumination stress stability in parylene passivated IGZO transistors**

Kiazadeh, A., Gomes, H. L., Barquinha, P., Martins, J., Rovisco, A., Pinto, J. V., Martins, R. & Fortunato, E., 1 Aug 2016, In: *Applied Physics Letters*. 109, 5, 5 p., 051606.

### **Smart optically active VO<sub>2</sub> nanostructured layers applied in roof-type ceramic tiles for energy efficiency**

Gonçalves, A., Resende, J., Marques, A. C., Pinto, J. V., Nunes, D., Marie, A., Gonçalves, R. F., Pereira, L., Martins, R. & Fortunato, E., 1 Jun 2016, In: *Solar Energy Materials and Solar Cells*. 150, p. 1-9 9 p.

### **Effect of Mg doping on Cu<sub>2</sub>O thin films and their behavior on the TiO<sub>2</sub>/Cu<sub>2</sub>O heterojunction solar cells**

Kardarian, K., Nunes, D., Maria Sberna, P., Ginsburg, A., Keller, D. A., Vaz Pinto, J., Deuermeier, J., Anderson, A. Y., Zaban, A., Martins, R. & Fortunato, E., 1 Apr 2016, In: *Solar Energy Materials and Solar Cells*. 147, p. 27-36 10 p.

### **Imidazole: Prospect Solvent for Lignocellulosic Biomass Fractionation and Delignification**

Morais, A. R. C., Pinto, J. V., Nunes, D., Roseiro, L. B., Oliveira, M. C., Fortunato, E. & Bogel-Lukasik, R., 7 Mar 2016, In: *ACS Sustainable Chemistry & Engineering*. 4, 3, p. 1643-1652 10 p.

### **Charging effects and surface potential variations of Cu-based nanowires**

Gomes, D. D. S. N., Calmeiro, T. R., Nandy, S., Sarmiento, J. M. D. V. P. M., Pimentel, A. C. M. B. G., Barquinha, P. M. C., Fortunato, E. M. C. & Martins, R. F. D. P., 29 Feb 2016, In: *Thin Solid Films*. 601, p. 45-53 8 p.

**Photocatalytic behavior of TiO<sub>2</sub> films synthesized by microwave irradiation**

Nunes, D., Pimentel, A., Pinto, J. V., Calmeiro, T. R., Nandy, S., Barquinha, P., Pereira, L., Carvalho, P. A., Fortunato, E. & Martins, R., 2016, In: *Catalysis Today*. 278, p. 262-270 9 p.

**Room Temperature Synthesis of Cu<sub>2</sub>O Nanospheres: Optical Properties and Thermal Behavior**

Nunes, D., Santos, L., Duarte, P., Pimentel, A., Pinto, J. V., Barquinha, P., Carvalho, P. A., Fortunato, E. & Martins, R., 20 Jun 2015, In: *Microscopy and Microanalysis*. 21, 1, p. 108-119 12 p.

**Operational stability of solution based zinc tin oxide/SiO<sub>2</sub> thin film transistors under gate bias stress**

Kiazadeh, A., Salgueiro, D., Branquinho, R., Pinto, J., Gomes, H. L., Barquinha, P., Martins, R. & Fortunato, E., Jun 2015, In: *APL Materials*. 3, 6, 1 p., 062804.

**Structure and Morphologic Influence of WO<sub>3</sub> Nanoparticles on the Electrochromic Performance of Dual-Phase a-WO<sub>3</sub>/WO<sub>3</sub> Inkjet Printed Films**

Santos, L., Wojcik, P., Pinto, J. V., Elangovan, E., Viegas, J., Pereira, L., Martins, R. & Fortunato, E., 15 Jan 2015, In: *Advanced Electronic Materials*. 1, 1-2, 1400002.

**PVA composite catalytic membranes for hyacinth flavour synthesis in a pervaporation membrane reactor**

Ceia, T. F., Silva, A. G., Ribeiro, C. S., Pinto, J. V., Casimiro, M. H., Ramos, A. M. & Vital, J., 1 Nov 2014, In: *Catalysis Today*. 236, PART A, p. 98-107 10 p.

**The alchemy of red mercury sulphide: The production of vermilion for medieval art**

Miguel, C., Clarke, M., Melo, M. J. & Vaz Pinto, J., Mar 2014, In: *Dyes and Pigments*. 102, p. 210-217 8 p.

**Ion sensing (EIS) real-time quantitative monitorization of isothermal DNA amplification**

Veigas, B., Branquinho, R., Vaz Pinto, J., Wojcik, P. J., Martins, R. F. D. P., Fortunato, E. M. C. & Baptista, P. M. R. V., 15 Feb 2014, In: *Biosensors & Bioelectronics*. 52, p. 50-55 6 p.

**Current transport mechanism at metal-semiconductor nanoscale interfaces based on ultrahigh density arrays of p-type NiO nano-pillars**

Nandy, S., Gonçalves, G., Pinto, J. V., Busani, T., Figueiredo, V., Pereira, L., Paiva Martins, R. F. & Fortunato, E., 7 Dec 2013, In: *Nanoscale*. 5, 23, p. 11699-11709 11 p.

**Thermoelectric properties of V<sub>2</sub>O<sub>5</sub> thin films deposited by thermal evaporation**

Santos, R., Loureiro, J., Nogueira, A., Elangovan, E., Pinto, J. V., Veiga, J. P., Busani, T., Fortunato, E., Martins, R. & Ferreira, I., 1 Oct 2013, In: *Applied Surface Science*. 282, p. 590-594 5 p.

**Uniform arrays of ZnO 1D nanostructures grown on Al:ZnO seeds layers by hydrothermal method**

Danciu, A-I., Musat, V., Busani, T., Pinto, J. V., Barros, R., Rego, A. M., Ferraria, A. M., Carvalho, P. A., Martins, R. & Fortunato, E., Oct 2013, In: *Journal of Nanoscience and Nanotechnology*. 13, 10, p. 6701-6710 10 p.

**Extended-Gate ISFETs Based on Sputtered Amorphous Oxides**

Vaz Pinto, J., Branquinho, R., Barquinha, P. M. C., Alves, E. J., Martins, R. F. D. P. & Fortunato, E. M. C., Sept 2013, In: *Journal Of Display Technology*. 9, 9, p. 729-734

**Plastic Compatible Sputtered Ta<sub>2</sub>O<sub>5</sub> Sensitive Layer for Oxide Semiconductor TFT Sensors**

Branquinho, R., Vaz Pinto, J., Busani, T. L., Barquinha, P. M. C., Pereira, L. M. N., Baptista, P. M. R. V., Martins, R. F. D. P. & Fortunato, E. M. C., Sept 2013, In: *Journal Of Display Technology*. 9, 9, p. 723-728

**Formation of oriented nickel aggregates in rutile single crystals by Ni implantation**

Cruz, M. M., Silva, R. C. D., Pinto, J. V., Borges, R. P., Franco, N., Casaca, A., Alves, E. & Godinho, M., Aug 2013, In: *Journal Of Magnetism And Magnetic Materials*. 340, p. 102-108 7 p.

**Gelatin/Zn(CF<sub>3</sub>SO<sub>3</sub>)<sub>2</sub> polymer electrolytes for electrochromic devices**

Alves, R. D., Rodrigues, L. C., Andrade, J. R., Fernandes, M., Pinto, J. V., Pereira, L., Pawlicka, A., Martins, R., Fortunato, E., deZeaBermudez, V. & Silva, M. M., Jun 2013, In: *Electroanalysis*. 25, 6, p. 1483-1490 8 p.

**P-Type Cu<sub>x</sub>O thin-film transistors produced by thermal oxidation**

Figueiredo, V., Pinto, J. V., Deuermeier, J., Barros, R., Alves, E., Martins, R. & Fortunato, E., 15 Apr 2013, In: *IEEE/OSA Journal of Display Technology*. 9, 9, p. 735-740 6 p., 6495484.

**DSM as a probe for the characterization of modified mesoporous silicas**

Duarte, P., Ferreira, D. P., Lopes, T. F., Vaz Pinto, J., Fonseca, I. M. D. F. L. D. & Ferreira Machado, I., 1 Oct 2012, In: *Microporous and Mesoporous Materials*. 161, p. 139-147

**Catalytic poly(vinyl alcohol) functionalized membranes obtained by gamma irradiation**

Casimiro, M. H., Silva, A. G., Vaz Pinto, J., Ramos, A. M. M., Vital, J. S. M. & Ferreira, L. M., Sept 2012, *Proceedings of the 12th Tihany Symposium on Radiation Chemistry*. Sáfrány, Á. & Kovács, A. (eds.). PERGAMON-ELSEVIER SCIENCE LTD, p. 1314-1318 (Radiation Physics And Chemistry; vol. 81, no. 9).

**p-Type Cu<sub>x</sub>O Films Deposited at Room Temperature for Thin-Film Transistors**

Figueiredo, V., Elangovan, E., Barros, R., Vaz Pinto, J., Busani, T. L., Martins, R. F. D. P. & Fortunato, E. M. C., Jan 2012, In: *Journal Of Display Technology*. 8, 1, p. 41-47

**Environmental, Optical, and Electrical Stability Study of Solution-Processed Zinc-Tin-Oxide Thin-Film Transistors**

Nayak, P. K., Vaz Pinto, J., Gonçalves, G., Martins, R. F. D. P. & Fortunato, E. M. C., Dec 2011, In: *Journal Of Display Technology*. 7, 12, p. 640-643

**Real-time monitoring of PCR amplification of proto-oncogene c-MYC using a Ta<sub>2</sub>O<sub>5</sub> electrolyte-insulator-semiconductor sensor**

Branquinho, R., Veigas, B., Vaz Pinto, J., Martins, R. F. D. P., Fortunato, E. M. C. & Baptista, P. M. R. V., 15 Nov 2011, In: *Biosensors & Bioelectronics*. 28, 1, p. 44-49 6 p.

**Magnetic nanoscale aggregates of cobalt and nickel in MgO single crystals**

Vaz Pinto, J., Cruz, M. M., Silva, R. M. C. D., Alves, E. J., González, R. G. & Godinho, M. M., Jun 2005, In: *European Physical Journal B*. 45, 3, p. 331-338

**Copper nanocolloids in MgO crystals implanted with Cu ions**

Savoini, B., Cáceres, D., González, R. G., Chen, Y., Vaz Pinto, J., da Silva, R. C. & Alves, E. J., Jun 2004, *Proceedings of the Twelfth International Conference on Radiation (REI-12)*. Amaral, L., Behar, M. & Zawislak, F. C. (eds.). Amsterdam: ELSEVIER SCIENCE BV, p. 148-152 (Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; vol. 2018, no. 1-4 June).

**Electrical conductivity of as-grown and oxidized MgO: Li crystals implanted with Li ions**

Tardío, M. M., Ramírez, R., González, R. G., Vaz Pinto, J. & Silva, R. C. D., Jun 2004, *Proceedings of the Twelfth International Conference on Radiation Effects in Insulators (REI-12)*. Amaral, L., Behar, M. & Zawislak, F. C. (eds.). Amsterdam: ELSEVIER SCIENCE BV, p. 164-169 (Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; vol. 218, no. 1-4 June).

**Proton-induced gamma-ray analysis of lithium in thick samples**

Mateus, R., Jesus, M. A. D. A. P. D., Braizinha, B., Cruz, J. D. N., Vaz Pinto, J. & Ribeiro, J. P., May 2002, *Proceedings of the 15th International Conference on Ion-Beam Analysis (IBA-15)*. Elliman, R. G. & Ridgway, M. C. (eds.). Amsterdam: ELSEVIER SCIENCE BV, p. 117-121 (Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms; vol. 190, no. 1-4 May).