

CURRICULUM VITAE

Ruben Canton Vitoria

Post-Doctoral Researcher

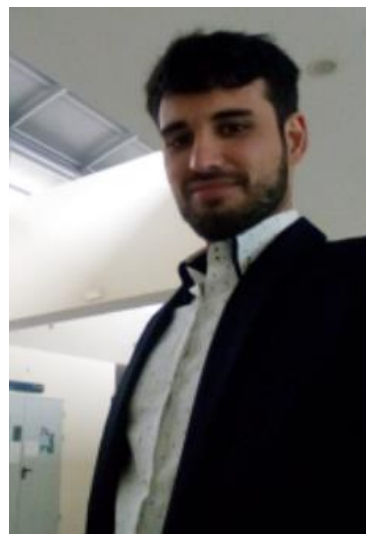
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EDUCATION

Ph.D. in Organic Chemistry, Department of Chemistry, University of Crete, Greece (2019)

M.Sc. in Organic Chemistry, Department of Chemistry, University of Valencia, Spain (2014)

B.Sc. in Chemistry, Department of Chemistry, University of Valencia, Spain (2013)

PROFESSIONAL EXPERIENCE AND APPOINTMENTS

1/1/2022 – present: Post-Doctoral Fellow, Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece.

10/2019 – 10/2021: Post-Doctoral Fellow, Department of Chemistry, Nagoya University, Nagoya, Japan.

MAIN RESEARCH INTERESTS

- Tetraazamacrocycles (e.g. porphyrins, phthalocyanines, boron-dipyrrin conjugates) and fullerene-based materials for energy conversion applications.
- Chemical functionalization of graphene and 2D-related materials.
- Electron donor-acceptor hybrid materials, catalysis.
- Spectroscopic, morphological, and thermal characterization.

- Study on the electronic, photophysical and electrochemical properties of photoactive materials.

EXTERNAL FUNDING

- EPAnEK, Title: "Innovative Industrial Materials with Advanced Multifunctionality, Prolonged Lifetime and Improved Performance Against Environmental Conditions for Versatile Protective Equipment," Acronym: PROTECT, co-financed by Greece and the European Union, Funding Organization: NSRF 2014-2020
- Post-doctoral fellowship by Japan Society for the Promotion of Science (JSPS): No P19368, Title: "Defect healing of 2D materials," 2019-2021
- Marie-Curie PhD fellowship, Enabling Excellence ITN, Title: "Graphene-based nanomaterials for touchscreen technologies: Comprehension, Commerce and Communication" Grant agreement no: 642742, Funding Organization: Horizon 2020, 2015-2018

CONFERENCES & PUBLICATIONS

20 international conferences, and 23 peer-reviewed publications.

SELECTED PUBLICATIONS

1. "A versatile post-doping towards two-dimensional semiconductors," A. Murai Yuya, Z. Shaochun, H. Takato, Liu Z, E. Takahiko, S. Hiroshi, Y. Miyata, I. Toshifumi, G. Yanlin, M. Mina, O. Susumu, M. Hiroyuki, S. Tomohiro, Y. Shoji, S. Hidemi, T. Takashi, W. Kenji, R. Canton-Vitoria, and R. Kitaura, *ACS Nano* **15**, 19225 (2021). DOI: [10.1021/acsnano.1c04584](https://doi.org/10.1021/acsnano.1c04584)
2. "Functionalized graphene and targeted applications – Highlighting the road from chemistry to applications," A. Stergiou, R. Canton-Vitoria, M. N. Psarrou, S. P. Economopoulos, and N. Tagmatarchis, *Prog. Mater. Sci.* **114**, 100683 (2020). DOI: [10.1016/j.pmatsci.2020.100683](https://doi.org/10.1016/j.pmatsci.2020.100683)
3. "Pyrene-functionalized tungsten disulfide as stable resistive photosensor," R. Canton-Vitoria, Y. Sayed-Ahmad-Baraza, M. Pelaez-Fernandez, R. Arenal, C. Bittencourt, C. P. Ewels, and N. Tagmatarchis, *Mater. Adv.* **1**, 2459 (2020). DOI: [10.1039/d0ma00429d](https://doi.org/10.1039/d0ma00429d)

4. "Stabilization of metallic phases through formation of metallic/semiconducting lateral heterostructures," R. Canton-Vitoria, T. Hotta, Z. Liu, T. Inoue, and R. Kitaura, *J. Chem. Phys.* **153**, 084702 (2020). DOI: [10.1063/5.0012782](https://doi.org/10.1063/5.0012782)
5. "Ping-pong energy transfer in covalently linked porphyrin-MoS₂ architectures," R. Canton-Vitoria, T. Scharl, A. Stergiou, A. Cadranel, R. Arenal, D. M. Guldi, and N. Tagmatarchis, *Angew. Chem. Int. Ed.* **59**, 1 (2020). DOI: [10.1002/anie.201914494](https://doi.org/10.1002/anie.201914494)
6. "Preparation, photophysical and electrochemical evaluation of an azaborondipyrromethene/zinc porphyrin/graphene all supramolecular nanoensemble," G. Rotas, M. B. Thomas, R. Canton-Vitoria, F. D'Souza, and N. Tagmatarchis, *Chem. Eur. J.* **26**, 6652 (2020). DOI: [10.1002/chem.202000174](https://doi.org/10.1002/chem.202000174)
7. "Non-covalent immobilization of pyrene onto transition metal dichalcogenides for photoinduced charge-transfer processes and protection from photooxidation," R. Canton-Vitoria, Y. Sayed-Ahmad-Baraza, R. Arenal, C. P. Ewels, and N. Tagmatarchis, *Nanomaterials* **10**, 363 (2020). DOI: [10.3390/nano10020363](https://doi.org/10.3390/nano10020363)
8. "Cyanine-graphene hybrid materials for bioimaging applications," K. C. Prousis, R. Canton-Vitoria, G. Pagona, M. Goulielmaki, V. Zoumpourlis, N. Tagmatarchis, and T. Calogeropoulou, *Dyes Pigm.* **175**, 108047 (2020). DOI: [10.1016/j.dyepig.2019.108047](https://doi.org/10.1016/j.dyepig.2019.108047)
9. "Excited-state charge transfers in covalently functionalized MoS₂ with zinc phthalocyanine donor-acceptor hybrid," R. Canton-Vitoria, H. B. Gobeze, V. M. Blas-Ferrando, J. Ortiz, Y. Jang, F. Fernández-Lázaro, Á. Sastre-Santos, Y. Nakanishi, H. Shinohara, F. D'Souza, and N. Tagmatarchis, *Angew. Chem. Int. Ed.* **58**, 5712 (2019). DOI: [10.1002/anie.201900101](https://doi.org/10.1002/anie.201900101)
10. "Integrating water-soluble polythiophene with transition metal dichalcogenides for managing photoinduced processes," R. Canton-Vitoria, E. Istif, J. Hernández-Ferrer, E. P. Urriolabeitia, A. M. Benito, W. K. Maser, and N. Tagmatarchis, *ACS Appl. Mater. Interfaces* **11**, 5947 (2019). DOI: [10.1021/acsami.8b18435](https://doi.org/10.1021/acsami.8b18435)
11. "Excited-state charge transfer in covalently functionalized MoS₂ with a zinc phthalocyanine donor-acceptor hybrid," R. Canton-Vitoria, H. B. Gobeze, V. M. Blas-Ferrando, J. Ortiz, Y. Jang, F. Fernández-Lázaro, Á. Sastre-Santos, Y. Nakanishi, H.

- Shinohara, F. D'Souza, and N. Tagmatarchis, *Angew. Chem.* **131**, 5768 (2019). DOI: [10.1002/anie.201900101](https://doi.org/10.1002/anie.201900101)
12. "Electrostatic association of ammonium-functionalized layered-transition-metal dichalcogenides with an anionic porphyrin," R. Canton-Vitoria, C. Stangel, and N. Tagmatarchis, *ACS Appl. Mater. Interfaces* **10**, 23476 (2018). DOI: [10.1021/acsami.8b08272](https://doi.org/10.1021/acsami.8b08272)
 13. "Electronic interactions in illuminated carbon Dot/MoS₂ ensembles and electrocatalytic activity towards hydrogen evolution," R. Canton-Vitoria, L. Vallan, E. Urriolabeitia, A. M. Benito, W. K. Maser, and N. Tagmatarchis, *Chem. Eur. J.* **24**, 10468 (2018). DOI: [10.1002/chem.201801425](https://doi.org/10.1002/chem.201801425)
 14. "Supramolecular-enhanced charge transfer within entangled polyamide chains as the origin of the universal blue fluorescence of polymer carbon dots," L. Vallan, E. P. Urriolabeitia, F. Ruipérez, J. M. Matxain, R. Canton-Vitoria, N. Tagmatarchis, A. M. Benito and W. K. Maser, *J. Am. Chem. Soc.* **140**, 12862 (2018). DOI: [10.1021/jacs.8b06051](https://doi.org/10.1021/jacs.8b06051)
 15. "Interfacing transition metal dichalcogenides with carbon nanodots for managing photoinduced energy and charge-transfer processes," L. Vallan, R. Canton-Vitoria, H. B. Gobeze, Y. Jang, R. Arenal, A. M. Benito, W. K. Maser, F. D'Souza, and N. Tagmatarchis, *J. Am. Chem. Soc.* **140**, 13488 (2018). DOI: [10.1021/jacs.8b09204](https://doi.org/10.1021/jacs.8b09204)
 16. "Functionalization of MoS₂ with 1,2-dithiolanes: toward donor-acceptor nanohybrids for energy conversion," R. Canton-Vitoria, Y. Sayed-Ahmad-Baraza, M. Pelaez-Fernandez, R. Arenal, C. Bittencourt, C. P. Ewels, and N. Tagmatarchis, *npj 2D Mater. Appl.* **1**, 1 (2017). DOI: [10.1038/s41699-017-0012-8](https://doi.org/10.1038/s41699-017-0012-8)