

Andrés Granados del Águila

Institute of Material Sciences (ICMUV)
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Curriculum Vitae

Personal Information

Surname Granados del Águila.
First names Andrés.
Citizenship Spanish.
ORCID 0000-0002-8162-7192 (<https://orcid.org/0000-0002-8162-7192>)

Education

Dec 2015 **Doctor Degree in Science (Semiconductor Physics)**, at the *High Field Magnet Laboratory (HFML)*, *Radboud University Nijmegen*, The Netherlands, Supervisors: Prof. dr. ir. J.C. (Jan Kees) Maan and Prof. dr. P.C.M. (Peter) Christianen.
Oct 2008 **Degree in Physics**, (*Licenciatura 5 years*), *University Complutense of Madrid*, UCM, Spain.

Current Position

Sep 2024 - **Ramón y Cajal Principal Investigator (Assistant Professor)**, at *Institute of Materials Science (ICMUV)*, *University of Valencia*, Spain.
Present

Research Experience

Jan 2022 - **Senior Research Fellow**, at *Institute for Functional Intelligent Materials*, *National University Singapore*, Singapore, at the group of Prof. dr. Maciej Koperski and distinguished Prof. Kostya Novoselov.
Aug 2023
April 2021 - **Senior Research Fellow**, at *School of Physical and Mathematical Sciences*, *Nanyang Technological University*, Singapore, at the group of Prof. dr. Marco Battiato.
Jan 2022
Oct 2018 - **Presidential Postdoctoral Fellow by the Nanyang Technological University**, at *School of Physical and Mathematical Sciences*, *Nanyang Technological University*, Singapore.
March 2021
Feb 2016 - **Research Fellow**, at *School of Physical and Mathematical Sciences*, *Nanyang Technological University*, Singapore, at the group of Prof. dr. Qihua Xiong.
Sep 2018
Jan 2010 - **PhD on the Optical Properties of Semiconductor Colloidal Nanocrystals**, at the *High Field Magnet Laboratory (HFML)*, *Radboud University Nijmegen*, The Netherlands, Supervisors: Prof. dr. ir. J.C. (Jan Kees) Maan and Prof. dr. P.C.M. (Peter) Christianen.
Dec 2015

Research Interest

My research interest focuses on realizing collective exciton states and on understanding how light-matter interactions can manipulate electrical and spin-valley currents in novel quantum materials. I am keen on developing new optoelectronic techniques. Also, by using two-dimensional crystals (TMDs, perovskites, etc) I seek to rationally design nanostructures for the discovery of exciton quantum phases. I have expertise in collective exciton behaviour and in measuring individual nano-objects, solid-state and soft-matter systems, in high magnetic fields and at low temperatures. Specifically, I have experience in time- and spatially-resolved photoluminescence imaging, high-resolution photoluminescence spectroscopy under resonant excitation, photo-conductivity, Raman scattering, reflectance spectroscopy, photon correlation measurements and ultra-fast pump-probe transient absorption imaging.

Publications

I have co-authored 33 peer-reviewed articles. I have been cited >1900 times and have a *h*-index of 23, as per Google Scholar (<https://scholar.google.com/citations?user=m7ZcjPkAAAAJ&hl=en>).

*Peer-reviewed publications

- 33 Tianhua Ren, **A. Granados del Águila** (co-corresponding and co-first author), Zhaolong Chen, Kostya S. Novoselov, Maciej Koperski and Handong Sun. "*Van der Waals photonic integrated circuit with coherent light generation*" Nat. Commun., 16, 5931 (2025).

Citations: 0 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 17.2.

- 32 Leyi Loh, Fengyuan Xuan, **A. Granados del Águila** (co-first author), Yuan Chen, Yi Wei Ho, Junyong Wang, Zhe Wang, Kenji Watanabe, Takashi Taniguchi, Maciej Koperski, Michel Bosman, Su Ying Quek and Goki Eda. "*Nb impurity-bound excitons as quantum emitters in monolayer WS₂*" Nat. Commun., 15, 10035 (2024).

Citations: 3 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 17.2.

- 31 **A. Granados del Águila** (co-corresponding author), Yi Ren Wong, Indrajit Wadgaonkar, Antonio Fieramosca, Xue Liu, Kristina Vaklinova, Stefano Dal Forno, T. Thu Ha Do, H. Y. Wei, K. Watanabe, T. Taniguchi, Kostya S. Novoselov, Maciej Koperski, Marco Battiato, Qihua Xiong "*Ultrafast Exciton Fluid Flow in an Atomically-thin MoS₂ Semiconductor*". Nat. Nanotechnol. (2023) <https://doi.org/10.1038/s41565-023-01438-8>.

Citations: 33 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 40.523.

- 30 Gabriele Clemente, Massimo Moret, **Andrés Granados del Águila**, Muhammad Hussain, Zdenek Sofer, Jiayuan Zhou, Xue Liu, Marco Fanciulli and Fabrizio Moro, "*Electron spin resonance on a 2D van der Waals CrBr₃ uniaxial ferromagnet*". Journal of Applied Physics 133, 034301 (2023).

Citations: 1 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 2.286.

- 29 Jiajie Pei, Xue Liu, **Andrés Granados del Águila**, Di Bao, Sheng Liu, Mohamed-Raouf Amara, Weijie Zhao, Feng Zhang, Congya You, Yongzhe Zhang, Kenji Watanabe, Takashi Taniguchi, Han Zhang, Qihua Xiong, "*Switching of K-Q intervalley trions fine structure and their dynamics in n-doped monolayer WS₂*". Opto-Electron Adv 6, 220034 (2023).

Citations: 1 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 8.933.

- 28 Fabrizio Moro, Shenggang Ke, **Andrés Granados del Águila**, Aljoscha Soll, Zdenek Sofer, Qiong Wu, Ming Yue, Liang Li, Xue Liu and Marco Fanciulli. "*Revealing 2D Magnetism in a Bulk CrSBr Single Crystal by Electron Spin Resonance*". Adv. Funct. Mater. 2207044 (2022).

Citations: 10 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 19.924.

- 27 Fabrizio Moro, Massimo Moret, Alberto Ghirri, **A. Granados del Águila**, Yoshihiro Kubozono, Luca Beverina, Antonio Cassinese, "*Room Temperature Optically Detected Magnetic Resonance of Triplet Excitons in a Pentacene-doped Picene Single Crystal*". Journal of Materials Research 37, 1269 (2022). (*Journal cover)

Citations: 4 (Journal site and/or Google Scholar); Journal Impact Factor: 2.909.

- 26 S. Liu, **A. Granados del Águila*** (co-first author), Dhiman Bhowmick, Chee Kwan Gan, T. Thu Ha Do, Mikhail Prosnikov, Zdenek Sofer, Peter C.M. Christianen, Pinaki Sengupta and Qihua Xiong, "*Direct Observation of Magnon-Phonon Strong Coupling in a Two-dimensional Antiferromagnet by High Magnetic Fields*". Physical Review Letters, 127, 097401 (2021).

Citations: 67 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 9.161.

- 25 T. Yin, K. A. Ulman, S. Liu, **A. Granados del Águila**, Y. Huang, L. Zhang, M. Serra, D. Sedmidubsky, Z. Sofer, S. Y. Quek and Q. Xiong, "*Chiral Phonons and Giant Magneto-Optical Effect in CrBr₃ 2D Magnet*". Advanced Materials, 2101618 (2021).

Citations: 40 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 32.086.

- 24 S. Liu, Y. Wu, X. Liu, **A. Granados del Águila**, F. Xuan, A. Chaturvedi, H. Zhang, S. Y. Quek and Q. Xiong, "*Light-matter interactions in high quality manganese-doped two-dimensional molybdenum diselenide*". Science China Materials, doi.org/10.1007/s40843-020-1641-9 (2021).

Citations: 4 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 8.64.

- 23 D. Tedeschi, H. A. Fonseka, E. Blundo, **A. Granados del Águila**, Y. Guo, H. H. Tan, P. C. M. Christianen, C. Jagadish, A. Polimeni and M. De Luca, "*Hole and Electron Effective Masses in Single InP Nanowires with a Wurtzite-Zincblende homojunction*". ACS Nano, 14, 9, 11613 (2020).

Citations: 8 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 18.027.

- 22 T. Thu Ha Do, **A. Granados del Águila*** (co-first author), Jun Xing, Sheng Liu and Qihua Xiong, "*Direct and Indirect Exciton Transitions in Two-dimensional Lead Halide Perovskite Semiconductors*". The Journal of Chemical Physics 153, 064705 (2020).

Citations: 11 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 4.304.

- 21 Sheng Liu, **A. Granados del Águila*** (co-first and co-corresponding author), Xue Liu, Yihan Zhu, Yu Han, Apoorva Chaturvedi, Pu Gong, Hongyi Yu, Hua Zhang, Wang Yao and Qihua Xiong, "*Room Temperature Valley Polarization in Atomically-thin Semiconductors via Chalcogenide-Alloying*". ACS Nano 14, 8, 9873 (2020).

Citations: 33 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 18.027.

- 20 T. Thu Ha Do, **A. Granados del Águila*** (co-first author), Dong Zhang, Jun Xing, Sheng Liu, Mikhail Prosnikov, Weibo Gao, Kai Chang, Peter C.M. Christianen and Qihua Xiong, "*Bright Exciton Fine-Structure in Two-Dimensional Lead Halide Perovskites*". Nano Letters 20, 7, 5141 (2020).

Citations: 61 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 12.262.

- 19 **A. Granados del Águila**, T. Thu Ha Do, Jun Xing, Wen Jie Jee, Jacob B. Khurgin and Qihua Xiong, "*Efficient Up-Conversion Photoluminescence in All-Inorganic Lead Halide Perovskite Nanocrystals*". Nano Research 13, 1962 (2020).

Citations: 33 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 10.269.

- 18 Rajrupa Paul, Nicolas Humblot, Simon Escobar Steinvall, Elias Zsolt Stutz, Shreyas Sanjay Joglekar, Jean-Baptiste Leran, Mahdi Zamani, Cyril Cayron, Roland Logé, **A. Granados del Águila**, Qihua

Xiong and Anna Fontcuberta i Morral *"van der Waals Epitaxy of Earth-Abundant Zn₃P₂ on Graphene for Photovoltaics"*. Crystal Growth & Design 20, 3816 (2020).

Citations: 36 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 4.01.

- 17 [OA] Di Bao, **A. Granados del Águila*** (co-first author), T. Thu Ha Do, Sheng Liu, Jiajie Pei and Qihua Xiong, *"Probing Momentum-indirect Excitons by Near-resonance Photoluminescence Excitation Spectroscopy in WS₂ Monolayer"*. 2D Materials 7, 031002 (2020).

Citations: 20 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 6.861.

- 16 **A. Granados del Águila**, Sheng Liu, T. Thu Ha Do, Zhuangchai Lai, Thu Ha Tran, Sean Ryan Krupp, Zhi-Rui Gong, Hua Zhang, Wang Yao and Qihua Xiong, *"Linearly Polarized Luminescence of Atomically Thin MoS₂ Semiconductor Nanocrystals"*. ACS Nano 13, 13006 (2019).

Citations: 25 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 18.027.

- 15 Sheng Liu, Shishuai Sun, Chee Kwan Gan, **A. Granados del Águila**, Yanan Fang, Jun Xing, T. Thu Ha Do, Timothy J. White, Hongguo Li, Wei Huang and Qihua Xiong, *"Manipulating Efficient Light Emission in Two-dimensional Perovskite Crystals by Pressure-induced Anisotropic Deformation"*. Science Advances 5, eaav9445 (2019).

Citations: 132 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 14.136.

- 14 D. Tedeschi, M. De Luca, P. E. Faria Junior, **A. Granados del Águila**, Q. Gao, H. H. Tan, B. Scharf, P. C. M. Christianen, C. Jagadish, J. Fabian and A. Polimeni, *"Unusual Spin Properties of InP Wurtzite Nanowires revealed by Zeeman Splitting Spectroscopy"*. Physical Review B 99, 161204(R) (2019).

Citations: 17 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 3.908.

- 13 Xinxiong Li, T., Thu Ha Do, **A. Granados del Águila**, Yinjuan Huang, Wangqiao Chen, Yongxin Li, Rakesh Ganguly, Samuel Morris, Qihua Xiong, Dong-sheng Li and Qichun Zhang, *"Two-Dimensional and Emission-Tunable: An Unusual Perovskite Constructed from Lindqvist-Type [Pb₆Br₁₉]⁷⁻ Nanoclusters"*. Inorganic Chemistry 57, 14035 (2018).

Citations: 23 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 5.436.

- 12 Xinxiong Li T., Thu Ha Do, **A. Granados del Águila**, Yinjuan Huang, Wangqiao Chen, Qihua Xiong and Qichun Zhang *"A 3D Halophosphate Framework Constructed From Unprecedented Lindqvist-like Highly-Coordinated [Pb₆Br₂₅]¹³⁻ Nanoclusters with Temperature-Dependent Emission"*. Chemistry - An Asian Journal, 13, 3185 (2018).

Citations: 26 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 4.839.

- 11 **A. Granados del Águila*** (co-corresponding author), G. Pettinari, E. Groeneveld, C. de Mello Donegá, D. Vanmaekelbergh, J. C. Maan and P. C. M. Christianen, *"Optical Spectroscopy of Dark and Bright Excitons in CdSe Nanocrystals in High Magnetic Fields"*. Journal of Physical Chemistry C, 121, 23693-23704 (2017).

Citations: 20 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 4.177.

- 10 T. Thu Ha Do, **A. Granados del Águila*** (co-first author), C. Cui, J. Xing, Z. Ning and Q. Xiong, *"Optical Study on Intrinsic Exciton States in High-Quality CH₃NH₃PbBr₃ Single Crystals"*. Physical Review B 96, 075308 (2017).

Citations: 28 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 3.908.

- 9 G. Plechinger, P. Nagler, A. Arora, **A. Granados del Águila**, M. V. Ballottin, T. Frank, P. Steinleitner, M. Gmitra, Jaroslav Fabian, P. C. M. Christianen, R. Bratschitsch, C. Schüller and T. Korn *Excitonic Valley Effects in Monolayer WS₂ under High Magnetic Fields*. Nano Letters, 16, 7899-7904 (2016).

Citations: 136 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 12.262.

- 8 R. Schmidt, A. Arora, G. Plechinger, P. Nagler, **Andrés Granados del Águila**, M. V. Ballottin, P. C. M. Christianen, S. Michaelis de Vasconcellos, C. Schüller, T. Korn and R. Bratschitsch *Magnetic-Field-Induced Rotation of Polarized Light Emission from Monolayer WS₂*. Physical Review Letters, 117, 077402 (2016).

Citations: 95 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 9.161.

- 7 D. Tedeschi, M. De Luca, **A. Granados del Águila**, Q. Gao, G. Ambrosio, M. Capizzi, H. H. Tan, P. C. M. Christianen, C. Jagadish and A. Polimeni *Value and Anisotropy of the Electron and Hole Mass in Pure Wurtzite InP Nanowires*. Nano Letters, 16, 6213-6221 (2016).

Citations: 17 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 12.262.

- 6 [OA] G. Plechinger, P. Nagler, A. Arora, R. Schmidt, A. Chernikov, **A. Granados del Águila**, P.C.M. Christianen, R. Bratschitsch, C. Schüller and Tobias Korn *"Trion Fine Structure and Coupled Spin-Valley Dynamics in Monolayer Tungsten Disulfide"*. Nature Communications, 7, 12715 (2016).

Citations: 303 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 17.694.

- 5 **A. Granados del Águila**, E. Groeneveld, J. C. Maan, C. de Mello Donega and P. C. M. Christianen, *"Effect of Electron-Hole Overlap and Exchange Interaction on Exciton Radiative Lifetimes of CdTe/CdSe Heteronanocrystals"*. ACS Nano 10, 4102-4110 (2016).

Citations: 29 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 18.027.

- 4 A. A. Mitioglu, P. Plochocka, **A. Granados del Águila**, P. C. M. Christianen, G. Deligeorgis, L. Kulyuk and D. K. Maude, *"Optical Investigation of Monolayer and Bulk Tungsten Diselenide (WSe₂) in High Magnetic Fields"*. Nano Letters 15, 4387-4392 (2015).

Citations: 132 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 12.262.

- 3 **A. Granados del Águila**, B. Jha, F. Pietra, E. Groeneveld, C. de Mello Donega, J. C. Maan, D. Vanmaekelbergh and P. C. M. Christianen, *"Observation of the Full Exciton and Phonon Fine Structure in CdSe/CdS Dot-in-Rod Heteronanocrystals"*. ACS Nano 8, 5921-5931 (2014).

Citations: 49 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 18.027.

- 2 P. Plochocka, A.A. Mitioglu, D. K. Maude, G.L.J.A. Rikken, **A. Granados del Águila**, P.C.M. Christianen, P. Kacman and Hadas Shtrikman, *"High Magnetic Field Reveals the Nature of Excitons in a Single GaAs/AlAs Core/Shell Nanowire"*. Nano Letters 13, 2442-2447 (2013).

Citations: 21 (Journal site and/or Google Scholar); Journal Impact Factor (2023): 12.262.

- 1 V. K. Guduru, **A. Granados del Águila**, S. Wenderich, M.K. Kruize, A. McCollam, P.C.M. Christianen, U. Zeitler, A. Brinkman, G. Rijnders, H. Hilgenkamp and J. C. Maan, *"Optically Excited Multi-band*

Conduction in LaAlO₃/SrTiO₃ Heterostructures". Applied Physics Letters, 102 (2013), 051604.

Citations: 41 (Journal site); Journal Impact Factor (2023): 3.971.

Awarded Research Grants as Principal Investigator

- 2025 **PID2024-162565OA-I00**, awarded awarded by the Ministry of Science, Innovation and Universities, Spain)., Grant budget of **88,000 Euros**, **Principal Investigator**.
- 2025 **Prometeo**, awarded by the Generalitat Valencia, Spain)., Grant budget of **500,000 Euros**, **member of the research team**.
- 2023 **Ramon y Cajal Fellowship**, awarded by the Ministry of Science, Innovation and Universities of Spain (grant RYC2022-037107-I; MINECO, Spain)., Grant budget of **314,350 Euros**, **Principal Investigator**.
- 2020 **Research grant for experimentation in high magnetic fields**, awarded by the European High Magnetic Field Laboratory (EMFL), Grant budget of up to **40,000 Euros** , **co-Principal Investigator**.
(*Due to COVID-19, experiments were postponed)
- 2019 **Research grant for experimentation in high magnetic fields**, awarded by the European High Magnetic Field Laboratory (EMFL), Grant budget of up to **80,000 Euros** , **co-Principal Investigator** .
- 2018 **Presidential Postdoctoral Fellowship**, awarded by the Nanyang Technological University of Singapore, **Principal Investigator**, Research budget: **396,000 Singapore Dollars** (1 Euro = 1.43 SGD).

Collaborations

Prof. dr. Ren Tianhua, Macau University, Macau, China, Working on: Nanophotonics and Light-matter interactions in atomically-thin semiconductors.

Dr. Stefano dal Forno, Nanyang Technological University, Singapore, Singapore, Working on: Exciton transport in atomically-thin semiconductors.

Prof. dr. Juan Martínez Pastor, University of Valencia, Valencia, Spain, Working on: Superradiance and collective exciton phenomena in perovskites nanocrystals.

Prof. dr. P. C. M. (Peter) Christianen, High Magnetic Field Laboratory, Nijmegen, The Netherlands, Magneto-optical spectroscopy in atomically-thin semiconductors.

Prof. dr. Fabrizio Moro, Department of Materials Science, University of Milano-Bicocca, Italy, Working on: Photoluminescence and electron spin-resonances in organic and magnetic semiconductors.

Communications to International and National Conferences

- June 2025 **NanoSeries Conference**, Valencia, Spain.
Invited Speaker
- January 2025 **Cold Atom Workshop Spain 2025 (CAW-Spain 2025)**, Spain, Valencia, Spain.
Invited Speaker
- November 2024 **5th International Conference on Optics, Photonics and Lasers (OPL-2024)**, Valencia, Spain.
Invited Speaker
- September 2023 **Twistronics of 2D materials: from modelling to real systems**, Manchester, UK.
Oral communication

- January 2020 **1&2D Materials International Conference and Exhibition (1&2DM)**, Tokyo, Japan.
Oral communication
- July 2019 **International Conference on Materials for Advanced Technologies (ICMAT19)**, Singapore, Singapore, Oral communication (Symposium SS-08).
- July 2019 **International Conference on Materials for Advanced Technologies (ICMAT19)**, Singapore, Singapore, Oral communication (Symposium BB-10).
- March 2018 **Institute of Physics Singapore (IPS18)**, Singapore, Singapore.
Poster communication (Co-presenting Best Poster Award)
- March 2018 **Institute of Physics Singapore (IPS18)**, Singapore, Singapore.
Oral communication
- Dec 2017 **3rd International Conference on 2D Materials and Technology (ICON-2DMAT 2017)**, Singapore, Singapore.
Poster communication (Best Poster Award)
- June 2017 **International Conference on Materials for Advanced Technologies (ICMAT17)**, Singapore, Singapore, Poster communication.
- Sep 2014 **Optical Properties of Individual Nanowires and Quantum Dots in High Magnetic Fields**, Toulouse, France.
Invited Speaker.
- May 2014 **8th International Conference on Quantum Dots**, Pisa, Italy.
Oral communication.
- Oct 2012 **Summer School in High Magnetic Fields**, Rugen, Germany.
Oral communication.
- Jul 2012 **High Magnetic Fields in Semiconductor Physics**, Chamonix, France.
Poster communication.
- Jan 2011 **Foundation for Fundamental Research on Matter (FOM): Annual Meeting**, Veldhoven, The Netherlands.
Oral communication.
- May 2011 **Institute of Molecular and Materials Symposium**, Nijmegen, The Netherlands.
Oral communication.
- Oct 2010 **Summer School in High Magnetic Fields**, Ameland, The Netherlands.
Oral communication.

Honours and Awards

- Oct 2018 **Presidential Postdoctoral Fellowship**, awarded by the Nanyang Technological University of Singapore, Grant budget: **396,000 SGD** (1 Euro = 1.43 SGD), **Principal Investigator**.
- March 2018 **Best Poster Award**, *Efficient Up-Conversion Photoluminescence in All-Inorganic Lead Halide Perovskite Nanocrystals*, Institute of Physics Singapore (IPS18).
- Dec 2017 **Best Poster Award**, *Optical Properties of MoS₂ Quantum Dots: A Novel Colloidal Nanocrystal System*, 3rd International Conference on 2D Materials and Technology (ICON-2DMAT 2017).

Reviewer Activity

- 2017 **Nature Publishing Group**, *Nature Communications*.
- 2019 **Royal Society of Chemistry**, *Nanoscale*.
- 2020 **IOP Science**, *2D Materials*.
- 2020 **American Chemical Society**, *Nano Letters*.
- 2020 **American Chemical Society**, *ACS Applied Materials & Interfaces*.

2021 **IOP Science**, *Journal of Physics D: Condensed Matter*.

2022 **Wiley Online Library**, *Small*.

2022 **Wiley Online Library**, *Advance Optical Materials*.

Teaching Experience

Jan 2025 - **Teaching**, *Physics II: Electrostatic, Magnetostatics and Waves*, Undergraduate level course, Present University of Valencia.

Sep 2024 - **Teaching**, *Fundamentals of Science*, Graduate level course, University of Valencia. Present

Aug 2018 - **Teaching assistant**, *Topics in Applied Physics: Fundamental Optical Processes in Low-Dimensional Systems 2018*, Undergraduate/graduate level course, Nanyang Technological University.

Aug 2017 - **Teaching assistant**, *Topics in Applied Physics: Fundamental Optical Processes in Low-Dimensional Systems 2017*, Undergraduate/graduate level course, Nanyang Technological University.

(Daily) Supervision of PhD Students

Feb 2016 - **PhD Student T. Thu Ha Do**, *Optical spectroscopy in lead-halide perovskite semiconductors*, Graduated on Jan 2020 by the Nanyang Technological University, *PhD Thesis has been awarded as the best of 2020 sponsored by the Material Research Society Singapore.

May 2017 - **PhD Student Liu Sheng**, *Optical spectroscopy in nanodesigned two-dimensional semiconductors*, Graduated on Aug 2019 by the Nanyang Technological University.

Sep 2017 - **PhD Student Di Bao**, *Optical spectroscopy in TMDs and II-VI semiconductors*, Graduated on December 2020 by the Nanyang Technological University.

Sep 2018 - **PhD Student Yi Ren Wong**, *Light-induced unconventional transport in atomically-thin TMDs semiconductors*, Graduated on December 2022 by the Nanyang Technological University.

Organization of Conferences

- Member of the local and scientific committee at the International Student Congress of Colloid and Interphase. The European student conference July 2009 at the University of Almería, organized by the European Colloid and Interphase Society.

Other Skills

Languages

Spanish **Mother tongue.**

English **Full professional proficiency (Fluent).**

Computer Skills

Systems **Windows and Mac.**

Spreadsheet **Origin and Microsoft Excel.**

Word **Latex and Microsoft Word.**

Processing

Art & **Adobe Illustrator and Adobe Photoshop.**

Graphics

Engineering **Maple.**

Software

Personal Interests and Hobbies

I enjoy practicing every team sport, but in particular I love playing football and running. My hobbies include also artistic design, photography and reading. I am always looking for interesting and new challenges and because of that, I really enjoy travelling to learn about different cultures and meeting different people in my travels. I just to be an active volunteer at Red Cross Singapore.

References

○ Prof. dr. P.C.M. (Peter) Christianen

Distinguished Professor of Condensed Matter and Nanomaterials
Director of the High Field Magnet Laboratory (HFML)
Radboud University Nijmegen, Nijmegen, The Netherlands
Peter.Christianen@ru.nl

○ Prof. dr. Qihua Xiong

Distinguished Professor of Nanomaterials and Nanophotonics
Department of Physics
Tsinghua University, Beijing, China.
qihua_xiong@tsinghua.edu.cn

○ Distinguished Prof. dr. Kostya Novoselov

Distinguished Professor of Condensed Matter and Nanomaterials
Director of the Institute of Functional Intelligent Materials, National University Singapore, Singapore.
kostya@nus.edu.sg

Additional References to be contacted if necessary

○ Prof. dr. Juan Martinez Pastor

Distinguished Professor of Condensed Matter Physics
Faculty of Physics, ICMUV
University of Valencia, Spain, Spain
juan.mtnez.pastor@uv.es

○ Prof. dr. Paulina Plochocka

Distinguished Professor of Condensed Matter Science
Laboratoire National des Champs Magnetiques Intenses (LNCMI), Toulouse, France
Centre National de la Recherche Scientifique (CNRS), France
Paulina.plochocka@lncmi.cnrs.fr

○ Prof. dr. Antonio Polimeni

Distinguished Professor of Condensed Matter Science
Dipartimento di Fisica
Sapienza Università di Roma, Rome, Italy
Antonio.polimeni@roma1.infn.it

○ Prof. dr. Celso de Mello Donegá

Distinguished Professor of Soft Matter Science and Nanomaterials
Debye Institute for Nanomaterials Science
Utrecht University, Utrecht, The Netherlands
C.demello-donega@uu.nl