

Miquel Ortega

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Education

PhD student in Mathematics <i>Co-supervised by Juanjo Rué and Oriol Serra</i>	Universitat Politècnica de Catalunya (UPC) 2022–present
Master in Advanced Mathematics and Engineering	UPC 2021–2022
Degree in Mathematics	UPC 2016–2021
Degree in Computer Science	UPC 2016–2021

Preprints

- **Monochromatic products in random integer sets**, with Roger Lidón, Darío Martínez and Patrick Morris. Submitted. arXiv: 2512.04916.

Publications

- **A sparse canonical van der Waerden theorem**, with José D. Alvarado, Yoshiharu Kohayakawa, Patrick Morris and Guillermo O. Mota. To appear in *Proceedings of the American Mathematical Society*. arXiv: 2510.03084.
- **On the number of monochromatic solutions to multiplicative equations**, with Lucas Aragão, Jonathan Chapman and Victor Souza. Submitted. *Combinatorica, Volume 45 (2025), Paper No.64*. arXiv: 2311.18742.
- **Product-free sets in the free group**, with Juanjo Rué and Oriol Serra. *Mathematika, Volume 70 (2024) no. 3, Paper No. e12255*. arXiv: 2302.03748.
- **Extremal sidon sets are Fourier Uniform, with applications to partition regularity**, with Sean Prendiville. *Journal de théorie des nombres de Bordeaux, Volume 35 (2023) no. 1, pp. 115-134*. arXiv: 2110.13447.

Grants

- FPI grant 2021 (Spanish government research agency grant for graduate studies).
- CFIS scholarship 2016 (double degree scholarship program), awarded.
- CIMS Cellex Program 2015 (baccalaureate scholarship specialised in mathematics and physics), awarded.

Teaching

Probability Theory <i>Teaching assistant.</i>	FME, UPC Fall 2022, 2023, 2024, 2025
Statistics and Probability 1 <i>Teaching assistant.</i>	FIB, UPC Spring 2023
Student mentorship <i>Mentored a group of junior undergraduate students during one year</i>	UPC 2021

Talks

Contributed talks at conferences.....

Eurocomb '25 <i>Counting sets of integers without arithmetic progressions of a given length</i>	Budapest 26/7/2025
Discrete Mathematics Days '24 <i>A canonical van der Waerden theorem</i>	Alcalá de Henares 5/7/2024
Eurocomb '23 <i>Product-free sets in the free group</i>	Prague 1/9/2023
CANT <i>Product-free sets in the free group</i>	New York (online) 24/5/2023
Discrete Mathematics Days '22 <i>Extremal Sidon sets are Fourier uniform</i>	Santander 6/7/2022

Research stays

University of California, San Diego <i>Research stay under the Randnet program, supervised by Lutz Warnke</i>	San Diego November 2024
Instituto de Matemática Pura e Aplicada <i>Research stay under the Randnet program</i>	Rio de Janeiro August 2024
Instituto de Matemática Pura e Aplicada <i>Research stay under the Randnet program</i>	Rio de Janeiro March 2023
Lancaster University <i>Bachelor thesis, funded by the CFIS program</i> Supervisor: Sean Prendiville	Lancaster September 2020 – February 2021

Outreach

- Member of the jury for the 2023 Catalan math olympiads.
- Member of the jury for CiMs-CELLEX 2022 scholarships.

Other Work Experience

- Worked for six months (2022) at Semidynamics, a chip design company.