

# Diego Martínez (cv)

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# EDUCATION

**Ph.D.** University: *Universidad Carlos III de Madrid* (UC3M) and *Instituto de Ciencias Matemáticas* (ICMAT)  
Supervisor: *Fernando Lledó*, Program: *Ph.D. in Mathematics* (international distinction)

**Thesis:** *Amenability and coarse geometry of (inverse) semigroups and  $C^*$ -algebras*

from September 2016 to March 2021 (expected)

**Master** University: *Universidad Autónoma de Madrid* (UAM) from September 2015 to July 2016  
Supervisor: *Fernando Lledó*, Program: *Master Program in Mathematics and Applications* (60 ects)

**Thesis:** Amenability, paradoxical decompositions and applications (rating 10/10)

**Degree** University: *Universidad Autónoma de Madrid* (UAM) from September 2010 to June 2015  
Program: *Graduate program in Mathematics*

**Thesis:** *Entropía y códigos de Huffman* (in Spanish, rating 10/10)

**Degree** University: *Universidad Autónoma de Madrid (UAM)* from September 2010 to June 2015  
Program: *Graduate program in Computer Engineering*

## PUBLICATIONS

- [3] F. Lledó and D. Martínez, *The uniform Roe algebra of an inverse semigroup*, J. Math. Anal. Appl. **499** (2021) 124996 (pp. 28) <https://doi.org/10.1016/j.jmaa.2021.124996>
  - [2] P. Ara, F. Lledó and D. Martínez, *Amenability and paradoxicality in semigroups and  $C^*$ -algebras*, J. Func. Anal. **279** (2020) 108530 (pp. 43) <https://doi.org/10.1016/j.jfa.2020.108530>.
  - [1] F. Lledó and D. Martínez, *Notions of infinity in quantum physics*, 60 Years Alberto Ibort Fest Classical and Quantum Physics, Chapter 14, Springer (2019) (pp. 14)  
[https://doi.org/10.1007/978-3-030-24748-5\\_14](https://doi.org/10.1007/978-3-030-24748-5_14).

## SELECTED INTERNATIONAL TALKS

- *Amenability in inverse semigroups and  $C^*$ -algebras*, Universidad de Cádiz  
II Joint Meeting Spain-Brazil in Mathematics, Cádiz, Spain Dec. 2018
  - *Amenability in inverse semigroups*, University of Cremona  
SandGAL-2019, Cremona, Italy June 2019
  - *Traces in inverse semigroup Roe algebras*, University of Copenhagen  
YMC\*A, Copenhagen, Denmark Aug. 2019
  - *Coarse geometry and inverse semigroups*, University of Montana,  
Colloquium talk, Missoula, Montana, USA Nov. 2019

- *Some quasi-isometric invariants for inverse semigroups*, University of York (online talk) May 2020  
York semigroup, York, United Kingdom
- *Non-group like metrics appearing in group-like objects*, Dec. 2020  
UK Virtual Operator Algebras Seminar – United Kingdom
- *Amenability and coarse geometry of (inverse) semigroups and  $C^*$ -algebras*, ICMAT March 2021  
Thesis defense, UC3M-ICMAT – Madrid, Spain

## TEACHING

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- **TFG committee member** at UC3M Fall 2020
- **TFG committee member** at UC3M Spring 2019
- **Student Teaching Assistant** at UC3M Fall 2018  
Calculus I, group 45. Bachelor in Aerospace Engineering
- **Student Teaching Assistant** at UC3M Fall 2017  
Linear Algebra I, group 49. Bachelor in Energy Engineering

## SCHOLARSHIPS AND AWARDS

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- **Formación de personal investigador (FPI)** - Severo Ochoa 2017 – 2021  
*Grant supporting the fulfillment of the PhD from the MINECO (Spanish Ministry of Economy)*
- **Mathematics Department Scholarship (UAM)** 2015 – 2016  
*Grant intended to support the study of the Master in Mathematics (one of the top 5)*
- **BIT Summer School in Beijing** 2012  
*Grant awarded to pay for an intensive course on chinese culture and language*

## RESEARCH VISITS

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- **University of Münster**, Germany May 2016  
Institute of Theoretical Mathematics
- **UAB**, Spain Nov. 2017  
Centre de Recerca Matematica
- **UAB**, Spain June 2018  
Centre de Recerca Matematica
- **Texas A&M**, USA Aug.–Dec. 2019  
Department of Mathematics

## ORGANIZER OF

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- **Junior Seminar**, ICMAT Sep. 2018–now  
*Local seminar for Ph.D. students*
- **OAGAQI** thematic semester, March–June 2019  
*Thematic semester about operator algebras, groups and applications to quantum information*
- **JAE School**, ICMAT June 2017  
*School that serves as an introduction to research for undergraduate students*

## OUTREACH

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- **Outreach newspaper** article in *El País* 2019  
– *Ganar juegos usando la mecánica cuántica*
- **Outreach newspaper** article in *El País* 2017  
– *Dándole vueltas al infinito*

## LANGUAGES

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- **Spanish:** Native
- **English:** Advanced (C1)  
– Certificate in Advanced English, Exceptional

## LIST OF ALL TALKS

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- *Amenability in (Semi)-groups and Algebras*, ICMAT May 2018  
Bringing Young MAthematicians Together (BYMAT) – Madrid, Spain
- *Esquemas piramidales y porqué deberíamos pagar menos por las naranjas*, ICMAT June 2018  
Junior seminar (ICMAT–UAM–UCM–UC3M) – Madrid, Spain

- *Amenability in semigroups and  $C^*$ -algebras*, UAB  
Seminars in Ring Theory, Universitat Autònoma de Barcelona – Barcelona, Spain June 2018
- *Amenability in inverse semigroups and  $C^*$ -algebras*, UC3M  
Q-Math research group, Mathematics Department – Madrid, Spain Nov. 2018
- *Amenability in inverse semigroups and  $C^*$ -algebras*, Universidad de Cádiz  
II Joint Meeting Spain-Brazil in Mathematics – Cádiz, Spain Dec. 2018
- *Inverse semigroup Roe algebras*, ICMAT  
OAGAQI thematic semester, Workshop I – Madrid, Spain March 2019
- *Amenability in inverse semigroups*, University of Cremona  
SandGAL-2019 – Cremona, Italy June 2019
- *Traces in inverse semigroup Roe algebras*, University of Copenhagen  
YMC\*A – Copenhagen, Denmark Aug. 2019
- Reading seminar on operator algebras, Texas A&M  
*Reading seminar on quasi-diagonality and related topics* – College Station, Texas, USA Sep. - Nov. 2019
- *Quasi-diagonality and relation to index and group theory*, Texas A&M  
Student seminar in groups and dynamics – College Station, Texas, USA Nov. 2019
- *Coarse geometry and inverse semigroups*, Texas A&M University  
GSO seminar – College Station, Texas, USA Nov. 2019
- *Coarse geometry and inverse semigroups*, University of Montana,  
Colloquium talk – Missoula, Montana, USA Nov. 2019
- *Quasi-diagonality and approximation of operators*, ICMAT  
Junior seminar (ICMAT–UAM–UCM–UC3M) – Madrid, Spain Jan. 2020
- *Quasi-diagonality and finite-dimensional approximations*, UC3M  
Q-Math research group, Mathematics Department – Madrid, Spain Feb. 2020
- *Quasi-diagonality vs amenability of discrete groups*, UAM  
Group theory seminar – Madrid, Spain March 2020
- *Some quasi-isometric invariants for inverse semigroups*, University of York (online talk)  
York semigroup – York, United Kingdom May 2020
- *An introduction to Connes' Embedding Problem*, Technische Universität München,  
MIP\*=Re seminar – Germany Dec. 2020
- *Non-group like metrics appearing in group-like objects*,  
UK Virtual Operator Algebras Seminar – United Kingdom Dec. 2020
- *Ultra-stuff*, ICMAT  
Junior seminar (ICMAT–UAM–UCM–UC3M) – Madrid, Spain Feb. 2021
- *Amenability and coarse geometry of (inverse) semigroups and  $C^*$ -algebras*, pre-defense, UC3M Feb. 2021  
Q-Math research group, Mathematics Department – Madrid, Spain
- *Amenability and coarse geometry of (inverse) semigroups and  $C^*$ -algebras*, ICMAT  
Thesis defense, UC3M-ICMAT – Madrid, Spain March 2021