

# Iker de las Heras Kerejeta

## PERSONAL DATA

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UNIVERSITY: Heinrich-Heine-Universität Düsseldorf  
ADDRESS: Universitätsstraße 1, 40225 Düsseldorf, Germany  
PHONE: 0034 618 842261  
EMAIL: [iker.delasheras@hhu.de](mailto:iker.delasheras@hhu.de)

## EDUCATION AND POSITIONS

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CURRENT	<i>Postdoc position</i>
FEBRUARY 2023	<b>Universidade de Brasília, Brazil</b> Under the supervision of P. SHUMYATSKY
JANUARY 2023	<i>Postdoc position</i>
DECEMBER 2020	<b>Heinrich-Heine-Universität Düsseldorf, Germany</b> Under the supervision of B. KLOPSCH
OCTOBER 2020	<i>Ph.D. in Mathematics and Statistics</i>
OCTOBER 2017	<b>University of the Basque Country, Spain</b> Thesis: <i>Some topics on finite <math>p</math>-groups and pro-<math>p</math> groups</i> Advisor: G. FERNÁNDEZ-ALCOBER
FEBRUARY 2017	<i>Master's Degree in Mathematics</i>
OCTOBER 2015	<b>University of Padova, Italy</b> Thesis: <i>Intersections of maximal subgroups in finite solvable groups</i> Advisor: A. LUCCHINI
JUNE 2015	<i>Bachelor Degree in Mathematics</i>
SEPTEMBER 2011	<b>University of the Basque Country, Spain</b> Thesis: <i>Finite <math>p</math>-Groups</i> Advisor: G. FERNÁNDEZ-ALCOBER

## TEACHING

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FEBRUARY 2021	<i>Introduction to Lie Algebras</i>
DECEMBER 2020	Degree in Mathematics Heinrich-Heine-Universität Düsseldorf, Germany
AUGUST 2018	<i>Análisi Matematikoa eta Numerikoa (Mathematical and Numerical Analysis)</i>
DECEMBER 2017	Degree in Engineering of Renewable Energies University of the Basque Country, Spain
NOVEMBER 2017	<i>Ecuaciones Diferenciales (Differential Equations)</i>
SEPTEMBER 2017	Students from Several Engineering Degrees Academia Zilargi, Spain
NOVEMBER 2017	<i>Estadística (Statistics)</i>
SEPTEMBER 2017	Students from Several Engineering Degrees Academia Zilargi, Spain
JUNE 2017	<i>Intensive Course in C Programming</i> Academia Zilargi, Spain

## PUBLICATIONS

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2023 | *Strong conciseness of coprime commutators in profinite groups*

- Authors: I. de las Heras, M. Pintonello, P. Shumyatsky  
arXiv: 2303.08623
- 2022 | *Powerful 3-Engel groups*  
Authors: I. de las Heras, M. Noce, G. Traustason  
arXiv: 2301.07054
- 2022 | *Degree of commutativity of wreath products with infinite cyclic top group*  
Authors: I. de las Heras, B. Klopsch, A. Zozaya  
arXiv: 2205.02027
- 2021 | *The finitely generated Hausdorff spectra of a family of pro- $p$  groups*  
Authors: I. de las Heras, A. Thillaisundaram  
Journal of Algebra
- 2021 | *A pro 2-group with full normal Hausdorff spectra*  
Authors: I. de las Heras, A. Thillaisundaram  
Journal of Group Theory
- 2020 | *Powerfully solvable and powerfully simple groups*  
Author: I. de las Heras, G. Traustason  
Journal of Pure and Applied Algebra
- 2020 | *A pro- $p$  group with full normal Hausdorff spectra*  
Authors: I. de las Heras, B. Klopsch  
Mathematische Nachrichten
- 2020 | *Lower central words in finite  $p$ -groups*  
Authors: I. de las Heras, M. Morigi  
Publicacions Matemàtiques
- 2019 | *Commutators in finite  $p$ -groups with 3-generator derived subgroup*  
Author: I. de las Heras  
Journal of Algebra
- 2019 | *Commutators in finite  $p$ -groups with 2-generator derived subgroup*  
Authors: I. de las Heras, G. Fernández-Alcober  
Israel Journal of Mathematics
- 2018 | *Intersections of maximal subgroups in prosolvable groups*  
Authors: I. de las Heras, A. Lucchini  
Communications in Algebra

## OTHER PUBLICATIONS

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- 2021 | *Hausdorffen dimentsioa talde profinituetan*  
Authors: I. de las Heras, A. Zozaya  
Ekaia
- 2019 | *Ibilaldi matematikoa - Paseo matemático*  
Author: M. Epelde, X. Diez, E. di Domenico, I. de las Heras, M. Noce, A. Zozaya  
DivulgaMAT

## STAYS ABROAD

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- JULY 2023 | six-month stay at the University of the Basque Country, Spain  
FEBRUARY 2023 | Host: G. Fernández-Alcober
- SEPTEMBER 2022 | Five-week stay at the University of Brasilia, Brazil  
Host: P. Shumyatsky
- MARCH 2022 | Two-week stay at the University of Salerno, Italy  
Host: M. Noce

JANUARY 2020	One-month stay at the University of Bath, United Kingdom Host: G. Traustason
NOVEMBER 2019	Two-week stay at the University of Salerno, Italy Host: M. Noce
JULY 2019	One-week stay at the University of Dusseldorf, Germany Host: B. Klopsch
MARCH 2019	One-month stay at the University of Bologna, Italy Host: M. Morigi
DECEMBER 2018 OCTOBER 2018	Two-month stay at the University of Padova, Italy Host: A. Lucchini

## FURTHER EXPERIENCE

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	Referee for several journals
NOVEMBER 2017 MAY 2017	Internship Advisor: G. FERNÁNDEZ-ALCOBER Research line: Commutators, Finite $p$ -groups, Powerful $p$ -groups, Pro- $p$ groups University of the Basque Country, Spain
OCTOBER 2016 JULY 2016	Internship with the "Training and Research Unit" of the UPV/EHU Advisor: G. FERNÁNDEZ-ALCOBER Research line: Commutators, Finite $p$ -groups, Powerful $p$ -groups University of the Basque Country, Spain
SEPTEMBER 2015 JUNE 2015	Internship with the "Training and Research Unit" of the UPV/EHU Advisor: G. FERNÁNDEZ-ALCOBER Research line: Commutators, Finite $p$ -groups, Powerful $p$ -groups University of the Basque Country, Spain

## SELECTED TALKS

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SEPTEMBER 2021	<i>Powerfully solvable and powerfully simple groups</i> New Trends Around Profinite Groups (international conference) Levico (Italy)
JUNE 2021	<i>Powerfully solvable and powerfully simple groups</i> GAGTA (international conference) ICMS (Edinburgh)
JANUARY 2021	<i>Hausdorff dimension and Hausdorff spectra in profinite groups</i> Invited speaker in Ischia Online Group Theory Conference
JANUARY 2020	<i>Hausdorff dimension and Hausdorff spectra in profinite groups</i> University of Lincoln, United Kingdom
NOVEMBER 2019	<i>Lower central words in finite <math>p</math>-groups</i> University of Salerno, Italy
JUNE 2019	<i>Lower central words in finite <math>p</math>-groups</i> Heinrich-Heine-Universität Düsseldorf, Germany
APRIL 2019	<i>Simple commutators in finite <math>p</math>-groups</i> Engel Conditions in Groups (international conference) University of Bath, United Kingdom
NOVEMBER 2018	<i>Commutators in finite <math>p</math>-groups</i> University of Padova, Italy
SEPTEMBER 2018	<i>Commutators in finite <math>p</math>-groups</i> UMI-SIMAI-PTM Joint Meeting (international conference)

	University of Wroclaw, Poland
JUNE 2018	<i>Commutators in finite <math>p</math>-groups</i> XII Encuentro de Teoría de Grupos (international conference) University of Saragossa, Spain
NOVEMBER 2017	<i>Words in groups</i> Algebra Seminar, University of the Basque Country, Spain
JUNE 2017	<i>Intersection of maximal subgroups in prosolvable groups</i> GAGTA (international conference) University of the Basque Country, Spain

## POSTER PRESENTATIONS

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FEBRUARY 2021	<i>Hausdorff dimension and Hausdorff spectra in pro-<math>p</math> groups</i> Ischia Online Group Theory Conference (international conference) Università di Salerno, Italy
FEBRUARY 2019	<i>Commutators in finite <math>p</math>-Groups</i> Congreso Bienal de la RSME (international conference) Universidad de Santander, Spain
MARCH 2018	<i>Commutators in finite <math>p</math>-Groups</i> Ischia Group Theory 2018 (international conference) Università di Salerno, Italy

## ATTENDANCE AT CONFERENCES

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FEBRUARY 2023	<i>GTA Gran Bilbao IV</i> University of the Basque Country, Spain
NOVEMBER 2022	<i>Norddeutsches Gruppentheorie-Kolloquium 2022</i> Heinrich-Heine-Universität Düsseldorf, Germany
FEBRUARY 2022	<i>GTA Gran Bilbao III</i> University of the Basque Country, Spain
SEPTEMBER 2021	<i>New Trends Around Profinite Groups</i> Levico, Italy
JUNE 2021	<i>GAGTA virtual meeting</i> University of Edinburgh, United Kingdom
MARCH 2021	<i>Ischia Group Theory: 24h conference</i> University of Salerno, Italy
JANUARY 2021	<i>Gothic: Ischia Group Theory Online Conference</i> University of Salerno, Italy
FEBRUARY 2020	<i>GTA Gran Bilbao II</i> University of the Basque Country, Spain
APRIL 2019	<i>Engel Conditions in Groups</i> University of Bath, United Kingdom
JULY 2019	<i>Young Geometry and Asymptotic Group Theory with Applications (<math>\gamma</math>GAGTA)</i> University of the Basque Country, Spain
FEBRUARY 2019	<i>GTA Gran Bilbao</i> University of the Basque Country, Spain
FEBRUARY 2019	<i>Congreso Bienal de la Real Sociedad Matemática Española</i> Universidad de Santander, Spain
SEPTEMBER 2018	<i>UMI-SIMAI-PTM Joint Meeting</i>

	University of Wroclaw, Poland
SEPTEMBER 2018	<i>Groups, Geometry and Representations</i> University of Oxford, United Kingdom
JUNE 2018	<i>XII Encuentro de Teoría de Grupos</i> University of Saragossa, Spain
MARCH 2018	<i>Ischia Group Theory 2018</i> University of Salerno, Italy
JULY 2017	<i>Groups of Intermediate Growth in Seville</i> Instituto de Matemáticas de la Universidad de Sevilla, Spain
JUNE 2017	<i>Geometry and Asymptotic Group Theory with Applications</i> Bizkaia Aretoa, Spain / University of the Basque Country, Basque Country

## COURSES

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NOVEMBER 2021	<i>Conciseness of group words in residually finite groups</i> University of Padova, Italy By: P. SHUMYATSKY
SEPTEMBER 2021	<i>Probabilistic Group Theory</i> University of the Basque Country, Spain By: M. VANNACCI
JUNE 2021	<i>Groups, Languages and Automata</i> University of the Basque Country, Spain By: M. NOCE
OCTOBER 2019	<i>Introduction to Spectral Sequences</i> University of the Basque Country, Spain By: A. DÍAZ RAMOS
MAY 2019	<i>Growth and Relations of Graded Rings</i> Universidad Autónoma de Madrid, Spain By: A. JAIKIN
JANUARY 2019	<i>Small cancellation theory</i> Universidad Autónoma de Madrid, Spain By: D. GRUBER
JANUARY 2019	<i>Nilpotent and solvable groups</i> University of the Basque Country, Spain By: G. FERNÁNDEZ-ALCOBER, J. GONZÁLEZ
NOVEMBER 2018	<i>Representation growth</i> University of Padova, Italy By: B. KLOPSCH
MAY 2018	<i>Group-based cryptography</i> University of Salerno, Italy By: D. KAHROBAEI
MARCH 2018	<i>Branch groups</i> University of the Basque Country, Spain By: M. NOCE, E. DI DOMENICO, and S. GÜL
FEBRUARY 2018	<i>Computational group theory with GAP</i> University of the Basque Country, Spain By: U. JEZERNIK and P. MORAVEC

## ORGANIZATION OF R&D ACTIVITIES

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FEBRUARY 2020	Organizer of the international conference GTA Gran Bilbao II University of the Basque Country, Spain
JULY 2019	Organizer of the international conference young Geometry and Asymptotic Group Theory with Applications (yGAGTA) University of the Basque Country, Spain
JUNE 2019	Organizer of the international conference GTA Gran Bilbao University of the Basque Country, Spain
JUNE 2017	Organizer of the international conference Geometry and Asymptotic Group Theory with Applications (GAGTA) Bizkaia Aretoa, Spain / University of the Basque Country, Spain

## GRANTS AND PRIZES

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CURRENT FEBRUARY 2023	<i>Maria Sklodowska-Curie postdoctoral fellowship</i> Institution: European Commission
SEPTEMBER 2022	<i>Reinhold Baer Prize (international prize for the best PhD thesis in group theory)</i> Institution: AGTA and Aracne
CURRENT JANUARY 2021	<i>Postdoctoral fellowship</i> Institution: Basque Government
JANUARY 2020	<i>Mobility grant</i> Aim: Stay at the University of Bath, United Kingdom Institution: University of the Basque Country
MARCH 2019	<i>Mobility grant</i> Aim: Stay at the University of Bologna, Italy Institution: University of the Basque Country
OCTOBER 2020 OCTOBER 2017	<i>Ph.D. fellowship</i> Institution: University of the Basque Country
FEBRUARY 2017	<i>Merit-based scholarship</i> Institution: University of Padova
OCTOBER 2016 JULY 2016	<i>Grant of the "Training and Research Unit"</i> Aim: Initiation to research Institution: University of the Basque Country
SEPTEMBER 2015 JUNE 2015	<i>Grant of the "Training and Research Unit"</i> Aim: Initiation to research Institution: University of the Basque Country

## MEMBERSHIPS

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FEBRUARY 2023 DECEMBER 2020	<i>GRK: Algebro-Geometric Methods in Algebra, Arithmetic and Topology</i> Heinrich-Heine-Universität Düsseldorf, Germany Member
CURRENT OCTOBER 2018	<i>Groups and Geometry</i> University of the Basque Country, Spain Member
CURRENT OCTOBER 2018	<i>Groups, topology, and applications</i> University of the Basque Country, Spain Member

## LANGUAGES

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BASQUE	Mothertongue. Certificate level: C1   Euskararen Gaitasun Agiria (EGA)
SPANISH	Mothertongue
ENGLISH	Fluent. Certificate level: C1   Certificate of the University of the Basque Country
ITALIAN	Fluent. Certificate level: C1   Certificate of the University of Padova
GERMAN	A2 level

## COMPUTER SKILLS

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Advance Knowledge	LaTeX, GAP, Mathematica, MATLAB, Octave, C, Python
Intermediate Knowledge	C++, Java