

D. SC. MAURICIO GABRIEL MEDINA BÁRCENAS

PERSONAL INFORMATION

Place of birth Mexico City, Mexico 22 September 1987
City of residence Mexico city, Mexico.
email mmedina@ciencias.unam.mx
website <http://www.medinabarpenas.com>

CURRENT POSITION

Postdoctoral Position August 2021 Universidad Nacional Autónoma de México, Mexico City.

PREVIOUS POSITIONS

Postdoctoral Position August 2019- July 2021 Benemérita Universidad Autónoma de Puebla, Puebla, México.

Fulbright Scholar September 2018- June 2019 Northern Illinois University, Dekalb, IL. US.

Postdoctoral Position January 2017- June 2018 Chungnam National University, Daejeon, Republic of Korea.

EDUCATION

Doctor of Sciences (Mathematics) 2012-2016 National Autonomous University of México (UNAM), Institute of Mathematics.
Graduation date: 22 September 2016.
Thesis: *Some generalizations of ring theory in categories of Wisbauer.*
Advisor: Prof. Dr. José RÍOS MONTES.

Master of Sciences (Mathematics) 2010-2012 National Autonomous University of México (UNAM), Faculty of Sciences.
General knowledge exams: *Algebra (Group theory and Galois theory), Algebraic Topology and Differential Geometry.*
Thesis: *Localizaciones Bilaterales.*
Advisor: Prof. Dr. Alejandro ALVARADO GARCÍA.

Bachelor of Sciences 2005-2009 National Autonomous University of México (UNAM), Faculty of Sciences
Thesis: *Descomposición de módulos usando submódulos de tipo.*
Advisor: Prof. Dr. Alejandro ALVARADO GARCÍA.

PUBLICATIONS

- Applied Categorical Structures* 2023 Operators between classes of modules given by preradicals
 Authors: Alejandro ALVARADO GARCÍA, César CEJUDO-CASTILLA, Mauricio MEDINA-BÁRCENAS and Fernando VILCHIS-MONTALVO.
Appl. Categor. Struct. 31,1 (2023). DOI: [10.1007/s10485-022-09702-z](https://doi.org/10.1007/s10485-022-09702-z).
- Bulletin of the Korean Mathematical Society* 2023 The nilpotency of the prime radical of a Goldie module
 Authors: John A. BEACHY and Mauricio MEDINA-BÁRCENAS.
Bull. Korean Math. Soc. 60,1 (2023), 185–201. DOI: [10.4134/BKMS.b220053](https://doi.org/10.4134/BKMS.b220053)
- Haceteppe Journal of Mathematics and Statistics* 2022 Johns modules and quasi-Johns modules
 Autores: Jaime CASTRO PÉREZ, Mauricio MEDINA-BÁRCENAS
Hacet. J. Math. Stat. 51,4 (2022), 1029–1046 DOI: [10.15672/hujms.902650](https://doi.org/10.15672/hujms.902650).
- Communications in Algebra* 2022 Finite Σ -Rickart modules
 Autores: Gangyong LEE, Mauricio MEDINA-BÁRCENAS
Comm. Algebra 50,9 (2022), 4074–4094 DOI: [10.10180/00927872.2022.2057518](https://doi.org/10.10180/00927872.2022.2057518).
- Applied Categorical Structures* 2022 On the de Morgan’s laws for modules
 Autores: Mauricio MEDINA-BÁRCENAS, Martha Lizbeth Shaid SANDOVAL-MIRANDA, Angel ZALDÍVAR-CORICHI
Appl. Categor. Struct. 30, (2022), 265–286 DOI: [10.1007/s10485-021-09656-8](https://doi.org/10.1007/s10485-021-09656-8)
- Algebra and Discrete Mathematics* 2021 A study on dual square free modules
 Autores: Mauricio MEDINA-BÁRCENAS, Derya Keskin TÜTÜNCÜ, Yosuke KURATOMI
Alg. Disc. Math., 32,2 (2021), 267–279.
- Bulletin of the Korean Mathematical Society* 2020 Fully prime modules and fully semiprime modules
 Authors: John A. BEACHY and Mauricio MEDINA-BÁRCENAS.
Bull. Kor. Math. Soc., 57,5, (2020), 1177–1193 DOI: [10.1080/00927872.2019.1710167](https://doi.org/10.1080/00927872.2019.1710167)
- Communications in Algebra* 2020 On Strongly harmonic and Gelfand modules
 Authors: Mauricio MEDINA-BÁRCENAS, Lofena MORALES-CALLEJAS, Martha Lizbeth Shaid SANDOVAL-MIRANDA and Angel ZALDÍVAR-CORICHI.
Comm. Alg. 48,5 (2020), 1985–2013
- Journal of Algebra and its Applications* 2020 Σ -Rickart modules
 Authors: Gangyong LEE, Mauricio MEDINA-BÁRCENAS.
J. Alg. App. 19,11 (2020)
- Journal of Algebra and its Applications* 2020 Abelian endoregular modules
 Authors: Mauricio MEDINA-BÁRCENAS and Hanna SIM.
J. Alg. App. 19,11 (2020)
- Applied Categorical Structures* 2019 Boolean perspectives of modules categories and idioms
 Authors: Jaime CASTRO PÉREZ, Mauricio MEDINA BÁRCENAS, José Ríos MONTES and Angel ZALDÍVAR CORICHI.
Appl. Categ. Structures 27,1 (2019), 65–84
- Communications in Algebra* 2018 Boyle’s Conjecture and Perfect Localizations

Autores: Jaime CASTRO PÉREZ, Mauricio MEDINA BÁRCENAS, José RÍOS MONTES,
 Angel ZALDÍVAR CORICHI
Comm. Alg. 46, 12 (2018), 5234–5240.

*Taiwanese Journal
 of Mathematics*

2018 Primitive Submodules, Co-semisimple and
 Regular Modules

Authors: Mauricio MEDINA-BÁRCENAS and Çiğdem ÖZCAN.
Taiwan. J. Math. 22, 3 (2018), 545–565.

*Communications
 in Algebra*

2018 On the structure of Goldie modules.

Authors: Jaime CASTRO PÉREZ, Mauricio MEDINA BÁRCENAS, José RÍOS MONTES
 and Angel ZALDÍVAR CORICHI.
Comm. Alg. 46, 7 (2018), 3112–3126.

*Journal of Pure
 and Applied
 Algebra*

2018 Attaching topological spaces to a module I:
 Sobriety and Spatiality

Authors: Mauricio MEDINA-BÁRCENAS, Lorena MORALES-CALLEJAS, Martha
 Lizbeth Shaid SANDOVAL-MIRANDA and Angel ZALDÍVAR-CORICHI.
JPAA 222, 5 (2018), 1026–1048.

*Journal of Algebra
 and its
 Applications*

2018 On some operators and dimensions in modular
 meet-continuous lattices.

Authors: Mauricio MEDINA BÁRCENAS, José RÍOS MONTES Angel ZALDÍVAR
 CORICHI.
J. Alg. Appl. 17, 5 (2018),.

*Communications
 in Algebra*

2017 Modules with ascending chain condition on
 annihilators and Goldie modules.

Authors: Jaime CASTRO PÉREZ, Mauricio MEDINA BÁRCENAS and José RÍOS
 MONTES
Comm. Alg. 45, 6 (2017), 2334–2349.

*Journal of Pure
 and Applied
 Algebra*

2016 A generalization of quantales with applications
 to modules and rings.

Authors: Mauricio MEDINA-BÁRCENAS, Angel ZALDÍVAR-CORICHI and Martha
 Lizbeth Shaid SANDOVAL-MIRANDA.
JPAA 220 (2016), 1837–1857.

*Communications
 in Algebra*

2016 On Semiprime Goldie Modules.

Authors: Jaime CASTRO PÉREZ, Mauricio MEDINA BÁRCENAS, José RÍOS MONTES
 and Angel ZALDÍVAR CORICHI
Comm. Alg. 44, 11 (2016), 4749–4768.

PAPERS SUBMITTED AND PREPRINTS

Submitted

m-Baer and m-Rickart lattices

Authors: Mauricio MEDINA-BÁRCENAS and Hugo RINCÓN MEJÍA.
[arXiv:2204.11800](https://arxiv.org/abs/2204.11800)

Submitted

Reduced rank in $\sigma[M]$

Authors: John A. BEACHY and Mauricio MEDINA-BÁRCENAS.
[arXiv:2201.07196](https://arxiv.org/abs/2201.07196)

Preprint

m-endoregular lattices

Authors: Mauricio MEDINA-BÁRCENAS and Hugo RINCÓN MEJÍA.
 ArXiv:2306.07360

IN PREPARATION

In preparation

The singularity in idioms

Authors: Mauricio MEDINA-BÁRCENAS, Martha Lizbeth Shaid SANDOVAL-MIRANDA and Angel ZALDÍVAR-CORICHI.

In preparation

Morita invariance of universal localization

Authors: John A. BEACHY and Mauricio MEDINA-BÁRCENAS.

In preparation

On quasi-duo modules

Authors: Mauricio MEDINA-BÁRCENAS and Çiğdem ÖZCAN.

RESEARCH VISITS

March-June 2016

Hacettepe University, Ankara, Turkey.

LECTURES

2022

Instructor

*Faculty of Sciences,
UNAM*

1. Modern algebra 3, theory of modules (Semester: 2023-spring)
2. Modern algebra 2, rings and Galois theory (Semester: 2022-fall)
3. Modern algebra 1, theory of groups (Semester: 2022-spring)

2020

Instructor

*Facultad de
Ciencias Físico
Matemáticas,
BUAP*

1. Algebra to graduate students (Semester: 2021-spring)
2. Analytic Geometry (Semester: 2020-fall)
3. An introduction to the algebraic structures (Semester: 2020-spring).
4. Graduated course in Algebra 'Tilting modules' (Semester: 2020-spring).

2011–2016

Instructor

*Faculty of Sciences,
UNAM*

1. Superior Algebra 2, basic algebra (Semester: 2016-fall, 2013-spring and 2011-fall).
2. Modern Algebra 4, theory of modules II (Semester: 2015-fall).
3. Modern Algebra 3, theory of modules I (Semester: 2015-spring).
4. Modern Algebra 2, rings and Galois theory (Semester: 2014-fall).
5. Modern Algebra 1, theory of groups (Semester: 2014-spring).
6. Linear Algebra 2 (Semester: 2013-fall and 2012-fall).

2010–2016 Teaching Assistant

Faculty of Sciences,
UNAM

1. Topology Seminar B (Semester: 2016-fall).
2. Graduate Algebra course (Master Level) (Semester: 2015-fall).
3. Algebra Seminar A (Semester: 2015-spring).
4. Superior Algebra 1 (Semester: 2014-fall).
5. Algebra Seminar B (Semester: 2014-spring).
6. Modern Algebra 4 (Semester: 2013-fall).
7. Modern Algebra 3 (Semester: 2013-spring).
8. Modern Algebra 2 (Semester: 2011-fall).
9. Modern Algebra 1 (Semester: 2011-spring).
10. Linear Algebra 1 (Semester: 2010-fall).

CONFERENCES

| | | |
|---|------------------------|--|
| <i>Retículas endoregulares</i> | <i>Octubre 2022</i> | LV Congreso Nacional de la Sociedad Matemática Mexicana, UdG, Guadalajara, Jalisco, México. |
| <i>Rickart and Baer lattices</i> | <i>May 2022</i> | 35th Ohio State-Denison Conference, Columbus, Ohio, USA (Zoom presentation). |
| <i>Una extensión de la definición de ideal primo</i> | <i>Octubre 2021</i> | LIV Congreso Nacional de la Sociedad Matemática Mexicana, BUAP, H. Puebla de Z., Puebla, México. |
| <i>Módulos completamente (semi)primos</i> | <i>Octubre 2019</i> | LII Congreso Nacional de la Sociedad Matemática Mexicana, UANL, Monterrey, Nuevo León, México. |
| <i>On universal localization of Morita equivalent rings</i> | <i>Septiembre 2019</i> | Sexto Congreso Internacional de Matemáticas y sus Aplicaciones (CIMA), BUAP, H. Puebla de Z., Puebla, México. |
| <i>A generalization of right hereditary rings</i> | <i>Agosto 2017</i> | XXIII Coloquio Latinoamericano de Algebra, Mexico City. |
| <i>Attaching topological spaces to a module</i> | <i>April 2018</i> | Korean Mathematical Society (KMS) Spring Meeting, Kyung Hee University, Seoul, South Korea. |
| <i>Boyle's conjecture and perfect localizations</i> | <i>June 2017</i> | International Conference on Algebraic Topology and Ring Theory 2017, Chungnam National University, Daejeon, South Korea. |
| <i>Does an R-module look like a ring?</i> | <i>April 2016</i> | General Seminars at Department of Mathematics, Hacettepe University. |
| <i>Modulos que satisfacen ACC en anuladores</i> | <i>October 2015</i> | LXVIII Congreso Nacional de la Sociedad Matemática Mexicana Hermosillo, Sonora, México. |
| <i>El casi-cuantal de un modulo</i> | <i>October 2015</i> | Jornadas de Algebra 2015, Ciudad de México, México. |

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| <i>Modules which satisfy ACC on annihilators</i> | June 2015 | Noncommutative rings and their applications IV, Lens, France. |
| <i>On semiprime Goldie modules</i> | June 2014 | International Workshop on Algebra and Applications, Fez, Morocco. |
| <i>Semiprime Goldie modules</i> | May 2014 | 32nd Ohio State-Denison Conference, Ohio University, Columbus, Ohio, U.S.A. |
| <i>Encontrando Ceros</i> | October 2013 | XLVI Congreso Nacional de la Sociedad Matemática Mexicana, Merida, Yucatan, México. |
| <i>Localizaciones Bilaterales</i> | October 2012 | XLV Congreso Nacional de Sociedad Matemática Mexicana, Queretaro, Queretaro, México. |

GRADUATE STUDENTS

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|----------------------|------|---|
| <i>Master Thesis</i> | 2021 | <i>“Teorías de torsión en categorías trianguladas”</i> written by Fernando García Pérez, Facultad de Ciencias Físico Matemáticas, Benemérita Universidad Autónoma de Puebla. |
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UNDERGRADUATE STUDENTS

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|------------------------|------|--|
| <i>Bachelor Thesis</i> | 2016 | <i>“Sobre módulos inyectivos principales”</i> written by Esteban Martínez, Faculty of Sciences, National Autonomous University of México. |
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OTHER INFORMATION

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|---------------------------|-----------|---|
| <i>Organizer</i> | 2012-2016 | Aquelarre Matemático. <i>Aquelarre Matemático</i> is a one-week conferences meeting, celebrated at Faculty of Sciences, UNAM, every year where graduate students give talks to undergraduate students in many different topics in mathematics. |
| <i>Referee</i> | | I have been referee for some journals such as Journal of algebra, Journal of algebra and its applications, Communications in algebra, International electronic journal of algebra, Open mathematics, Contributions to algebra and geometry. |
| <i>Computation skills</i> | | Basic: PYTHON, L ^A T _E X, OpenOffice, Linux, Microsoft Windows |
| <i>Languages</i> | | SPANISH · Mother tongue ENGLISH · Intermediate (TOEFL iBT score: 79) |
| <i>Interests</i> | | Bicycle · Bike polo · Traveling |

June 19, 2023