

# José DD Cediel-Becerra

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## 🎓 Education

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### University of Florida

Doctor of Philosophy (PhD) Candidate – Microbiology & Cell Science

Gainesville, FL

Master of Science (MSc) – Microbiology & Cell Science

08/2022–Summer 2026

05/2024

- **Advisors:** Raquel Dias, PhD, Marc Chevrette, PhD

- **Thesis:** A Framework for Natural Product-Based Drug Discovery Integrating Targeted Genome Mining and Structural Biology.

- **Committee Members:** Dr. Valérie de Crécy-Lagard, Dr. Yousong Ding, and Dr. Daniel Czyz

### NIAMRRE – University of Florida

Certificate – NIAMRRE One Health Antimicrobial Resistance (AMR) Interprofessional Education Program

Gainesville, FL

12/2024

### John Innes Centre (JIC) – Rudjer Bošković Institute

Certificate – Microbial Specialised Metabolites: From Genomes to Biological Functions

Dubrovnik, Croatia

09/2024

### Industrial University of Santander – UIS

Bachelor of Science – Biology, Computational Biology

Bucaramanga, Colombia

12/2021

- **Advisor:** Jorge L. Fuentes, PhD

- **Thesis:** Prodigiosin Production and Photoprotective/Antigenotoxic Properties in *Serratia marcescens* Indigenous Strains from Eastern Cordillera of Colombia.

## 🏆 Honors & Awards

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Recipient of the Boehringer Ingelheim Foundation and John Innes Centre Scholarship Summer School in Applied Molecular Microbiology (Dubrovnik, Croatia)

2024

Latin American-Caribbean Scholarship Recipient University of Florida

2023–present

Diversity Travel Award Society for Industrial Microbiology and Biotechnology (SIMB)

2023

UF/IFAS CALS Graduate Student Travel Grant University of Florida

2023

UF Graduate Student Council Travel Grants University of Florida

2023

ASP Lynn Brady Travel Award American Society of Pharmacognosy (ASP)

2023

Grinter Fellowship Recipient University of Florida

2022–2023

Opportunity Fund Program Education USA

2022

Summa Cum Laude Award Industrial University of Santander

2021

Laureate Research Thesis Award Industrial University of Santander

2021

UNG Scholarship Recipient The Una Nueva Generacion Project in Colombia

2019–2021

Lumni GEN 50 Scholarship Recipient Zigma-Bancolombia Foundation

2019–2021

Dean's Academic Achievement Award Industrial University of Santander

2019–2021

Best GPA in College of Science Pedagogical and Technological University of Colombia

2017

GPA Honors Award Pedagogical and Technological University of Colombia

2015–2017

## +f Service & Leadership

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Ad hoc Reviewer Nature Chemistry, PeerJ, BMC Microbiology, Functional and Integrative Genomics, Bioinformatics, Journal of Open Source Software

2024–present

Executive Board – Treasurer GATOR Chapter of the American Society of Pharmacognosy (ASP)

2024–present

Interest Group Coordinator MIBiG - Supervision of Genomic Annotations for Natural Products, International Gator Guide Organizer and Volunteer for Microbiology and Cell Science Doctoral Student Recruitment Events, University of Florida

2024

Mentee Society for Industrial Microbiology and Biotechnology (SIMB)

2024

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|---|--------------|
| <b>Mentor</b> Científico Latino – Project Students for Higher-Ed Opportunities and Representation in Training (SHORT) Team, International | 2023–present |
| <b>Organizer/Instructor</b> Annual Bioinformatics Summer Workshop   | 2023–present |
| <b>Volunteer</b> Education USA, Opportunity Funds Program   | 2023         |
| <b>Mentor</b> Industrial University of Santander  | 2021         |
| <b>Mentee</b> Científico Latino – Project Students for Higher-Ed Opportunities and Representation in Training (SHORT) Team, International | 2021         |
| <b>Volunteer</b> Student program in Bucaramanga's poorest neighborhoods   | 2021         |
| <b>Mentee</b> The Una Nueva Generación (UNG) Project, Colombia  | 2020–2021    |
| <b>Volunteer</b> Natural History Museum, Pedagogical and Technological University of Colombia   | 2015–2016    |

## ✍ Teaching & Mentoring

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### Teaching Appointments & Experience

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| <b>Principles of Microbiology Laboratory, University of Florida</b> Instructor                     | Fa 2022–Sp 2023 |
| <b>National Biology Standardized Tests, Formarte Colombian Group</b> Teacher                       | Sp 2021–Su 2022 |
| <b>Microbiology Laboratory, Industrial University of Santander</b> Teaching Assistant              | 2019–2021       |
| <b>Environmental Mutagenesis Laboratory, Industrial University of Santander</b> Teaching Assistant | 2019–2021       |
| <b>Biology Laboratory, Pedagogical and Technological University of Colombia</b> Teaching Assistant | 2016–2017       |

### Undergraduate & Postbaccalaureate Mentees (*Total: 14; Current: 1*)

|                                  |                                    |                                 |
|----------------------------------|------------------------------------|---------------------------------|
| Vanessa Gonzales (Fa 2022)       | Maria Cabrera (Fa 2022–Sp 2023)    | Agnes Lee (Sp 2023)             |
| Julia Charske (Fa 2022–)         | Geam Gonzales (Fa 2022–Sp 2023)    | Neha Kashyap (2023)             |
| Melanie Trejo (Fa 2022–Sp 2023)  | Erica Hengartner (Fa 2022–Sp 2023) | Ma Andrea Gatmaitan (2023–2024) |
| Allison Pardon (Fa 2022–Sp 2023) | Nadia Rodriguez (Sp 2023)          | Jacob Rulison (2023–2025)       |
| Caty Allen (Fa 2022–Sp 2023)     | Jessie Wolfkill (Sp 2023)          | Elizabeth Antwi (2023–2024)     |
| Rasee Bhoola (Fa 2022–Sp 2025)   | Karina Moncada (Sp 2023)           |                                 |

## ✍ Publications

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**Google Scholar:** 284 citations, H-index 5

### Peer-reviewed Publications – Original Research

- 1 JDD Cediel-Becerra, A Cumsille, S Guerra, Y Ding, Vd Crecy-Lagard, MG Chevrette. "Targeted genome mining with GATOR-GC maps the evolutionary landscape of biosynthetic diversity." 2025. *Nucleic Acids Research.* [10.1093/nar/gkaf606](https://doi.org/10.1093/nar/gkaf606)
- 2 K Blin, S Shaw, L Vader, J Szenei, ZL Reitz, HE Augustijn, JDD Cediel-Becerra, Vd Crecy-Lagard, RA Koetsier, SE Williams, P Cruz-Morales, S Wongwas, AES Luchsinger, F Biermann, A Korenskaia, MM Zdouc, D Meijer, BR Terlouw, JJJ van der Hooft, N Ziemert, EJN Helfrich, J Masschelein, C Corre, MG Chevrette, GP van Wezel, MH Medema, T Weber. "antiSMASH 8.0: extended gene cluster detection capabilities and analyses of chemistry, enzymology, and regulation." 2025. *Nucleic Acids Research.* [10.1093/nar/gkaf334](https://doi.org/10.1093/nar/gkaf334)
- 3 MM Zdouc, et al. [398 authors including JDD Cediel-Becerra]. "MIBiG 4.0: advancing biosynthetic gene cluster curation through global collaboration." 2024. *Nucleic Acids Research.* [10.1093/nar/gkae1115](https://doi.org/10.1093/nar/gkae1115)
- 4 JDD Cediel-Becerra, JA Suescum Sepulveda, JL Fuentes. "Prodigiosin Production and Photoprotective/Antigenotoxic Properties in *Serratia marcescens* Indigenous Strains from Eastern Cordillera of Colombia." 2022. *Photochemistry and Photobiology.* [10.1111/php.13507](https://doi.org/10.1111/php.13507)

### Peer-reviewed Publications – Review Articles

- 1 Vd Crecy-Lagard, G Hutinet, JDD Cediel-Becerra, Y Yuan, R Zallot, MG Chevrette, RMMN Ratnayake, M Jaroch, S Quaiyum, S Bruner. "Biosynthesis and function of 7-deazaguanine derivatives in bacteria and phages." 2024. *Microbiology and Molecular Biology Reviews.* [10.1128/mmbr.00199-23](https://doi.org/10.1128/mmbr.00199-23)

### Peer-reviewed Publications – Book Chapters

- 1 JDD Cediel-Becerra, MG Chevrette. "Targeted genome mining for natural product discovery." 2025. *Methods in Enzymology.* [10.1016/bs.mie.2025.03.005](https://doi.org/10.1016/bs.mie.2025.03.005)

### Preprints

BR Terlouw, C Huang, D Meijer, **JDD Cediel-Becerra**, ML Rothe, M Jenner, S Zhou, Y Zhang, CD Fage, Y Tsunematsu, GP van  
1 Wezel, SL Robinson, F Alberti, LM Alkhalfaf, MG Chevrette, GL Challis, MH Medema. "PARAS: high-accuracy machine-learning  
of substrate specificities in nonribosomal peptide synthetases." *bioRxiv*. [Preprint available](#)

## 🗣 Talks & Abstracts

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### Invited Talks

1 "GATOR-GC: Genomic Assessment Tool for Orthologous Regions and Gene Clusters." 10th in the series of John Innes – Rudjer  
Bošković Summer Schools on Applied Molecular Microbiology. Dubrovnik, Croatia; Sep 12, 2024

### Internal Seminars

1 "Targeted genome mining with GATOR-GC reveals the evolutionary landscape of biosynthetic diversity." Microbiology Seminars,  
Gainesville, FL. Jan 30, 2025

2 "PreQ0 gene clusters in *Streptomyces* reveal an unexplored biosynthetic reservoir for drug discovery." Microbiology Seminars,  
Gainesville, FL. Feb 02, 2024

### Abstracts

1 **JDD Cediel-Becerra**, MG Chevrette, Vd Crecy-Lagard, R Dias. "Mining 7-Deazapurine Gene Clusters for Novel Secondary  
Metabolites." Presented at: The American Society of Pharmacognosy (ASP) Annual Meeting. ; Grand Rapids, MI; Aug 05, 2025.

2 **JDD Cediel-Becerra**, MG Chevrette. "GATOR-GC Identifies a Rich Landscape of Overlooked Biosynthetic Gene Clusters (BGCs)." Presented at: 10th in the series of John Innes – Rudjer Bošković Summer Schools on Applied Molecular Microbiology. ; Dubrovnik, Croatia; Sep 12, 2024.

3 M Saldanha, **JDD Cediel-Becerra**, S Manning, F Barona-Gomez, MG Chevrette. "A global analysis of Bacterial Genomes Links  
Secondary Metabolism and Antibiotic Resistance." Presented at: Society for Industrial Microbiology and Biotechnology (SIMB)  
Annual Meeting; Minneapolis, MN; Aug 02, 2024.

4 **JDD Cediel-Becerra**, A Cumsille, Vd Crecy-Lagard, MG Chevrette. "Targeted Genomic Searches to Mine Gene Cluster Evolution in  
Host-Associated Microbes." Presented at: 9th Conference on Beneficial Microbes; Madison, WI; July 21, 2024.

5 **JDD Cediel-Becerra**, Vd Crecy-Lagard, MG Chevrette. "GATOR-GC: Genomic Assessment Tool for Orthologous Regions and Gene  
Clusters." Presented at: UF Drug Discovery Symposium; Gainesville, FL; April 15, 2024.

6 M Saldanha, **JDD Cediel-Becerra**, S Manning, MG Chevrette. "A global analysis of Bacterial Genomes Links Secondary Metabolism  
and Antibiotic Resistance." Presented at: EPI Research Day; Gainesville, FL; Feb 26, 2024

7 **JDD Cediel-Becerra**, Vd Crecy-Lagard, MG Chevrette. "7-Deazapurine-derived natural products: An Incredible Potential Source for  
Drug Discovery." Presented at: Genetics and Genomics Annual Symposium; Gainesville, FL; Nov 16, 2023.

8 **JDD Cediel-Becerra**, Vd Crecy-Lagard, MG Chevrette. "Genome Mining Strategies for Non-Canonical Biosynthetic Gene Clusters."  
Presented at: Microbiology and Cell Science Annual Symposium; Gainesville, FL; Aug 16, 2023.

9 MA Gatmaitan, **JDD Cediel-Becerra**, Julia Charske, Mark Ou, Marc G. Chevrette. "Cockroach-associated Bacteria and Their  
Antimicrobial Activity." Presented at: American Society of Pharmacognosy (ASP) Annual Meeting; Rockville, MD; Jul 26, 2023

10 **JDD Cediel-Becerra**, Vd Crecy-Lagard, MG Chevrette. "Deazaguanine Gene Clusters in *Streptomyces* Reveal Putative  
Nucleoside-Like Natural Products." Presented at: Society for Industrial Microbiology and Biotechnology (SIMB) Annual  
Meeting; Minneapolis, MN; Aug 02, 2023.

11 **JDD Cediel-Becerra**, Vd Crecy-Lagard, MG Chevrette. "PreQ0 Gene Clusters in *Streptomyces* Reveal an Unexplored Biosynthetic  
Reservoir." Presented at: American Society of Pharmacognosy (ASP) Annual Meeting; Rockville, MD; Jul 26, 2023.

12 **JDD Cediel-Becerra**, JA Suescum Sepulveda, JL Fuentes. "Photoprotective and Antigenotoxic Properties of *Serratia marcescens*  
Indigenous Strains from Eastern Cordillera of Colombia." Presented at: 19th Congress of the European Society for Photobiology  
(ESP); WWW and Salzburg, Austria; Aug 30, 2021.

## 👥 Professional Societies & Groups

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National Institute of Antimicrobial Resistance Research and Education (NIAMRRE)

2024–present

Society for Industrial Microbiology and Biotechnology (SIMB)

2023–present

American Society of Pharmacognosy (ASP)

2022–present

# Coursera Education Online

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|---|------------------------------------|------|
| <b>Introduction to Molecular Spectroscopy (4 weeks)</b>       | University of Manchester           | 2021 |
| <b>Drug commercialization (4 weeks)</b>                       | University of California San Diego | 2021 |
| <b>Drug development (3 weeks)</b>                             | University of California San Diego | 2021 |
| <b>Drug discovery (3 weeks)</b>                               | University of California San Diego | 2021 |
| <b>Writing in the sciences (8 weeks)</b>                      | Stanford University                | 2020 |
| <b>Introduction to genetics and evolution (11 weeks)</b>      | Duke University                    | 2020 |
| <b>Whole-genome sequencing of bacterial genomes (4 weeks)</b> | Technical University of Denmark    | 2020 |