

# HECTOR ROSARIO, Ph.D.

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## EDUCATION

### Columbia University

- Ph.D. (2003) and M.Phil. (2002) in mathematics education
- Dissertation: *Steganography: Historical Development and Applications at the Undergraduate Level*

### Dartmouth College

- Two years of doctoral studies in mathematics (1999-2001)

### Columbia University, Teachers College

- M.A. in mathematics education (1999)

### University of Puerto Rico

- B.S. in general science with 48 credits in mathematics and 24 credits in physics (1997)

### United States Air Force Academy

- Honorably discharged (1992-1993)
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## CERTIFICATION

- Florida Professional Certificate (*Pending*)
    - Mathematics (6-12)
    - Physics (6-12)
    - Elementary Education (K-6)
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## LEADERSHIP APPOINTMENTS

### [CYFEMAT](#), the International Network of Math Circles and Festivals

Executive Director and Founder (July 2021 – Present)

- Established a nonprofit organization for leading a network of volunteers from more than 25 countries to advance CYFEMAT's mission: *Organize, promote, disseminate, and develop math circles and festivals around the world.*

### Julia Robinson Mathematics Festival

Director of Outreach and Festivals (June 2018 – July 2021)

- Oversaw more than 100 in-person festivals per year organized by local hosts around the world.
- Supervised production of educational materials in English and Spanish.
- Organized and led educator training sessions in English and Spanish.

### Mathnasium of Chapel Hill

Center Director (January 2016 – December 2016)

- Managed daily operations, including making hiring decisions and training instructors.
  - Created and updated individualized learning plans for more than 100 students.
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## UNIVERSITY APPOINTMENTS

### University of Florida, Department of Mathematics

Courtesy Professor (October 2019 – Present)

- Coordinate outreach activities in the form of math circles and festivals.

### University of North Carolina at Chapel Hill, Correctional Education Program

Visiting Lecturer (November 2016 – June 2017)

- Taught Math 110 (Algebra) at Polk Correctional Institution and Orange Correctional Center.
- Taught Math 058 (Math, Art, and the Human Experience) at Johnston Correctional Institution.

### University of Puerto Rico at Mayagüez, Department of Mathematical Sciences

Professor (July 2012 – June 2015)

Associate Professor (July 2007 – June 2012)

Assistant Professor (July 2003 – June 2007)

- Taught over a dozen different courses for mathematics, engineering, science, and non-STEM majors.
- Organized and hosted Circle on the Road 2013 and Julia Robinson Mathematics Festival, March 8-10, 2013.

## **Universidad Pedagógica Nacional Francisco Morazán, HONDURAS**

Visiting Professor to the Graduate Program in Mathematics Education (December 2007)

- Advised faculty for the creation of a new graduate program in mathematics education.
- Taught a graduate course on problem solving for in-service teachers.

## **Columbia University**

Adjunct Instructor at the School of General Studies (January – May 2003)

- Taught College Algebra.

Adjunct Instructor at Teachers College (March 2003)

- Led and taught a study tour of 13 graduate students to Puerto Rico.

## **The City College of the City University of New York**

Instructor (September 2001 – May 2002)

- Appointed jointly by the School of Education and the Department of Mathematics.
  - Trained teachers of the second cohort of New York Teaching Fellows.
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## **K-12 TEACHING APPOINTMENTS**

### **Bhaktivedanta Academy of North America**

Teacher of Mathematics (August 2019 – July 2020)

- Taught Algebra I and Algebra 2.

### **Alachua Learning Academy**

Teacher of Mathematics (August 2019 – July 2020)

- Taught Pre-Algebra.

### **South Gwinnett High School in Gwinnett County Public Schools**

Teacher of Mathematics (July 2017 – May 2019)

- Rookie of the Month – Given to a teacher who has been nominated and elected by peers (September 2017).
- Taught AP Calculus AB and Precalculus.
- Khan Academy Ambassador 2018-2019

### **North Carolina School of Science and Mathematics**

Instructor of Mathematics (August 2015 – June 2016)

- Taught AP Calculus AB, Finite Applied Math, and Math 1.
- Created a problem-solving video series for NCSSM's YouTube channel.

### **NYC Department of Education, Martin Luther King, Jr. High School**

Teacher of Mathematics (September 1997 – August 1999)

- Taught Integrated Math 1 and 2 in English and Spanish, and Introductory Lay in Spanish.
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## **AWARDS**

- Rosenthal Prize for Innovation and Inspiration in Math Teaching (February 2019)
    - Awarded by the National Museum of Mathematics (MoMath) "to recognize and promote hands-on math teaching in the upper elementary and middle school classrooms."
    - First runner-up (\$5,000)
  - Gwinnett Alliance for Gifted Education Hughes Award (April 2018)
    - Awarded "to any individual, club, business, corporation, or civic group who made an outstanding contribution to Gwinnett County Public Schools' gifted program."
  - Rookie of the Month, South Gwinnett High School (September 2017)
  - National Dean's List (2001-2002; 1994-1995)
  - Eugene W. Hellmich Mathematics Fellowship (2001)
  - New England Board of Higher Education Doctoral Scholarship (1999-2001)
  - Prop and Wings Insignia, United States Air Force Academy (1993)
  - National Defense Service Medal (1992)
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## **SELECTED PUBLICATIONS**

### **BOOKS**

- [\*Mathematical Outreach: Explorations in Social Justice around the Globe\*](#). (2019). Hector Rosario (Ed.). World Scientific Publishing, Singapore

- [\*Math Makes Sense! A Constructivist Approach to the Teaching and Learning of Mathematics\*](#). (2016). Ana H. Quintero and Héctor Rosario. Imperial College Press, London
- [\*Mathematics and Its Teaching in the Southern Americas\*](#) – with an introduction by Ubiratan D'Ambrosio. (2015). Héctor Rosario, Patrick Scott, & Bruce Vogeli (Eds.). World Scientific Publishing, Singapore

#### BOOK CHAPTERS

- Rosario, H. (2018). Kurt Gödel's Mathematical and Scientific Perspective of the Divine: A Rational Theology. In *Mathematics & Reality*. Kolkata, India: The Bhaktivedanta Institute (reprint)
- Rosario, H. (2015). Egalitarian Circles: From Gifted Programs to the General Classroom. In *In Honor of Professor Bruce Ramon Vogeli: Scholarship & Leadership in Mathematics Education*. Bedford, MA: COMAP
- Rosario, H., McGee, D., López, J., Quintero, A. H., & Hernández, O. (2015). Puerto Rico: The Forging of a National Identity in Mathematics Education. In *Mathematics and Its Teaching in the Southern Americas*. Singapore, Singapore: World Scientific Publishing

#### ARTICLES

- *Pedagogical Notes on Problem Solving*, National Association for Gifted Children - Creativity Network Newsletter, Fall 2017
- *Making Maths Make Sense*, Issue 6, Volume 3, Creative Teaching & Learning, July 2016 (with Ana H. Quintero)
- *Epistemology of the Exact Science(s): Mathematical Knowledge vis-à-vis Spiritual Knowledge*, Dialogue & Alliance, Inter Religious Federation for World Peace, Vol. 22, No. 1, Spring/Summer 2008
- *A Critique of Monetary Educational Incentives for Elementary and Middle School Students in New York City Public Schools*, with Jonathan Farley, Teachers College Record: The Voice of Scholarship in Education, May 15, 2008
- *Kurt Gödel's Mathematical and Scientific Perspective of the Divine: A Rational Theology*, The Digest, Volume 7 Issue 2, Metanexus Institute, February 2007
- *Simmons' Subliminal Channel*, The College Mathematics Journal, 35:3, May 2004

#### NEWS ARTICLES ABOUT MY WORK

- *Despite Pandemic Julia Robinson Mathematics Festival Expands Around the World* in FOCUS, the newsmagazine of the Mathematical Association of America, R. Neiman, April/May 2021
- *The Math Circle is Back* in Chapel Hill News, H. Rosario, November 9, 2016
- *What the World Can Learn from Latin America* in the Huffington Post, C.W. Rubin, October 12, 2014
- *What Do Finland and Puerto Rico Have in Common?* in the Huffington Post, C.W. Rubin, November 14, 2014
- *Mujeres Boricuas al Frente en Ciencias y Matemáticas* in El Nuevo Día, José A. Delgado, December 2, 2014

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#### CONFERENCE PAPERS

- *Celebration of Mind*, Georgia Association for Gifted Children 38<sup>th</sup> Annual Convention, UGA Hotel and Conference Center, Athens, Georgia, March 5, 2018
- Keynote Lecture: *Emulating Hilbert and Schrödinger: Three Problems for the 21<sup>st</sup> Century*, 8<sup>th</sup> All India Students' Conference on Science and the Spiritual Quest, Varanasi, INDIA, February 1, 2014
- Keynote Lecture: *Círculos Matemáticos*, Primer Coloquio sobre Matemática Educativa y Aplicaciones "Maestro Remigio Valdés Gámez," Universidad Autónoma de Coahuila, Saltillo, MEXICO, January 27, 2014
- *Puerto Rico Math Circle: Explorations in Gifted Education*, International Symposium on the Education of Mathematically Talented Students, Future Road Teachers College, Shanghai, CHINA, July 17, 2013
- *From Math Circles to Math Classrooms: An Egalitarian Approach*, SIDIM XXVIII, Universidad Metropolitana, San Juan, PUERTO RICO, March 1, 2013
- Keynote Lecture: *Epistemology of the Exact Science(s): Mathematical Knowledge vis-à-vis Spiritual Knowledge*, 4<sup>th</sup> All India Students' Conference on Science and the Spiritual Quest, Tiruchirappalli, Tamil Nadu, INDIA, December 27-29, 2008
- *Mathematical Minds in Action: Identifying and Nurturing Talent*, 11<sup>th</sup> International Conference on Mathematical Education (ICME 11), Monterrey, MEXICO, July 6-13, 2008
- *Puzzles and Proofs: From Informal to Formal Arguments*, 11<sup>th</sup> International Conference on Mathematical Education (ICME 11), Monterrey, MEXICO, July 6-13, 2008
- *Vaishnava Ontological Argument*, 3<sup>rd</sup> All India Students' Conference on Science and the Spiritual Quest, Tirupati,

INDIA, December 22-23, 2007

- *Toward a New Ontological Argument: The Existence of the Soul vis-à-vis The Existence of God*, Convergence of Science and Spirituality Conference, Iliff School of Theology, Denver, Colorado, USA, September 29, 2007
- *Kurt Gödel's Mathematical Perspective of the Divine: A Rational Theology*, 2<sup>nd</sup> All India Students' Conference on Science and the Spiritual Quest, Puri, INDIA, December 9-10, 2006

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#### SELECTED PRESENTATIONS and WORKSHOPS

- *Matemáticas: Su divulgación y su didáctica* (virtual), Round Table, 54 Congreso Nacional de la Sociedad Mexicana de Matemáticas, MÉXICO, October 21, 2021
- *El enfoque pedagógico de los círculos y festivales matemáticos* (virtual), Workshop, X COME 2021, HONDURAS, August 10, 2021
- *Del juego al análisis matemático: Transiciones imperceptibles en el enfoque pedagógico de los círculos y festivales matemáticos* (virtual), Workshop, XXII Congreso Boliviano de Matemática, BOLIVIA, August 9-11, 2021
- *International Mathematics Festival: A Fun and Collaborative Event for Students to Discover "Why" and "What If"* (virtual), Panel discussion, ICME 14, CHINA, July 14, 2021
- *Métodos didácticos del Círculo Matemático y el Festival Matemático* (virtual), Mini-course, RELME 34, GUATEMALA, June 30 & July 2, 2021
- *Círculos y Festivales Matemáticos* (virtual), Round table, RELME 34, GUATEMALA, June 29 & July 1, 2021
- *Ontological and Cosmological Arguments in the Realm of Mathematical* (virtual), Center for Foundations of Science and Consciousness, Bhaktivedanta Institute Bhubaneswar, INDIA, September 26, 2020
- *Mathematical Outreach* (virtual), Talk Math with Your Friends, University of South Alabama, July 30, 2020
- *JRMF Maze Mats*, Orlando Math Teachers' Circle, Rollins College, February 1, 2020
- *Frogs and Toads and JRMF*, Orlando Math Teachers' Circle, Rollins College, August 17, 2019
- *Fold and Cut Challenge*, MOVES 2019, CUNY Graduate Center, August 6, 2019
- *Problem Solving and JRMF*, Mathus Academy, August 12, 2018
- *Squares Galore*, Intown Atlanta Math Teachers' Circle, Emory University, June 5, 2018
- *Conjecture and Proof: Nurturing Creativity in the K-12 Classroom*, Triangle Math Teachers' Circle, North Carolina State University, February 10, 2018
- *Problem-Solving the Math Circle Way*, workshop for graduate students and faculty, Florida State University, December 14, 2016
- *Frogs and Toads*, workshop for elementary and middle school students from the Tallahassee Math Circle, Calvary Orthodox Presbyterian Church, December 13, 2016
- *Mathematics and Its Teaching in the Muslim World*, Panelist, Teachers College – Columbia University, October 10, 2016
- *Do You Think Like a Mathematician?*, Hispanic Educational Summit, NCSU, March 11, 2016
- *Mathematics and Its Teaching in the Southern Americas*, book presentation, UPR at Río Piedras, April 15, 2015
- *Mathematics and Its Teaching in the Southern Americas*, book presentation, UPR at Carolina, November 7, 2014
- *Mathematics and Its Teaching in the Southern Americas*, book presentation, UPR at Mayagüez, November 4, 2014
- *The Decades Ahead*, Columbus Day Symposium: Mathematics Education in Latin America, Teachers College - Columbia University, New York, October 13, 2014
- *Math Circle Workshops*, Primer Coloquio sobre Matemática Educativa y Aplicaciones "Maestro Remigio Valdés Gámez," Universidad Autónoma de Coahuila, Saltillo, MEXICO, January 27-28, 2014
- *Mathematics and Spirituality*, Center for Interdisciplinary Mathematical Sciences, Banaras Hindu University, Varanasi, INDIA, February 4, 2014
- *Mathematical Puzzles: An Egalitarian Approach*, City College, City University of New York, May 22, 2012
- *Mathematical Puzzles: Liberating Remedial Instruction*, John Jay College of Criminal Justice, City University of New York, March 13, 2012
- *The History of Mathematics as a Didactic Tool*, UPR at Mayagüez, October 18, 2003
- *Special Secondary Schools: An International Panorama*, UPR at Mayagüez, September 25, 2003
- *Beautiful Minds Need Able Beholders – Preparing Middle School Teachers to Identify and Nurture Mathematical Talent*, City College, City University of New York, February 12, 2002

## **OUTREACH and SERVICE TO THE PROFESSION**

- UF Math Circle, Co-Founder (January 2020–May 2020)
- Alachua Math Circle, Founder, (October 2019–May 2020)
- Orlando Math Circle, Advisory Board Member (May 2019–Present)
- Mathapalooza! at the Atlanta Science Festival, Co-organizer (March 9, 2019)
- Mensa International’s Gifted Youth Committee, Member (October 2018–September 2020)
  - Co-Organizer, IBD 2019 Youth Festival, Kuala Lumpur, MALAYSIA, October 12-13, 2019
- Mensa in Georgia, Gifted Youth Coordinator (December 2017–June 2019)
  - Monthly meetings for 10-30 children
- Julia Robinson Mathematics Festival, Co-Organizer
  - Emory University (April 10, 2018)
  - UNC Chapel Hill (April 29, 2017; May 21, 2016)
  - UPR at Mayagüez (March 9, 2013)
- Innovative Mathematical Outreach in Alternative Settings, Co-Organizer
  - Contributed Papers Session at the Joint Mathematics Meetings in San Diego (January 11, 2018)
- Celebration of Mind, Organizer
  - Lawrenceville Branch of the Gwinnett County Public Library (October 21, 2017)
  - South Gwinnett High School (December 12, 2017)
- Triangle Math Teachers’ Circle, Founding Director
  - Department of Mathematics at North Carolina State University (October 2016 – May 2017)
- Chapel Hill Math Circle, Co-Founding Director
  - Department of Mathematics at UNC at Chapel Hill (January 2016 – May 2017)
- Southern Mississippi Preparatory Academy, Chair of Board of Directors and K-3 Mathematics Teacher
  - 2013-2014
- National Association of Math Circles
  - Advisory Committee Member (2012-2015)
- Circle on the Road 2013, Organizer
  - UPR at Mayagüez (March 8-10, 2013)
- Puerto Rico Math Circle, Founding Director
  - 2012-2013

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## **PROFESSIONAL AFFILIATIONS**

- Gwinnett Alliance for Gifted Education
  - Board Member, High School Representative (2017-2019)
- Kappa Delta Pi, International Honor Society in Education
- Inter-American Committee of Mathematics Education (CIAEM)
  - Representative for Puerto Rico (2013-2017)
- Mathematical Association of America
  - Member, Centennial History Subcommittee of the Centennial Planning Committee (2010-2015)
- Red de Educación Matemática de América Central y el Caribe (REDUMATE)
  - International Advisory Board Member and Representative for Puerto Rico (2013-2017)

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## **REFEREEING**

- *Revista Educación Matemática* (2014-2018)
- *Mathematics Teacher*, NCTM (2008-2015)
- XIV CIAEM 2015 (2014-2015)
- Consejo de Educación de Puerto Rico (2012)

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## **LANGUAGES**

- Speak, read, and write Spanish and English with native fluency.
- Intermediate knowledge of Portuguese and basic knowledge of Sanskrit.