

Curriculum Vitae

Julia Yael Plavnik

Personal information

Full name: Julia Yael Plavnik.

Gender: Female.

Date and place of birth: January 25th, 1985. Córdoba, Argentina. **Age:** 30.

Work address: Faculty of Mathematics, Astronomy and Physics(FaMAF)

CIEM-CONICET

Medina Allende s/n - Ciudad Universitaria

Universidad Nacional de Córdoba – (5000) Córdoba, Argentina.

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Current position

Graduate Student Instructor (in Argentina it is called Assistant Professor or JTP). Universidad Nacional de Córdoba (FaMAF). From 2013.

Mathematics postdoctoral fellow CONICET (National Research Council), Argentina. Universidad Nacional de Córdoba (CIEM-CONICET). Postdoctoral supervisor: Prof. María Julia Redondo and Prof. Martín Mombelli. From 2013.

Education

1. Ph.D. in Mathematics

August 2008 – March (15th) 2013.

FaMAF, National University of Córdoba (UNC), Argentina.

Advisor: Prof. Sonia Natale.

Thesis title: *On the structure of fusion categories with few irreducible degrees.*

2. Master Class “Quantum Groups, affine Lie algebras and their applications.”

September 2007 – June 2008.

MRI (Mathematical Research Institute), Utrecht University, The Netherlands.

Advisor: Prof. Michael Mueger.

3. Licenciada en Matemática (M.Sc. in Math. equivalent)

March 2003 – September (3rd) 2007.

FaMAF, National University of Córdoba (UNC), Argentina.

Grade: 9.16/10.

Publications

1. “Classification of integral modular categories of Frobenius-Perron dimension pq^4 and p^2q^2 ” with P. Bruillard, C. Galindo, S.-M. Hong, Y. Kashina, D. Naidu, S. Natale and E. C. Rowell. *Canadian Mathematical Bulletin* **57**, no. 4 (2014), 721-734.
2. “Solvability of a class of braided fusion categories” 2014 with S. Natale. *Applied Categorical Structures* **22** (2014), 229-240.
3. “On fusion categories with few irreducible degrees” 2012 with S. Natale. *Algebra Number Theory* **6**, no. 6 (2012), 1171-1197.

Submitted articles

1. “On the Classification of Weakly Integral Modular Categories” 2014 with P. Bruillard, C. Galindo, S-H. Ng, E. C. Rowell and Z. Wang. Preprint [arXiv:1411.2313](https://arxiv.org/abs/1411.2313).
2. “Tensor functor between Morita duals of fusion categories” 2014 with C. Galindo. Preprint [arXiv:1407.2783](https://arxiv.org/abs/1407.2783).

Short research stays

- *Louisiana State University*, May 09th-13th, 2014. Host researcher Prof. Siu-Hung (Richard) Ng.
- *Microsoft Station Q - University of California, Santa Bárbara*, April 19th-30th, 2014. Host researcher Prof. Zhenghan Wang.
- *Universität Hamburg*, June 12th-15th, 2013. Host researcher Prof. Christoph Schweigert.
- *Philipps-Universität Marburg*, June 3rd-11th, 2013. Host researcher István Heckenberger.
- *Texas A & M University*, March 16th-24th, 2012; May 13th-18th, 2014, January 13th-17th, 2015. Host researcher Prof. Eric Rowell.

Talks in conferences

1. *VII Encuentro Nacional de Álgebra (7th National Algebra Meeting)*. La Falda, Argentina. August 2014. “On the classification of certain integral modular categories”.
2. *Mathematical Research Communities: Mathematics of Quantum Phases of Matter and Quantum Information (MRC)*. Snowbird, United States. June 2014. “Some results and techniques on the classification of certain weakly-integral modular categories (of small rank or small dimension)”.
3. *Colloquium on Algebra and Representations - Quantum 2014*. Santa Maria, Rio grande do Sul, Brasil. March 2014. “Tensor functors between Morita duals of fusion categories”.

4. *Joint Int. Meeting of the AMS and the Romanian Math. Society* (Invited talk). Alba Iulia, Rumania. June 2013. “On the structure of fusion categories with few irreducible degrees”.
5. *Workshop on Fusion Categories* (Invited talk). Dijon, Francia. May 2013. “On the structure of fusion categories with few irreducible degrees”.
6. *Coloquio de Álgebras y Representaciones - Quantum 2013*. Taí del Valle, Tucumán, Argentina. March 2013. “On tensor categories and Hopf algebras”.
7. *XIX Coloquio Latinoamericano de Álgebra (CLA)*. Pucón, Chile. December 2012. “Solvability of a class of braided fusion categories”.
8. *Primeras Jornadas de Doctorandos de FaMAF*. Córdoba, Argentina. November 2012. “Fusion categories II”.
9. *IV Congreso Latinoamericano de Matemáticos (CLAM)*. Córdoba, Argentina August 2012. “Solvability of a class of braided fusion categories”.
10. *Coloquio de Álgebras y Teoría de Representaciones - Quantum 2012*. Mendoza, Argentina. March 2012. “On fusion categories with few irreducible degrees”.
11. *Reunión Anual de la UMA*. Tucumán, Argentina. September 2011. “On fusion categories with few irreducible degrees”.
12. *Snoop Update '05* (Invited talk). Buenos Aires, Argentina. September 2012. “Singular value decomposition and an application to images transmission”
13. *34 JAIIO*(Plenary conferenca and poster). Rosario, Argentina. September 2005. “Singular value decomposition and an application to images transmission”.
14. *2015 Joint Mathematical Meetings (JMM)*(Invited talk at AMS Special Session on Quantum Information and Fusion Categories) San Antonio, Texas, United States. January 2015. “On strictly weakly integral modular categories of rank 8 and 9”.

Talk in seminars

- *Homological Algebra Seminar*. Buenos Aires University, Argentina. July 10th, 2013; August 28th, 2013.
- *Seminar Quantum physics and geometry*. Universität Hamburg, Germany. June 14th, 2013.
- *Oberseminar “Kombinatorik und Algebra”*. Philipps-Universität Marburg, Germany. June 5th, 2013.
- *Algebra seminar*. Universiteit Utrecht, The Netherlands. May 29th, 2013.

- *Q.A. seminar*. Buenos Aires University, Argentina. April 22nd, 2013.
- *Lie theory seminar*. FaMAF, National University of Córdoba, Argentina. June 09th, 2011; May 31st, 2012.
- *Seminar “Algebra and Combinatorics”*. Texas A & M University, United States. March 23rd, 2012.
- *Seminar “GRASP” (Geometry, Representation and Some Physics)*. UC Berkeley, United States. March 09th, 2012.
- *“Rutgers Algebra Seminar”*. Rutgers, The State University of New Jersey, United States. February 29th, 2012.
- *Seminar “Knots and geometrizations”*. Universiteit van Amsterdam, The Netherlands. October 29th, 2007.

Conference and Seminar Co-Organization:

1. *First Encuentro Colombiano de Computación Cuántica (EC³2015)*, May 11th-15th, 2015. Bogotá, Colombia. Website: <http://matematicas.uniandes.edu.co/eventos/2015/EC/index.html>.
2. *Colloquium on Algebra and Representations - Quantum 2014*, March 20th-24th, 2014. Santa Maria, Rio Grande do Sul, Brasil. Website: <http://www.famaf.unc.edu.ar/plavnik/quantum2014-en/index-en.html>
3. *Colloquium on Algebra and Representations - Quantum 2013*, March 22nd-25th, 2013. Taí del Valle, Tucumán, Argentina. Website: <http://www.famaf.unc.edu.ar/plavnik/quantum2013-en/index-en.html>
4. *Graduate seminar of FaMAF*, National University of Córdoba (UNC), 2010. (with R. M. Arroyo).
5. *Colloquium on Hopf Algebras, Quantum Groups and Tensor Categories* (Part of the *Local Committee*), August 31st to September 4th, 2009. La Falda, Sierras de Córdoba, Argentina. Website: <http://www.mate.uncor.edu/ggarcia/quantum2009/quantum09-eng.html>

Fellowships and awards

Travel fellowship, MRC (Mathematics Research Communities), United States. To attend to the MRC “Mathematics of Quantum Phases of Matter and Quantum Information”. Snowbird, Utah, United States. June 2014.

Travel fellowship, AIM (American Institute of Mathematics), United States. To attend to the AIM SQuAREs “Classification of modular categories”. Palo Alto, California, United States. May 2014.

Travel fellowship, University of Talca, Clay Mathematics Institute and Conicyt To attend to “Representation theory days in Patagonia”. Punta Arenas, Chile. January 2014.

PostDoctoral fellowship, CONICET, Argentina. Advisor: Prof. María Julia Redondo. April 2013 – March 2015 (Current position).

Ph.D. fellowship Type II, CONICET, Argentina. Advisor: Prof. Sonia Natale. Co-
advisor: Prof. Nicolás Andruskiewitsch. April 2011 – March 2013.

Ph.D. fellowship Type I, CONICET, Argentina. Advisor: Prof. Sonia Natale. Co-
advisor: Prof. Nicolás Andruskiewitsch. April 2008 – March 2011.

Travel fellowship, AIM (American Institute of Mathematics), United States.
To attend to the AIM Workshop “Classifying fusion categories”. Palo Alto, California, United
States. March 2012.

Premio Talentos 2008. Best undergraduate student of FaMAF. Journal “Punto a Punto”.
September 2008.

Master Class fellowship, MRI (American Institute of Mathematics), United States.
For the realization of the Master Class “Quantum Groups, Affine Lie Algebras and their
applications” (Universiteit Utrecht). September 2007 – June 2008.

Primer premio en el Concurso de Trabajos Estudiantiles, with R.M.Arroyo. Best
undergraduate thesis. 34 JAIIO. September 2005.

Premio estudiantil cordobés. Best high school student. Córdoba province government.
December 2000.

Teaching experience

Graduate Student Instructor Aug 2013 – Now (Current position)
FaMAF – Universidad Nacional de Córdoba – Argentina.

Graduate teaching assistant Aug 2009 – Jul 2013
FaMAF – Universidad Nacional de Córdoba – Argentina.

Graduate teaching assistant May 2009 – Apr 2010
Facultad Regional Córdoba – Universidad Tecnológica Nacional – Argentina.

Undergraduate teaching assistant Mar 2005 – Aug 2007
FaMAF – Universidad Nacional de Córdoba – Argentina.

Languages

Spanish (mother tongue), English, French (DELF B1 level), Portuguese.