

CURRICULUM VITAE

Manuel Sanguinetti Miralles

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EDUCATION

- 2003-2008: Degree in Biology (Faculty of Sciences, Universidad de la República, Montevideo, Uruguay). Thesis: “*ureA* gene: Deletion and subcellular localization of its product, the urea transporter of *Aspergillus nidulans*”.
- 2008-2014: PhD in Biological Sciences (Cellular and Molecular Biology), Programa de Desarrollo de las Ciencias Básicas (PEDECIBA, Universidad de República–Ministerio de Educación y Cultura). Thesis: “Translational, post-translational and functional study of the urea transporter, *UreA*, from *Aspergillus nidulans*”.
- Languages: Spanish (native language), English, Portuguese and French.

PROFESSIONAL EXPERIENCE

Research Interests:

Classical and molecular genetics of *Aspergillus nidulans*. Structure-function relationships, regulation of expression, translation and intracellular trafficking of transporters.

Positions:

- 2017-2019: Postdoctoral research assistant (PEDECIBA, “Uruguay retiene” program) at the Biochemistry and Molecular Biology Section at the Faculty of Sciences, Universidad de la República.
- 2018-present: Assistant (full time position) at the Biochemistry and Molecular Biology Section at the Faculty of Sciences, Universidad de la República.

Teaching:

(courses dictated by the Biochemistry and Molecular Biology Section at the Faculty of Sciences, Universidad de la República)

- Graduate Courses
 - 2008-2010, 2019-present: Molecular Biology.
 - 2008, 2011-2013: Genetic studies using as a model *Aspergillus nidulans* (Introduction to Biology II course).
 - 2011-2017: Biochemistry.

- 2009, 2012: “Introduction to Molecular Biology” dictated to students of the University School of Medical Technology (Faculty of Medicine, Universidad de la República)
- Post-graduate Courses
 - 2011, 2013, 2015, 2017, 2019: “Expression of Recombinant Proteins”, dictated by the Biochemistry and Molecular Biology Section at the Faculty of Sciences, Universidad de la República.
 - 2019: “Regulation of gene expression in eukaryotes”, dictated by the Biochemistry and Molecular Biology Section at the Faculty of Sciences, Universidad de la República.

Tutoring:

- Final degree thesis
 - 2020-present: Director of the final degree thesis in Biochemistry of student Sofía Dacosta, entitled “Determination of the signal sequence of Urea, the urea transporter of *Aspergillus nidulans*”. Co-director: Dra. Ana Ramón.
 - 2020-present: Director of the final degree thesis in Biochemistry of student Irene Larghero, entitled “Generation of plasmids to determine the in vivo interaction between UreA and ArtA in *Aspergillus nidulans*”.
 - 2019-2021: Director of the final degree thesis in Biology of student Juan Idiarte, entitled “Mutational analysis of *Aspergillus nidulans* urea transporter, UreA, N279”.
 - 2015-2018: Co-director of the final degree thesis in Biochemistry of student Agustina González, entitled “Recombinant production of *Aspergillus nidulans*’ Rps9 protein in *Escherichia coli*, for antibody production”. Director: Dra. Ana Ramón.
 - 2015-2016: Director of the final degree thesis in Biochemistry of student Agustina González, entitled “Recombinant production of *Aspergillus nidulans*’ SrpA protein in *Escherichia coli*, for antibody production”. Co-director: Dra. Ana Ramón.
 - 2011-2013: Co-director of the final degree thesis in Biochemistry of student Lucía Colella, entitled “Development of an *in vitro* translation system to evaluate synonymous mutants of UreA, the urea transporter of *Aspergillus nidulans*”. Thesis Director: Dr. Ana Ramón.
 - 2010-2011: Co-director of the final degree thesis in Biochemistry of student Lucía Carrau, entitled “Study of the expression of paralogues genes of *ureA*, the gene encoding the urea transporter of urea in *Aspergillus nidulans*”. Thesis Director: Dr. Ana Ramón.
- PhD thesis:
 - 2021-present: Co-director of the PhD thesis (PEDECIBA) of student Juliette Dourron, entitled “Characterization of FpaD, a possible general repressor of amino acid transporters coding genes in *Aspergillus nidulans*”. Thesis Director: Dr. Ana Ramón.
 - 2015-present: Co-director of the PhD thesis (PEDECIBA) of student Mariana Barraco, entitled “Structure-function relationships of Basidiomycotas purine transporters”. Thesis Director: Dra. Gianna Cecchetto.

Participation in research programs:

- 2019-2021: project manager in the Scientific Project Grant of the National Agency for Research and Innovation (ANII), Fondo Clemente Estable, Modalidad II (FCE_3_2018_1_148002). Topic: “Deepening in the identification of structural and functional determinants of UreA”
- 2018: Guiding teacher in the Scientific Project Grant of the Comisión Sectorial de Investigación Científica (CSIC) Student Research Support Program. Topic: “The AN2738 gene product plays a role in the intracellular traffic of UreA?”, granted to student María Pía Coronel.
- 2014-2015: project manager in the Scientific Project Grant of the Comisión Sectorial de Investigación Científica (CSIC) Research Initiation Program. Topic: “Contribution to the knowledge of the regulation of the intracellular traffic of membrane proteins using as a model UreA, the urea transporter of *Aspergillus nidulans*”.
- 2016: member of the research team in the Scientific Project Grant of the Uruguayan National Agency for Research and Innovation (ANII) and BIOSAN laboratory (PPI_X_2014_1_13837). Topic: “Production of immunoglobulins for the treatment and prevention of neonatal diseases of dairy cattle”, granted to Dr. Julian Bermudez.
- 2015-2018: member of the research team in the Scientific Project Grant of the Comisión Sectorial de Investigación Científica (CSIC) Research+Development Program. Topic: “Study of the role of codons 24 and 25 of the *Aspergillus nidulans* UreA transporter in its targeting to the membrane”, granted to Dra. Ana Ramón.
- 2011-2013: member of the research team in the Scientific Project Grant of the National Agency for Research and Innovation (ANII), Fondo Clemente Estable. Topic: “Searching for the molecular basis of in vivo membrane protein folding in *Aspergillus nidulans*”, granted to Dra. Ana Ramón.
- 2007-2009: member of the research team in the Scientific Project Grant of the Comisión Sectorial de Investigación Científica (CSIC) Research+Development Program. Topic: “What is the role of histone H1 in the cell”, granted to Dra. Ana Ramón.

PUBLICATIONS

Peer-reviewed journals:

- 2019: **Sanguinetti, M.**; Iriarte, A; Amillis, S; Marin, M; Musto, H; Ramón, A. A pair of non-optimal codons are necessary for the correct biosynthesis of the *Aspergillus nidulans* urea transporter, UreA. *R. Soc. open sci.* 6: 190773. doi: 10.1098/rsos.190773.
- 2016: Ronald P. de Vries, Robert Riley, Ad Wiebenga, Guillermo Aguilar-Osorio, Sotiris Amillis, Cristiane Akemi Uchima, Gregor Anderlueh, Mojtaba Asadollahi, Marion Askin, Kerrie Barry, Evy Battaglia, Özgür Bayram, Tiziano Benocci, Susanna A. Braus-Stromeyer, Camila Caldana, David Cánovas, Gustavo C. Cerqueira, Fusheng Chen, Wanping Chen, Cindy Choi, Alicia Clum, Renato Augusto Corrêa dos Santos, André Ricardo de Lima Damásio, George Diallinas, Tamás Emri, Erzsébet Fekete, Michel Flipphi, Susanne Freyberg, Antonia Gallo, Christos Gourmas, Rob Habgood, Matthieu Hainaut, María Laura Harispe, Bernard Henrissat, Kristiina S. Hildén, Ryan Hope, Abeer Hossain, Eugenia Karabika, Levente Karaffa, Zsolt Karányi, Nada Kraševc, Alan Kuo, Harald Kusch, Kurt LaButti, Ellen L. Lagendijk, Alla Lapidus, Anthony Levasseur, Erika Lindquist, Anna Lipzen, Antonio F. Logrieco, AndrewMacCabe, Miia R. Mäkelä, Iran Malavazi, Petter Melin, Vera Meyer, Natalia Mielnichuk, Márton Miskei, Ákos P. Molnár, Giuseppina Mulé, Chew Yee Ngan, Margarita Orejas, Erzsébet Orosz, Jean Paul Ouedraogo, Karin M. Overkamp, Hee-Soo Park, Giancarlo Perrone, Francois Piumi, Peter J. Punt, Arthur F. J. Ram, Ana Ramón, Stefan Rauscher, Eric Record, Diego Mauricio Riaño-Pachón, Vincent Robert, Julian Röhrig, Roberto Ruller, Asaf Salamov, Nadhira S. Salih, Rob A. Samson, Erzsébet Sándor, **Manuel Sanguinetti**, Tabea Schütze, Kristina Sepčić, Ekaterina Shelest, Gavin Sherlock, Vicky Sophianopoulou, FabioM. Squina, Hui Sun, Antonia

Susca, Richard B. Todd, Adrian Tsang, Shiela E. Unkles, Nathalie van de Wiele, Diana van Rossen-Uffink, Juliana Velasco de Castro Oliveira, Tammi C. Vesth, Jaap Visser, Jae-Hyuk Yu, Miaomiao Zhou, Mikael R. Andersen, David B. Archer, Scott E. Baker, Isabelle Benoit, Axel A. Brakhage, Gerhard H. Braus, Reinhard Fischer, Jens C. Frisvad, Gustavo H. Goldman, Jos Houbraeken, Berl Oakley, István Pócsi, Claudio Scazzocchio, Bernhard Seiboth, Patricia A. vanKuyk, Jennifer Wortman, Paul S. Dyer and Igor V. Grigoriev. **Comparative genomics reveals high biological diversity and specific adaptations in the industrially and medically important fungal genus *Aspergillus*. *Genome Biology* (2017) 18:28. doi: 10.1186/s13059-017-1151-0.**

- **2014: Sanquinetti, M**; Amillis, S; Pantano, S; Scazzocchio, C; Ramón, A. **2014**. Modelling and mutational analysis of *Aspergillus nidulans* UreA, a member of the subfamily of urea/H⁺ urea transporters in fungi and plants. *Open Biol.* 2014 4, 140070. doi: 10.1098/rsob.140070
- **2012**: Iriarte, A; **Sanquinetti, M**; Fernández-Calero, T; Naya, H; Ramón, A; Musto, H. Translational selection on codon usage in the genus *Aspergillus*. *Gene*. 506: 98-105. doi: 10.1016/j.gene.2012.06.027.
- **2010**: Abreu, C*, **Sanquinetti, M**, Amillis, S, Ramón, A. **2010**. UreA, the major urea/H⁺ symporter in *Aspergillus nidulans*. *Fungal Genet. Biol.* 47: 1023-1033. doi: 10.1016/j.fgb.2010.07.004. *Contributed equally

Book chapters

- **2016: Sanquinetti, M**; Ramón, A. Heterologous protein expression in the Aspergilli: overcoming obstacles in the secretory pathway. Book: Microbial Models: From Environmental to Industrial Sustainability. Editorial: Springer (India) Pvt. Ltd. Editor: Susana Castro – Sowinski. pp. 149-170. **ISBN: 978-981-10-2554-9**. doi: 10.1007/978-981-10-2555-6_7
- **2012: Sanquinetti, M**, Ramón, A. Insights into urea transport in fungi and plants. Book: Urea: Synthesis, Properties and Uses. Editorial: Nova Publishers. Editores: Carla Maria Muñoz & Andrés Manuel Fernández. pp 149-168. **ISBN: 978-1-62257-032-4**.

PRESENTATION OF RESEARCH WORKS IN CONFERENCES

- National: 15
- International: 7