



## CURRICULUM VITAE – MARIA CECILIA SERAFINI

### PERSONAL INFORMATION

**Last name:** Serafini  
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**First (middle) name:** María (Cecilia)  
**La Plata (1900),** Buenos Aires, Argentina  
**Email:** cecilia.serafini@ing.unlp.edu.ar

**Place of birth:** Bahía Blanca (Buenos Aires, Argentina)  
**Date of birth:** December 19th, 1986.  
**Nationality:** Argentinian  
**Passport number:** 32716134

### EDUCATION

#### Pre-Grad:

Electronics Engineer, National University: National University of the South-  
"Universidad Nacional del Sur (UNS)", Bahía Blanca, Buenos Aires, Argentina.  
Final Thesis: "Design and efficiency analysis of a Doherty Power Amplifier for high  
PAPR signals". Gpa: 7.68/10

### RESEARCH EXPERIENCE

#### 2018-Current

PhD student, doctoral fellow.  
Electronics, Control and Signal Processing Institute (LEICI). School of Engineering,  
National University of La Plata.  
Subject: "Optimization and Adaptation of Control System for Artificial Pancreas".  
Supervisor: Dr Fabricio Garelli.

### SCHOLARSHIPS AND FELLOWSHIPS

**Type:** Doctoral fellowship

**Starting date:** 01/04/2018

**Place:** Electronics, Control and Signal Processing Institute (LEICI). School of Engineering,  
National University of La Plata.

**Granted By:** Buenos Aires Province Scientific Research Comitee (CIC)

**Type:** Undergraduate research scholarship

**Starting Date:** 01/10/2012      **End Date:** 30/09/2013

**Place:** Signal Processing and Communications Laboratory (LaPSyC), National University  
of the South, Bahía Blanca, Argentina

**Granted by:** National Universities Council (Consejo Interuniversitario Nacional, CIN)

### SCIENTIFIC PUBLICATIONS

2020 - Fushimi, E., Serafini, M.C., De Battista, H. et al. Automatic glycemic regulation  
for the pediatric population based on switched control and time-varying IOB  
constraints: an in silico study. Med Biol Eng Comput 58, 2325–2337.

<https://doi.org/10.1007/s11517-020-02213-w>



2018 - M. C. Serafini, E. Fushimi, H. De Battista and F. Garelli, "Use of Change-Point Analysis Tools for Evaluating Performance in Artificial Pancreas Systems", 2018 Argentine Conference on Automatic Control (AADECA), Buenos Aires, 2018, pp. 1-6.  
[www.doi.org/10.23919/AADECA.2018.8577370](http://www.doi.org/10.23919/AADECA.2018.8577370)

## CONGRESS ATTENDANCE

2020 - 27<sup>º</sup> Argentine Conference on Automatic Control (AADECA), Buenos Aires, 2020. Individual presentation of work: "Evaluación de técnicas de aprendizaje por refuerzo para la adaptación de controladores de páncreas artificial". Authors: María Cecilia Serafini, Nicolás Rosales, Fabricio Garelli.

2020 - 21st IFAC (virtual) World Congress (IFAC-V 2020), Germany 2020. Pediatric Glucose Regulation Without Pre-Meal Insulin Boluses: An Approach Based On Switched Control And Time-Varying Iob Constraints. Authors: Emilia Fushimi, María Cecilia Serafini, Ricardo Sanchez-Peña, Hernán De Battista, Fabricio Garelli.

2020 - 13th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD 2020), 13th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD 2020), Madrid 2020. Poster: Pediatric Glucose Regulation Without Pre-Meal Insulin Boluses: An Approach Based On Switched Control And Time-Varying Iob Constraints. Autores: Emilia Fushimi, María Cecilia Serafini, Ricardo Sanchez-Peña, Hernán De Battista, Fabricio Garelli.  
<http://doi.org/10.1089/dia.2020.2525.abstracts>

2019 - XVIII Reunión de Trabajo en Procesamiento de la Información Y Control (RPIC 2019), Bahía Blanca, 2019. Expositora individual de trabajo: "Evaluación Preclínica de Controladores para Páncreas Artificial en Población Pediátrica". Authors: Emilia Fushimi, María Cecilia Serafini, Hernán De Battista, Fabricio Garelli.

2018 - Argentine Conference on Automatic Control (AADECA), Buenos Aires, 2018. Individual presentation of work: "Uso de herramientas de análisis de punto de cambio para evaluar el desempeño de sistemas de Páncreas Artificial". Authors: María Cecilia Serafini, Emilia Fushimi, Hernán De Battista, Fabricio Garelli

## TEACHING EXPERIENCE

### March 2020 – March 2021

Teaching Assistant  
 Faculty of Engineering, National University of La Plata (UNLP), Argentina.  
 Subject: Mathematics for engineering

### March 2019 – March 2020

Teaching Assistant  
 Faculty of Engineering, National University of La Plata (UNLP), Argentina.  
 Subject: Mathematics for engineering

### January 2019 – March 2019

Teaching Assistant  
 Faculty of Engineering, National University of La Plata (UNLP), Argentina.



Subject: Mathematics for engineering, accelerated course.

**April 2015 – April 2017**

Teaching Assistant

Department of Mathematics, National University of the South (UNS), Bahía Blanca, Argentina.

Subject: Algebra and Geometry.

**April 2013 – April 2015**

Teaching Assistant

Department of Mathematics, National University of the South (UNS), Bahía Blanca, Argentina.

Subject: Algebra and Geometry.

**April 2011 – April 2013**

Teaching Assistant

Department of Mathematics, National University of the South (UNS), Bahía Blanca, Argentina.

Subject: Algebra and Geometry.

**March 2008 – March 2009**

Teaching Assistant

Department of Mathematics, National University of the South (UNS), Bahía Blanca, Argentina.

Subject: Calculus.

**August 2007 – December 2007**

Teaching Assistant

Department of Mathematics, National University of the South (UNS), Bahía Blanca, Argentina.

Subject: Calculus.

**RELEVANT COURSES**

**Graduate Courses**

"Machine Learning: basic concepts". School of Informatics, UNLP (National University of La Plata). Teacher: Dr Franco Ronchetti. Duration 30hs. Passed. 2019

"Linear Systems". EPEC, School of Engineering, UNLP (National University of La Plata). Teacher: Dr. Hernán De Battista. Duration 90hs. Passed. 2019.

"Introduction to the analysis of nonlinear systems". EPEC, School of Engineering, UNLP (National University of La Plata). Duration: 90hs. Teachers: Dr. Ing. Pablo Puleston, Dra. Ing. Carolina Evangelista, Dr. Ing. Miguel Mayosky. Passed. 2019

"Statistics for Engineering and Science". EPEC, School of Engineering, UNLP (National University of La Plata). Teacher: Dra. María Beatriz Pintarelli. Duration: 48hs. Passed. 2018.



“Statistical Resources for Process Control”. EPEC, School of Engineering, UNLP (National University of La Plata). Duration: 30hs. Teacher: Dra. Viviana Costa. Passed. 2018.

“Control of systems with delay and predictive control”. EPEC, School of Engineering, UNLP (National University of La Plata). Duration: 30hs. Teachers: Ing. Julian Mantz, Dr. Julio E. Normey-Rico. Attended. 2018.

“Advanced Control Systems”. ITBA (Technological Institute of Buenos Aires). Duration: 60hs. Teacher: Ricardo Sánchez Peña. Passed. 2018.

“Linear Algebra”. EPEC, School of Engineering, UNLP (National University of La Plata). Duration 60hs. Teacher: Dr. Raúl Rossignoli. Passed. 2018.

“Writing Scientific Papers and Thesis”. Parana School of the UTN (National Technological University). Duration: 60hs. Teacher: Dr. Aldo Calzolari. Passed. 2017.

### **Technical Courses**

Workshop: “Basic VLSI Design using CAD tools” at the Argentine School of Micro-Nano electronics, Technology and Applications(EAMTA), 2009.

### **OTHER SOCIAL AND ACADEMIC ACTIVITIES**

Active member of the Gender and Diversity commission at the Universidad Nacional de La Plata’s School of Engineering (Facultad de Ingeniería, UNLP)