

René Cejas Bolecek

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Postdoc at Low Temperatures Lab., Centro Atómico Bariloche, CNEA, and Instituto Balseiro, CNEA-Universidad Nacional de Cuyo, Bariloche, Argentina.
Av. Bustillo 9500, Bariloche
Languages:
Spanish (Mother tongue),
English (Pre-Advanced),
French (Pre-Intermediate)

EDUCATIONAL

- 2015- Postdoc (CONICET) at Low Temperatures Lab., CAB-CNEA
Research topic: **“Study of new superconductors with microcalorimetry and magnetometry techniques at low temperatures”**
- 2010-2015 Ph.D. in experimental physics. Instituto Balseiro, UNCuyo.
Title: **“Propiedades estructurales y magnéticas de la materia de vórtices mesoscópica” (Structural and magnetic properties of mesoscopic vortex matter)**
- 2000-2007 M.S. in Physics (Res. 255/07-F, 5 years). Faculty of Physics, Mathematical and Natural Sciences. San Luis University.
Average mark: 8.7/10
Title: **“Percolación en sustratos fractales” (Percolation on Fractal Substratums)**. Mark: 10/10

SCHOLARSHIPS

- 2015 **CONICET-Postdoc** fellowship (2 years) Low Temperatures Laboratory Centro Atómico Bariloche, CNEA, Instituto Balseiro, CNEA-Universidad Nacional de Cuyo, Bariloche, Argentina
- 2013 Fellowship of the **“Internship Program for International Students”** at Ecole Polytechnique, Palaiseau, France. Internship for the period September-November.
- 2011 **The European Advanced Cryogenics Course**. Grenoble, France. (From 18/09/2011 to 27/09/2011)
Further information: <http://cryocourse2011.grenoble.cnrs.fr/spip.php?rubrique4>
- 2011 **Argentine Ministry of Education**. University Policies Secretariat (SPU). Educacional Movility Program to Paris (6th call)

PUBLICATIONS

- 1- NR Cejas Bolecek, AB Kolton, M Konczykowski, H Pastoriza, D Dominguez, Y Fasano. Vortex matter freezing in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ samples with a very dense distribution of columnar defects. *Phys. Rev. B*, 93(5):054505, 2016.
- 2- JI Facio, D Betancourth, NR Cejas Bolecek, GA Jorge, P Pedrazzini, VF Correa, PS Cornaglia, V Vildosola, DJ García. Lattice specific heat for the $\text{RMI}n$ 5 ($R = \text{Gd, La, Y}$; $M = \text{Co, Rh}$) compounds: non-magnetic contribution subtraction. Aceptado *Journal of Magnetism and Magnetic Materials* 2016
- 3- MI Dolz, Y Fasano, NR Cejas Bolecek, H Pastoriza, V Mosser, M Li, M Konczykowski. Size-induced depression of first-order transition lines and entropy jump in extremely-layered nanocrystalline vortex matter. *Physical Review Letters* 115, 137003 (2015).
- 4 - NR Cejas-Bolecek, MI Dolz, A Kolton, H Pastoriza, CJ van der Beek, M Konczykowski, M Menghini, G Nieva, and Y Fasano. Geometrical confinement effects in layered mesoscopic vortex matter. *Journal of Low Temperature Physics*, pages 1-7, 2014.

5 - MI Dolz, Y Fasano, NC Cejas-Bolecek, H Pastoriza, M Konczykowski, CJ van der Beek. Detection of discretized single-shell penetration in mesoscopic vortex matter. In Journal of Physics: Conference Series, Vol. 568, No. 2, p. 022010, 2014. IOP Publishing.

6 - CJ Van Der Beek, S Demirdis, M Konczykowski, Y Fasano, NR Cejas Bolecek, H Pastoriza, D Colson, and F Rullier-Albenque. Vortex pinning: a probe for nanoscale disorder in iron-based superconductors. Physica B: Condensed Matter 407, no. 11 (2012): 1746-1749.

7 - S Demirdis, CJ Van Der Beek, Y Fasano, NR Cejas Bolecek, H Pastoriza, D Colson, and F Rullier-Albenque. Strong pinning and vortex energy distributions in single-crystalline $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$. Physical Review B, 84(9):094517, 2011.

CONFERENCES & WORKSHOPS

2016 Jan Regional Workshop on the use of Wireless Sensor Networks and UAVs for Radiation Monitoring (5 days). CAB-CNEA, Bariloche, Río Negro.

Further information: <http://indico.ictp.it/event/7573/>

2011 Sep **CRYOCOURSE** is an intensive course on advanced Cryophysics and Cryogenics, the science and technology of Low Temperatures (english, 10 days) . “Cryogenics from the fundamental physics concepts to industrial applications”. Grenoble, Francia.

Further information: <http://cryocourse2011.grenoble.cnrs.fr/spip.php?rubrique4>

2008 Feb “Induction Camp: Commercial School, School of Management, Industrial School, School of Finance & Administration. (english, 160hs). Tenaris Corporate University. Campana, Buenos Aires.

PROFESSIONAL EXPERIENCE IN EDUCATION

2016 May Professor of Numerical analysis, Department of Mathematics at the University of Comahue. **Some of my teaching material:** <https://github.com/renexdev/anNumCRUB16>

2014-2016 Assistant Professor, Department of Department of Mathematics at the University of Comahue. Chairs of Calculus, Complex Analysis, Probability and Statistics.

PROFESSIONAL EXPERIENCE

2008-2010 **Tenaris S.A. Centro de la Investigación para la Industria (CINI), Argentina.**

Further information: <http://www.tenaris.com>

Job position: research assistant at Department of Metallurgy

NATIONAL CONFERENCES

2014 XIV Encuentro de Superficies y Materiales Nanoestructurados. Presentación de Poster.

Title: “Efecto de confinamiento de la materia de vórtices mesoscópica a bajos campos”\

“Confinement effect in mesoscopic vortex matter at low-fields”

N. R. Cejas Bolecek, M. I. Dolz, C. J. van der Beek, H. Pastoriza, A. Kolton, Y. Fasano

link: http://fisica.cab.cnea.gov.ar/nano2014/images/circulares/Libro_Bariloche_Nano14.pdf

TECHNICAL SKILLS

I have acquainted with electron-beam and optical lithography techniques used for engineering micron-sized superconductors. I've also knowledge in 4 He cryogenic, vacuum, thermometry and instrumentation techniques. Programming skills in C/C++, Java, Python, Scala, JavaScript and its frameworks. I've also knowledge in performing image processing, data analytics and finite element simulations. Development and implementation of a wireless sensors network with IoT for lab safety.

Profile: http://fisica.cab.cnea.gov.ar/bt/index.php/Ren%C3%A9_Cejas_Bolecek