Rebeca L. Ribeiro Palau

Experimental researcher in condensed matter physics, specialist in quantum transport at the CNRS, France.

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Education

- *PhD in Physics* (2009-2013), University of Toulouse, France
  French National High Magnetic Field Laboratory-Toulouse (LNCMI-T).
  Dissertation: Magneto-transport in graphene nanoribbons.

- *Master in Physics* (2007-2009), Venezuelan Institute for Scientific Research (IVIC), Venezuela.
  Degree work: Study of the superconducting order parameter in $CePt_3Si$ and $Mg_{10}Ir_{19}B_{16}$.

- *Bachelor in Physics*(2002-2007), University of Carabobo, Venezuela.

Grants and awards

- DIM SIRTEQ grant Mi Lour (2018).

- Humboldt Research Fellowship for Postdoctoral Researchers (declined).

- Gran Mariscal de Ayacucho Foundation, joint Venezuelan Ministry of Science and French Ministry of Foreign Affairs fellowship, program for PhD studies (2009-2013).

- Venezuelan Institute for Scientific Research, Master level fellowship (2007-2009).

- Balseiro Institute, full fellowship for the summer school Introduction to mesoscopic and nanoscopic physics held in San Carlos de Bariloche-Argentina (October-November 2006).

Research experience

- *CNRS tenured researcher* (November 2017 - Present);
  Nanoelectronics Department.
  Center for Nanoscience and Nanotechnology.

- *Postdoctoral research scientist at the materials research science and engineering center* (July 2015 - October 2017);
  Columbia University, New York City, United States of America.
  Supervisors: Prof. Cory Dean and Prof. James Hone.

- *Postdoctoral fellow at the quantum metrology group* (May 2013 - May 2015);
  French National Metrology and Testing Laboratory (LNE), Trappes, France.
  Supervisors: Dr. Félicien Schopfer and Dr. Wilfrid Poirier.

- *Graduate research assistant* (PhD level, September 2009 - July 2013);
  French National High Magnetic Field Laboratory, Toulouse, France.
  Advisor: Prof. Bertrand Raquet.

- *Graduate research assistant* (Master level, September 2007 - August 2009);
  Undergraduate research assistant (August 2005 - August 2007);
  Venezuelan Institute for Scientific Research, Caracas, Venezuela.
  Advisor: Dr. Ismardo Bonalde.

Invited seminars to international conferences

9. Moiré in Paris. To be held at the Ecole Normale Superieur de Paris (France), June 2019.
8. Frontiers in Condensed Matter. Bristol University (UK), January 2019.
7. Latin American workshop in condensed matter: Novel Phases in strongly correlated systems. Natal (Brazil), September 2018 (Declined).
6. Gordon Research Conference on 2D materials. Stonehill (USA), June 2018.
5. GDR-I: International Research Network on Graphene and co, Aussois (France), October 2017.
4. GDR-I: International Research Network on Graphene and Carbon Nanotubes, Aussois (France), December 2015.
3. Workshop on quantum transport in 2D systems. Bagnères de Luchon (France), May 2015.
2. Forum NanoSur, Caracas (Venezuela), October 2014 (Declined).
1. GDR-I: International Research Network on Graphene and Carbon Nanotubes, Lyon (France), January 2012.

Peer-reviewed scientific publications

14. Competing Fractional Quantum Hall and Electron Solid Phases in Graphene
    S. Chen, **R. Ribeiro-Palau**, K. Yang, K. Watanabe, T. Taniguchi, J. Hone, M.O. Goerbig and C.R. Dean
    Physical Review Letters 122, 026802 (2019).
13. Twistable electronics with rotatable structures
    R. Ribeiro-Palau, Ch. Zhang, K. Watanabe, T. Taniguchi, J. Hone and C.R. Dean
    Science 361, 690 (2018).
12. Resistivity of Rotated Graphite-Graphene Contacts
    T. Chari, **R. Ribeiro-Palau**, C.R. Dean and K. Shepard
    Nano Letters 6, 4477 (2016).
11. Quantum Hall resistance standard in graphene devices under relaxed experimental conditions
    R. Ribeiro-Palau R., F. Lafont, D. Kazazis, A. Michon, O. Couturaud, C. Consejo, B. Jouault, W. Poirier and F. Schopfer
    Nature Nanotechnology 10, 965 (2015).

10. Quantum Hall resistance standard based on graphene grown by chemical vapor deposition on silicon carbide
F. Lafont, **R. Ribeiro-Palau**, D. Kazazis, A. Michon, O. Couturaud, C. Consejo, T. Chassagne, M. Zielinski, M. Portail, B. Jouault, F. Schopfer and W. Poirier
Nature Communications 6, 6806 (2015).

9. Anomalous Dissipation Mechanism and Hall Quantization Limit in Polycrystalline CVD Graphene
F. Lafont, **R. Ribeiro-Palau**, Z. Han, A. Cresti, A. Delvallée, A.W. Cummings, S. Roche, V. Bouchiat, S. Ducourtieux, F. Schopfer and W. Poirier
Physical Review B 90, 115422 (2014).

8. Strong-coupling BCS superconductivity in noncentrosymmetric $BaPtSi_3$: A low temperature study
R. Ribeiro-Palau, R. Caraballo, P. Rogl, E. Bauer and I. Bonalde
J. Phys.: Condens. Matter 26, 235701 (2014).

7. The effect of transverse magnetic field on 1/f noise in graphene
S.L. Rumyantsev, D. Coquillat, **R. Ribeiro**, M. Goiran, W. Knap, M.S. Shur, A.A. Balandin and M.E. Levinshtein
Applied Physics Letters 103, 173114 (2013).

6. Nodal gap structure in the noncentrosymmetric superconductor $LaNiC_2$ from magnetic penetration depth measurements
I. Bonalde, **R.L. Ribeiro**, K.J. Syu, H.H. Sung and W.H. Lee
New Journal of Physics 13, 123022 (2011).

5. Unveiling the Magnetic Structure of Graphene Nanoribbons
R. Ribeiro, J-M. Poumirol, A. Cresti, W. Escoffier, M. Goiran, J-M. Broto, S. Roche and B. Raquet
Physical Review Letters 107, 086601 (2011).

4. Magnetic Penetration Depth and Gap Symmetry of the Noncentrosymmetric Superconductors $CePt_3Si$ and $LaPt_3Si$
R.L. Ribeiro, I. Bonalde, Y. Haga, R. Settai and Y. Onuki
Journal of the Physical Society of Japan 78,115002 (2009).

3. Unusual behaviours and impurity effects in the noncentrosymmetric superconductor $CePt_3Si$
I. Bonalde, **R.L. Ribeiro**, W. Brämer-Escamilla, C. Rojas, E. Bauer, A. Prokofiev, Y. Haga, T. Yasuda and Y. Onuki
New Journal of Physics 11, 055054 (2009).

2. Possible two-gap behavior in noncentrosymmetric superconductor $Mg_{10}Ir_{19}B_{16}$: A penetration depth study
I. Bonalde, **R.L. Ribeiro**, W. Brämer-Escamilla, G. Mu and H.H. Wen
Physical Review B 79, 052506 (2009).

1. Isotropically gapped strong-coupling superconductivity in the β-pyrochlore KOs_2O_6: Evidence from penetration depth measurements
I. Bonalde, **R. Ribeiro**, W. Brämer-Escamilla, J. Yamaura, Y. Nagao and Z. Hiroi
Physical Review Letters 98, 227003 (2007).