

Cesar Raymundo Cabrera Córdoba

Academic Formation

- 2014– **PhD Student**, *ICFO, The Institute of Photonic Sciences*, Barcelona, Spain,
Research: Ultra-cold quantum gases .
Supervisor: Dr.Leticia Tarruell
- 2011–2013 **Master Student**, *University of Bonn - Universität Bonn*, Bonn, Germany.
- 2007–2011 **BSc. Physics**, *Universidad Autónoma de San Luis Potosí (UASLP)*, San Luis Potosí, S.L.P., México, Grade: 9.39.
Graduation with honors.

Masters Thesis

- Title *Variable External Potentials for Photon Quantum Gases*
- Supervisors Professor Martin Weitz & Dr. Jan Klaers
- Description This thesis explore experimentally, the feasibility to create optical lattices for a Bose Einstein condensate of photons.

Experience

Research Experience

- 2012 **Internship**, *Atomic and Molecular Physics Group, University of Manchester*, Prof. Andrew Murray, Manchester, England.
"Stokes parameters and suitability of a parabolic MOT".
- 2012 **Internship**, *Quantum optics group, Institute of Applied Physics*, Prof. Dr.Martin Weitz, Bonn, Germany.
"Design and construction of a Zeeman slower for the Cesium experiment".
- 2010 **Internship**, *Laboratory of Advanced Materials, Faculty of Science, UASLP*, San Luis Potosí, X Science in the Summer.
Active Collaborator in the project: "Construction of a fuel Hydrogen cell with nanoparticles of Silver".
- 2009 **Internship**, *Laboratory of Advanced Materials, Faculty of Science, UASLP*, San Luis Potosí, XI Science in the Summer.
"Synthesis of nanocubes of Cu_2O ".
- 2008 **Internship**, *Laboratory of Granular Materials, Institute of Physics, UASLP*, San Luis Potosí, "Analysis of Chaldini's Patterns" .

Professor

- 2010–2011 **Professor**, *Tecnológico de Monterrey*, San Luis Potosí, México.
Lecture in Physics, High School level.
- Summer **Marker**, *Faculty of Science, UASLP* , San Luis Potosí.
- 2009,2010 Evaluation committee and Jury of the regional competition in Physics (FISMAT) San Luis Potosí, México.

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2009–2011 **National Olympiad Trainer**, *Sociedad Mexicana de Física SMF (Mexican Society of Physics)*, Guanajuato, México, CIMAT.
National trainer of the team who participate in the International Physics Olympiad (IPhO) and Iberoamerican Olympiad (OIBF).

Achievements:

- 4 Bronze medals, 42nd IPhO (2011, Thailand).
- 1 Silver medal, 3 Honorable Mentions, Iberoamerican Olympiad 2011.
- 1 Bronze medal, 41st IPhO (2010, Croatia).
- 1 Silver medal, Iberoamerican Olympiad 2010.

2008–2011 **Professor**, *Faculty of Science, UASLP*, San Luis Potosí, México.

Regional trainer of the team who participated in the National Physics Olympiad.

Achievements

- Gold medal, Bronze medal, Honorable Mention, XXI National Physics Olympiad, (2010, Ixtapan México).
- Silver medal, XX National Physics Olympiad, (2009, Coahuila México).
- Silver medal, XIX National Physics Olympiad, (2008, Tamaulipas México).

Academic Achievements

2014–2017 **Becas CONACYT al extranjero 2014, (scholarship to study abroad)**, CONACYT, San Luis Potosí, México.

CVU: 402242.

2014–2015 **Beca complemento estudiantes en el extranjero (Complementary scholarship)**, SEP, D.F., México.

2013–2014 **PhD ICFO scholarship**, ICFO, Barcelona, Spain.

2011–2013 **BCGS scholarship**, *Bonn-Cologne Graduate School for Physics and Astronomy BCGS*, Bonn, Germany.

2011–2013 **Becas CONACYT al extranjero 2011, (scholarship to study abroad)**, CONACYT, San Luis Potosí, México.

CVU: 402242.

2011 **Medalla Estudiantes Ejemplares, (Medals for Honor Roll Students)**, *Trayectoria de Éxito*, San Luis Potosí, México.

Nominated as one of the best students in the state of San Luis Potosí, México.

2006 **FISMAT**, *Faculty of Science, UASLP*, San Luis Potosí, México.

First Place Regional Physics Competition (FISMAT).

2006 **XVII National Physics Olympiad**, SMF, Durango, México.

Honorable Mention.

Academic Events

07/07/2014 **International School of Physics "Enrico Fermi"**, Varenna, Italia.

15/07/2014

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- 26/07/2010 **XVIII Summer School in Physics**, *Universidad Nacional Autónoma de México*
06/08/2010 (*UNAM*), Distrito Federal, México.
- 22/11/2007 **Expo-ciencia Nacional 2007, (National Expo-Sciences)**, *Puebla, México*.
24/11/2007
- 03/12/2006 **XVI Concurso Nacional de Aparatos y Experimentos de Física**
06/12/2006 (**National Olympiad in Devices and Experiments in Physics**), *Zacatecas, México*.
- 09/12/2010 **II Taller en Simetrías**
11/12/2010 (**Symmetries winter workshop**), *Zacatecas, México*.
- 09/12/2010 **Veranos Científicos en Laboratorios Extranjeros**
11/12/2010 (**Summer Research Abroad Program**), *SMF, Universidad Nacional Autónoma de México (UNAM)*.
- 10/01/2011 **II School on Astrophysics**, *CIMAT, Guanajuato, México*.
15/01/2011

Conferences

- 10/07/2017 **ICE-4: Meeting of the Spanish Network on Quantum Information and Quantum Technologies**,
14/07/2017 *Cesar Raymundo Cabrera Córdova, Prof. Leticia Tarruell,*
Quantum Droplets in a Bose-Bose mixture,
CSIC, Madrid, Spain.
Invited speaker.
- 02/12/2016 **Quantum Optics and Quantum Information @UNAM**,
Cesar Raymundo Cabrera Córdova, Prof. Leticia Tarruell,
Soliton to droplet crossover in attractive Bose-Bose mixtures,
UNAM, Ciudad de México, México.
Talk.
- 15/12/2016 **Series of Atomic Physics Seminars 2016**,
Cesar Raymundo Cabrera Córdova, Prof. Leticia Tarruell,
Soliton to droplet crossover in attractive Bose-Bose mixtures,
UASLP, San Luis Potosi, México.
Talk.
- 09/05/2016 **616th WE-Heraeus Seminar Quo vadis BEC?**,
13/05/2016 *Cesar Raymundo Cabrera Córdova, Prof. Leticia Tarruell,*
A new experimental setup for studying isotopic potassium mixtures in optical lattices",
Bad Honnef, Bonn, Germany.
Poster.
- 05/02/2016 **Half-day meeting of Cold Atoms in the Barcelona region**,
Cesar Raymundo Cabrera Córdova, Prof. Leticia Tarruell,
Dual Bose Einstein Condensate of 39 K",
ICFO, Barcelona, Spain.
Talk.

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- 19/04/2015 **Young Atom Opticians (YAO 2014),**
 24/04/2015 *Cesar Raymundo Cabrera Córdoba, Prof. Leticia Tarruell,*
 A new experimental setup for studying isotopic potassium mixtures in optical lattices",
 Zürich, Switzerland.
 Poster.
- 31/03/2014 **Young Atom Opticians (YAO 2013),**
 04/04/2014 *Cesar Raymundo Cabrera Córdoba, Prof. Leticia Tarruell,*
 A new experimental setup for studying isotopic potassium mixtures in optical lattices",
 Barcelona, Spain.
 Poster.
- 28/08/2013 **Greenhorn meeting in Quantum Optics,**
 30/08/2013 *Cesar Raymundo Cabrera Córdoba, Prof. Martin Weitz,*
 Periodic Potentials for photon quantum gases",
 Innsbruck, Austria.
 Talk and Poster.
- 29/07/2013 **Annual group meeting, Institute of Applied Physics, Bonn,**
 02/08/2013 *Cesar Raymundo Cabrera Córdoba, Prof. Martin Weitz,*
 Periodic Potentials for photon quantum gases",
 Zeeland , Netherlands.
 Talk.
- 25/10/2010 **National Physics Congress 2010,**
 30/10/2010 *Cesar Raymundo Cabrera Córdoba, Dr. Gerardo Ortega Zarzosa,*
 "Construction of a fuel Hydrogen cell with nanoparticles of Silver",
 Veracruz, México.
 Talk.
- 21/09/2009 **XXIX International Conference on Surfaces, Materials and Vacuum,**
 25/09/2009 *Cesar Raymundo Cabrera Córdoba, Dr. Gerardo Ortega Zarzosa,*
 "Synthesis of Nanoparticles of Cu_2O ", San Luis Potosi, México.
 Poster.
- 26/10/2009 **National Physics Congress 2009,**
 31/10/2009 *Cesar Raymundo Cabrera Córdoba, Dr. Gerardo Ortega Zarzosa,*
 "Synthesis of nanocubes of Cu_2O ", Acapulco, México.
 Talk.

Computer skills

- Intermediate PYTHON, L^AT_EX, LabVIEW, MentorGraphics, Autodesk Inventor, Mathematica, Eagle PCB, Adobe Illustrator
- Advanced Linux, Microsoft

Languages

- Spanish **Mothertongue**

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English **C1 Level**
German **B1 Level**

Common European Framework of Reference for Languages
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Others

- Organizer YAO 2014
- Deputy Representative of San Luis Potosi in the National Physics Olympiad 2009 and 2010.
- Evaluation Committee in the National Physics Olympiad 2009 and 2010.
- Technical Counsel in the Faculty of Science UASLP 2010-2011.
- Awarded by the Sociedad Mexicana de Fisica SMF (Mexican Society of Physics) for training the students who got medals in 41nd and 42st IPhO.

– Barcelona, Spain

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