J. Sebastián Castellanos Durán

Curriculum Vitae

RESEARCH INTERESTS

- **Observational solar physics**
- **Spectropolarimetry, instrumentation, solar magnetism**
- **Radiation processes, Magnetic energy release and solar flares**

EDUCATION

10/2017-present **Ph.D. in Physics** - The International Max Planck Research School (IMPRS) for Solar System Science at the University of Göttingen.
Advisors: Prof. Dr. S. Solanki, MPS, and Dr. A. Lagg.

8/2014-10/2016 **Master of Science in Astronomy (M. Sc.)**, Universidad Nacional de Colombia (UNAL).
Two years program - Grades: 4.6/5.
M. Sc. thesis at OAN - Colombia in collaboration with FHNW - Switzerland.
Title: *Study of photospheric vector magnetic field changes during solar flares*.
Advisors: Dr. L. Kleint, FHNW, Switzerland and Prof. B. Calvo-Mozo, OAN.
Referees: Dr. M. Cheung (LMSAL, USA), Dr. A. Asensio Ramos (IAC, Spain).
Thesis grade: Meritorious distinction.

8/2013-12/2013 **Diploma thesis** at Observatorio Astronómico Nacional, Colombia.
Title: *Study of the excess in White-Light during Solar Flares via the Backwarming model*.
Advisor: Prof B. Calvo-Mozo, OAN in collaboration with Dr. J.C. Martínez Oliveros, UC Berkeley.

2008-2013 **Bachelor of Science in Physics**, Universidad Nacional de Colombia.
Five years program - Grades: 4.1/5 (exams) and 5/5 (thesis).

PROFESSIONAL EXPERIENCE

6/2014-8/2014 Internship in Solar Physics at Max Planck Institute for Solar System Research. Germany.

6/2015-8/2015 Master thesis in collaboration with FHNW - IAESTE trainee, Windisch, Switzerland.

6/2014-8/2014 Internship in Astrophysics and Astronomical Instrumentation at INAOE. Puebla, Mexico.

6/2013-8/2013 IRIS Student Summer Intern Research Program at Stanford University and Lockheed Martin Solar and Astrophysics Laboratory. CA, U.S.A..

Am Goldgraben 7 – 37073 – Göttingen, Germany
+57 312 314 2506 • *jsebastian405@gmail.com*

2013-2014 Book editor's assistant: *Astronomía para todos. Retos modernos de una ciencia milenaria*. ISBN 978-958-761-656-9. Universidad Nacional de Colombia.

3/2014-5/2015 High School teaching for Physics and Mathematics. Bogotá, Colombia.

ACQUIRED FUNDING

6/2015-6/2016 Young Research Fellowship: National research council COLCIENCIA. Colombia ($10.000).

2015 UNAL travel grant for Master thesis ($2.500).

2015 National Republic Bank travel grant for 3rd SOLARNET Workshop. Spain ($1.000).

2015 OAN travel grant for 3rd SOLARNET School. Spain ($700).

2014 Travel grant for COCOA IV. Colombia ($700).

2014 INAOE travel grant for Guillermo Haro 2014 - Advanced School. Mexico ($1.000).

2012 RHESSI travel grant for RHESSI meeting - Tracing the Connection. CA - U.S.A. ($1.000).

2012 Travel grant for AGU fall meeting. CA - U.S.A. ($700).

CONFERENCES

10/2016 IAU Symposium 327 (IAUS327): "Fine structure and dynamics of the solar atmosphere". Colombia (contributed talk).

10/2016 XV Latin American Regional IAU Meeting 2016 (XV LARIM). Colombia (contributed talk).

5/2015 3rd SOLARNET Workshop: "Polarization in the Sun, the Solar System, and Beyond". Spain (contributed talk).

12/2014 IV Congreso Colombiano de Astronomía y Astrofísica "COCOA IV". Colombia (3 contributed talks).

6/2014 Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun. U.S.A. (poster).

5/2014 Astrolunch at Universidad de los Andes. Colombia.
One hour invited lecture about the Sun and white-light flares.

8/2013 Stanford University final projects presentation. U.S.A. (poster).

10/2013 3th Seminar on New Trends on Engineering at Universidad Autónoma. Colombia.
One hour invited seminar about the Sun and solar flares.

11/2012 RHESSI Workshop: Solar in Sonoma. U.S.A. (contributed talk).

12/2012 AGU Fall Meeting. U.S.A. (poster).

7/2012 Solar Astrophysics School: Modern Trends and Techniques, Colombia (poster).

6/2012 National meeting for researching and development "ENID 2012". Colombia (contributed talk).

8/2010 II Congreso Colombiano de Astronomía y Astrofísica "COCOA II". Colombia (attended).

PUBLICATIONS

2015 Cambios tipo Heaviside durante flares: Análisis de la componete en la línea de la visual y el vector campo magnético. Proceedings Vol 6 FACIEN. ISBN 2256-3830.
J.S. Castellanos-Durán, L. Kleint & B. Calvo-Mozo.

2015 El modelo del Backwarming y un nuevo método observacional para entender los flares que emiten luz blanca. Proceedings Vol 6 FACIEN. ISBN 2256-3830.
J.S. Castellanos-Durán, & B. Calvo-Mozo.

2015 ¿Qué sabemos de las galaxias?: Comparación de propiedades integradas vs. espacialmente resueltas usando espectroscopía de campo integral. Proceedings Vol 6 FACIEN. ISBN 2256-3830.
J.S. Castellanos-Durán, & F.F. Rosales-Ortega.

2012 Caracterización de la emisión en luz blanca y en rayos-X de la fulguración GOES M6.6 del 18 de Febrero de 2011 usando SDO y RHESSI. Proceedings ISBN 978-958-761-308-7.

J.S. Castellanos-Durán, J.D. Alvarado-Gomez & B. Calvo-Mozo.

SCHOOLS

05/2015 3rd SOLARNET School "Solar Magnetic Fields: Modeling and Measuring Techniques". Spain.

12/2014 Escuela Andina de Astronomía y Astrofísica: Visión Moderna de la Cosmología. Ecuador.

9/2014 Guillermo Haro 2014: Advanced School on Integral Field Spectroscopy Techniques and Analysis (Participant & LOC). Mexico.

7/2012 International Summer School - Solar Astrophysics: Modern Trends and Techniques. Colombia.

9/2011 First Workshop on Statistical Physics. Colombia.

8/2010 Extragalactic Astronomy School. Colombia.

PUBLIC OUTREACH

2011-present Weekly Astronomy observations at Observatorio Astronómico Nacional. Bogotá, Colombia.

5/2015 Spacio review talk about solar magnetic fields at District Planetarium. Bogotá, Colombia.

2012-present One of three people allowed to give tours on the historic part of Observatorio Astronómico Nacional. It is the oldest observatory in Latin America. Bogotá, Colombia.

10/2014 Spacio review talk about Integrated field spectroscopy with CALIFA and PINGS surveys: emission line detection methods and integrated galaxy properties at District Planetarium. Bogotá, Colombia.

4/2014 Spacio review talk about the Sun and White-light flares at District Planetarium. Bogotá, Colombia.

6/2012 Co-responsible for Venus transit streaming, watched by 80.000 people at Unimedios - UNAL.

OTHER SKILLS

Languages: Spanish (native), English (B2), German (B1).

Computer skills: IDL, SSWIDL, Python, IRAF, Linux, LaTeX.

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