

**Name and Surname:** Silvia Galano

**Place and date of birth:** Sorrento, April 8th 1983

**Email:** silvia.galano@unicam.it

**ID ORCID:** orcid.org/0000-0002-3510-8658

**Current position:** PhD student in “Science and Technology: Theoretical and experimental Physics” at “School of Advanced Studies” University of Camerino.

**Research Activities:** In 26/01/2011 I took a degree with honors in *Astrophysics and Science of Space* with a thesis in History of Astronomy, title: “Arminio Nobile e la scoperta della Polodia”. After a year, this thesis became a book published by Springer. From 02/10/2013 to 1/08/2015 I worked as a fellowship owner for the European project FP7 “*Chain Reaction*” at the Department of Physics “*E. Pacini*” of the University “*Federico II*” of Naples. During this period, I started to work in Physics Education Research field. On december 2014 I was admitted as PhD student in “*Science and Technology: Theoretical and experimental Physics*” to the “*School of Advanced Studies*” at the University of Camerino.

My research interest include: development and validation of *Learning Progressions*; development and validation of *Teaching -Learning sequences*; Teacher training; study of visual representation.

#### List of publications:

##### Books

Arminio Nobile e la misura del cielo.  
M. Capaccioli e **S. Galano**, Springer 2012  
ISBN 9788847026391

##### Articles

Colantonio A., **Galano S.**, Leccia S., Puddu E. and Testa I. (2018), **Design and Development of a Learning Progression about Stars and their properties.** Accepted on January 2018 in Phys. Rev. Physics Education Research Focused Collection on Astronomy Education Research

**Galano S.**, Colantonio A., Leccia S., Puddu E., Testa I. And Marzoli I. (2018). **Developing the use of visual representations to explain basic astronomy phenomena.** Accepted on January 2018 in Rev. Physics Education Research Focused Collection on Astronomy Education Research

Colantonio A., **Galano S.**, Leccia S., Puddu E. and Testa I. (2017), **A teaching module about stellar structure and evolution.** Physics Education, Vol.52, n 1, 015012, doi <http://dx.doi.org/10.1088/1361-6552/52/1/015012>

**Galano S.** (2016), **A learning progression based teaching module on the cause of seasons**, Nuovo Cimento C, Vol. 39 (2) (295); DOI 10.1393/ncc/i2016-16295-8

**GALANO S**, Zappia A, Smaldone L, Testa I (2016). **Secondary students' views about scientific inquiry.** IL NUOVO CIMENTO C, vol. 38, ISSN: 2037-4909, doi: 10.1393/ncc/i2015-15094-1

## Articles in Proceedings

Galano S., (2016). **Development and Validation of a Learning Progression of Basic Astronomy Phenomena.** ESERA Summer School 2016 Book of Synopsis, Iva Stuchlikova, Lukas Rokos, Jan Petr, pp. 199-203, ISBN 9788073945954

Testa I., Colantonio A., **Galano S.**, Leccia S. and Puddu E., (2016). **Students' Difficulties in Interpreting Images and Simulations About Astronomy Phenomena**, Proceedings of the 20th International Conference on Multimedia in Physics Teaching and Learning; Lars-Jochen Thoms, Raimund Girwidz, Vol. 39 B, ISBN: 978-2-914771-94-8

**Galano S.**, Marzoli I. & Testa I., **A learning progression on basic astronomical phenomena.** In 5th Scientific Day of School of Science and Technology, UNICAM Book of Abstracts, Camerino, 08 June 2016. ISBN 9788867680269

I. Testa, A. Zappia & S. **Galano** (2016) **Towards a Learning Progression in Quantum Mechanics.** In J. Lavonen, K. Juuti, J. Lampiselkä, A. Uitto & K. Hahl (Eds.), Electronic Proceedings of the ESERA 2015 Conference. Science education research: Engaging learners for a sustainable future, Part 11 (Co-eds: Jens Dolin & Per Kind), pp. 1548-1559. Helsinki, Finland: University of Helsinki. ISBN 978-951-51-1541-6

**S. Galano**, A. Zappia, L. Smaldone, I. Testa (2015) **Secondary Students' Views About Scientific Inquiry.** In C. Fazio & R. M. Sperandeo (Eds.), E-Book Proceedings of the GIREP-MPTL 2014 International Conference: Teaching/Learning Physics: Integrating Research into Practice (pp. 233 -240). Palermo, Italy: Università degli Studi di Palermo ISBN:978-88-907460-7-9

Zappia A., **Galano S.**, Smaldone L., Testa I. (2015) **Science Teachers' Transformations When Implementing Inquiry-Based Teaching-Learning Sequences.** In C. Fazio & R. M. Sperandeo (Eds.), E-Book Proceedings of the GIREP-MPTL 2014 International Conference: Teaching/Learning Physics: Integrating Research into Practice (pp. 897 - 906). Palermo, Italy: Università degli Studi di Palermo ISBN: 978-88-907460-7-9

## Attendance to Conferences and Seminars:

Date	13-15 Settembre 2017
Conference	<b>MPTL Multimedia in Physics Teaching and Learning 2017</b> presso Open University in Milton Keynes (UK)
Date	21-25 Agosto 2017

Conference	<b>ESERA Conference 2017</b> at Dublin City University, Ireland
Talk	Investigating the role of textbook images on children's models of seasonal change through factor analysis of drawings
Poster	Development and validation of a learning progression of basic astronomy phenomena for middle school student
Date	<b>3-7 Luglio 2017</b>
Conference	<b>ISE2A</b> (International Symposium on Astronomy and Astrobiology Education) presso Università di Utrecht
Talk	<b>Title "A teaching-learning module on stellar structure and evolution"</b> <b>Silvia Galano</b> , Irene Marzoli, Arturo Colantonio, Silvio Leccia, Emanuella Puddu and Italo Testa
Posters	<b>Poster: "Teaching about mechanical waves and sound with a tuning fork and the Sun"; Silvia Galano</b> , Irene Marzoli, Arturo Colantonio, Silvio Leccia, Emanuella Puddu and Italo Testa <b>Poster: "Development and Validation of a Learning Progression of basic astronomy phenomena".</b> <b>Silvia Galano</b> , Irene Marzoli, Arturo Colantonio, Silvio Leccia, Emanuella Puddu and Italo Testa
Date	<b>3-7 Luglio 2017</b>
Conference	<b>ISE2A</b> (International Symposium on Astronomy and Astrobiology Education) presso Università di Utrecht
Talk	<b>Comunicazione: "A teaching-learning module on stellar structure and evolution"</b> <b>Silvia Galano</b> , Irene Marzoli, Arturo Colantonio, Silvio Leccia, Emanuella Puddu and Italo Testa  <b>Poster: "Teaching about mechanical waves and sound with a tuning fork and the Sun"; Silvia Galano</b> , Irene Marzoli, Arturo Colantonio, Silvio Leccia, Emanuella Puddu and Italo Testa <b>Poster: "Development and Validation of a Learning Progression of basic astronomy phenomena".</b> <b>Silvia Galano</b> , Irene Marzoli, Arturo Colantonio, Silvio Leccia, Emanuella Puddu and Italo Testa

Date	<b>26-30 settembre 2016</b>
Conference	<b>102° Congresso SIF</b> (Società Italiana di Fisica) presso Università di Padova
Talks	<b>Comunicazione: “<u>Sviluppo di una "Learning Progression" sui fenomeni astronomici di base per la scuola primaria e secondaria di primo grado.</u>”</b> <i>Galano S., Testa I., Puddu E., Leccia S., Colantonio A., Marzoli I.</i> <b>Comunicazione: “<u>Progettazione e sviluppo di un percorso didattico sulle Stelle mediante la metodologia della "Learning Progression".</u>”</b> <i>Puddu E., Galano S., Colantonio A., Leccia S., Testa I.</i>
Date	<b>08 giugno 2016</b>
Conference	5th Scientific Day of School of Science and Technology, UNICAM
Poster	A learning progression on basic astronomical phenomena
Date	<b>21-25 settembre 2015</b>
Conference	<b>101° Congresso SIF</b> (Società Italiana di Fisica) presso Università “La Sapienza” di Roma
Talks	<b>Comunicazione: “<u>Formazione degli insegnanti di scuola secondaria superiore sulla fisica moderna nell'ambito del Piano Lauree Scientifiche --- Fisica a Napoli</u>”</b> <i>Galano S., Chiefari G., Cioci E., Testa I.</i> <b>Comunicazione: “<u>Un percorso didattico sui Moti Celesti ed i fenomeni astronomici di base costruito mediante la metodologia della learning progression.</u>”</b> <i>Galano S., Leccia S., Puddu E., Testa I.</i>
Date	<b>09 - 12 settembre 2015</b>
Conference	<b>HOPE</b> (Horizons in Physics Education) Annual Forum 2015 - Physics Studies in an Entrepreneurial and Innovative Global Perspective, presso Università di Coimbra (Portogallo).
Talks	<b>“Factors affecting upper secondary school students knowledge about fundamental concepts in Quantum Mechanics”</b>
Date	15-19 Settembre 2014
Conference	<b>XXI Congresso SIGRAV</b> (Società Italiana di Relatività Generale e Fisica della Gravitazione) presso Università degli studi di Alessandria
Talks	<b>“Towards a learning progression of the cause of seasons”</b>
Date	27 - 30 agosto 2014

Conference **HOPE** (Horizons in Physics Education) Annual Forum 2014  
presso University of Helsinki, Finland

Date 7-12 luglio 2014

Conference **GIREP – MPTL 2014 International Conference**  
GIREP (Groupe International de Recherche sur l'Enseignement de la  
Physique) – MPTL (Multimedia in Physics Teaching and Learning)  
presso Università degli Studi di Palermo

Talk “*Secondary students’ views about scientific inquiry*”

#### **Awards:**

Date 2013

Award Finalist for the 1° NATIONAL PRIZE for scientif outreach 2013for the  
book “Arminio Nobile e la misura del cielo ovvero Le disavventure di un  
astronomo napoletano”

Institution ASI Italian Book Association

Date 2015

Award Second best talk for section 7 - Physic Education and History of Physics -  
101° National Conference SIF in Rome  
Title of the talk: "Un percorso didattico sui Moti Celesti ed i fenomeni  
astronomici di base costruito mediante la metodologia della “learning  
progression”."

Institution SIF Italian Physics Society

Date 2015

Award The article “*Teaching about mechanical waves and sound with a tuning fork  
and the Sun*” was chosen fro *Physics Education* editor for “*Highlights of  
2015*”.

Institution *Physics Education*  
IOP Publishing  
Temple Circus, Temple Way, Bristol  
BS1 6HG, UK

#### **Professional Society Membership:**

- Italian Physics Society (SIF)
- European Physics Society (EPS)

- Italian Gravitational Association (SIGRAV) dal 2014 al 2016
- European Science Education Research Association (ESERA)