

# Daniele DOMINICI

Honorary Professor

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## Personal data, Education

**Born** February 21, 1951, Firenze, Italy

**Citizenship** Italian

**Education** Master in Physics (Laurea in Fisica), *summa cum laude*, 21/7/1975, supervisor Giorgio Longhi, University of Firenze

## Research/Academic positions and institutional responsibilities

- 1978-1981 INFN Fellow, Firenze
- 1981-1988 Researcher of Theoretical Physics of the University of Firenze
- 1988-1989 Associate Professor of Theoretical Physics, University of Salerno
- 1989-1992 Associate Professor of Theoretical Physics, University of Camerino
- 1992-2002 Associate Professor of Theoretical Physics, University of Firenze
- 2002-2021 Full Professor of Theoretical Physics, University of Firenze
- 2006-2009 Head of the Physics Department, University of Firenze
- 2009-2014 Delegate of the Rector of the University of Firenze for the International Ranking Systems
- 2010-2017 Deputy Coordinator of the Galileo Galilei International Center for Theoretical Physics
- 2017-2019 Director of the INFN National Center for Advanced Studies Galileo Galilei International Center for Theoretical Physics
- 2015-2020 President of the Steering and Self-evaluation Committee of the Physics and Astronomy Department, University of Firenze

## Visiting positions

- Johns Hopkins University, Spring-Summer 1983
- University of Geneva, 1984-1986
- CERN Winter-Spring 2004

## Scientific activity

- 105 publications in refereed journals
- 34 publications in conference proceedings
- Contributor to numerous workshops: LEP 200, LHC, Snowmass 2001, ECFA-DESY linear collider workshop, LCWS 2000 and 2002, CLIC physics study group, LHC/ILC study group, CP studies and non standard Higgs physics.
- Member of the organizing committee of 25th and 30th Johns Hopkins Workshop on Current Problems in Particle Theory
- Member of the organizing committee of the ILC meeting in Firenze (2007)
- Member of the Local Committee of the Galileo Galilei Institute from 2005 to 2010.
- Member of the Scientific Committee of the Galileo Galilei Institute from 2011 to 2019.
- Member of the Scientific Council of the Firenze University Museum System from 2018 to 2021.
- Local coordinator of PRIN contracts 2008, 2010 and 2015.
- Editor with L.Lusanna and I.Ciufolini of *2001: A RELATIVISTIC SPACETIME ODYSSEY, Experiments and Theoretical Viewpoints on General Relativity and Quantum Gravity*, World Scientific, 2001.
- Editor with G. Azuelos, J. Ellis, G. Grenier, J. Sik Lee, D. Miller, S. Kraml, A. Pilaftsis, W. Porod of *CPNSH report: the hitchhikers guide to non-standard Higgs physics*, CERN Yellow Report, 2006

## Recent research interests

Phenomenology and model building of theories beyond the Standard Model of electroweak interactions. Theories in extra compactified dimensions. Carroll symmetries.

## Teaching

Mathematical Methods for Physics. Quantum Mechanics. Special Relativity. Theoretical Physics. Quantum Field Theory 1. Advanced Quantum Field Theory.

## Outreach

- Director of the journal *Il Colle di Galileo (Galileo's Hill)*, Firenze University Press, 2012-2023

- Curator of the exhibition *La Fisica ad Arcetri: Dalla nascita della Regia Università alle leggi razziali*, open from 25th of May until 30th of September 2016, at the Historic Archive of the Florence City Council.
- Curator of the exhibition *Astronomia e Fisica a Firenze: Dalla Specola ad Arcetri*, Museo La Specola, Firenze, 22nd December 2016 - 19th March 2017.
- Contributor to the exhibition *Tesori inesplorati. Le biblioteche dell'Università di Firenze in mostra*, Biblioteca Medicea Laurenziana, Firenze, 15th February - 23rd June 2017.
- 2016-2017 New museum setup of Villa Galileo, Arcetri.

## References

### Recent publications

- [1] R. Casalbuoni, D. Dominici and J. Gomis, Superconformal interacting particles, *Phys.Rev.D* 1109 (2024) 046009 [arXiv:2312.01743 [hep-th]].
- [2] Luigi Dei et al, (2024). L'Ateneo e il mondo della scienza. In: Fulvio Conti, Emanuela Ferretti, Donatella Lippi, Antonella Salvini, Bernardo Sordi, Andrea Zorzi. Firenze e l'Università: Passato, presente e futuro, pp. 323-338, Firenze: Firenze University Press.
- [3] R. Casalbuoni, D. Dominici and J. Gomis, Two interacting conformal Carroll particles, *Phys.Rev.D* 108 (2023) 086005 [arXiv:2306.02614 [hep-th]].
- [4] R. Casalbuoni, D. Dominici and M. Mazzoni, A brief history of Florentine physics from the 1920s to the end of the 1960s, *Eur. Phys. J. H* 47, 15 (2022) [arXiv:2207.05441 [physics.hist-ph]].
- [5] S. De Curtis, D. Dominici, Spin-1 resonances. *Eur. Phys. J. Spec. Top.* (2021) [arXiv:2110.01907 [hep-ph]].
- [6] R. Casalbuoni, D. Dominici e M. Mazzoni, *Lo spirito di Arcetri. A cento anni dalla nascita dell'Istituto di Fisica dell'Università di Firenze*, FUP, I libri de Il Colle di Galileo vol. 7, 2021.
- [7] R. Casalbuoni, D. Dominici e G. Pelosi, *Enrico Fermi a Firenze: Le Lezioni di Meccanica Razionale al biennio propedeutico agli studi di Ingegneria 1924-1926*, FUP, I libri de Il Colle di Galileo vol. 6, 2019.
- [8] Fausto Barbagli, Simone Bianchi, Roberto Casalbuoni, Daniele Dominici, Massimo Mazzoni, Giuseppe Pelosi, *Astronomia e Fisica a Firenze Dalla Specola ad Arcetri*, FUP, I libri de Il Colle di Galileo vol. 5, 2017.
- [9] Contribution in Donatella Lippi, Paolo Maria Mariano, Stefano Mazzoni, *Tesori inesplorati Le Biblioteche dell'Università di Firenze in mostra* Mandragora, 2017, schede su G. Galilei, Dialogo...sopra i due massimi sistemi del mondo..., Opere di Galileo Linceo nobile fiorentino...e Ottavio Pisani, Astrologia seu motus, et loca sidereum...

- [10] Roberto Casalbuoni, Daniele Dominici, Massimo Mazzoni, Giuseppe Pelosi, *La Fisica ad Arcetri Dalla nascita della Regia Università alle leggi razziali*, FUP, I libri de Il Colle di Galileo vol. 3, 2016.
- [11] D. Dominici and I. Roditi, Variational approach to thermal masses in compactified models, *JHEP* **1508** (2015) 104 [arXiv:1507.01365 [hep-ph]].
- [12] D. Dominici, J. Gomis, K. Kamimura and G. Longhi, Dynamical sectors of a relativistic two particle model, *Phys. Rev. D* **89** (2014) 4, 045001 [arXiv:1312.1000 [hep-th]].