



# UNIVERSITÀ DEGLI STUDI DELL'AQUILA

**Prof. Dario Ambrosini**

## **Curriculum scientifico**

(Aggiornato il 2023/11/29)

Dario Ambrosini was born in Rome, Italy. He graduated in electronic engineering from Sapienza University of Rome (Italy), defending an experimental thesis on optical information processing by the Talbot effect and Talbot interferometers (Advisor Prof. Franco Gori). After spending two years in prof. Gori's Optics Laboratory (Sapienza University), he joined the Department of Energetics (currently DIIE, Department of Industrial Engineering, Information and Economics) of the University of L'Aquila as an Assistant Professor in 1995. A Temporary Professor since 1998 and Associate Professor since 2006, he has been a Full Professor of Thermal Sciences, Energy Systems and Building Physics since October 2020. He is the Head of the ["Gino Parolini" Technical Physics Laboratory](#) (since 2015) and of the [LAS.E.R. Laboratory](#) (since November 2017). He was an associate researcher of ISASI CNR between 2016 and 2021.

He is one of the founding members of [Heritechne](#), an interdepartmental center of the University of L'Aquila for research on innovative methods and technologies for investigating cultural heritage.

His research interests include flow visualization and heat and mass transfer, buildings physics, optical metrology, artwork nondestructive testing, thermography, digital image analysis as well as the history of science and engineering.

He pioneered the use of optical techniques (speckle methods, background oriented schlieren, fringe projection...) in flow visualization and cultural heritage conservation. The application of these methods to art enabled him to work on many famous artworks, including [The Legend of the True Cross](#) and [The Resurrection](#), both by Piero della Francesca, [The Holy Trinity](#) by Masaccio, [The Monochrome](#) by Leonardo da Vinci in the Sforza Castle (Milan), [The Madonna of the Zodiac](#) by Cosmè Tura, the "[Natività](#)" by Andrea Della Robbia, [The North Door of Florence Baptistery](#) by Lorenzo Ghiberti, the [Madonna di Castelfiorentino](#) by Cimabue and Giotto, the [frescoes in the Chapel of Queen Teodolinda](#) (Monza, Italy) by the Zavattari family, [The Dancing Satyr of Mazara del Vallo](#), the "[city fresco](#)" and the "[Philosopher mosaic](#)" ([here a breathtaking video](#)) in the Cryptoporticus of the Baths of Trajan (Rome, Italy) as well as on many historical buildings including the basilica of [Santa Maria di Collemaggio](#) in L'Aquila.

He is a member of [FTI](#) (Associazione della Fisica Tecnica Italiana), [UIT](#) (Italian Union of Thermal Fluid Dynamics), [OPTICA](#) (formerly OSA, The Optical Society), [Sigma Xi](#) (The Scientific Research Honor Society) and [SPIE](#) (The International Society for Optics and Photonics). He was a member of [IIC](#) (The International Institute for Conservation of Historic and Artistic Works) between 2004 and 2011. He was also a member of INFM and has been a member of the [CNISM](#) since 2005.

He has been a member of the [CIRIAF](#) Scientific Council since 2002 and was appointed representative of the

University of L'Aquila in 2020.

In 2013 he was appointed Senior Member of both the OSA and SPIE. In 2019 he has been named a Fellow Member of SPIE. He was selected as SPIE Community Champion for his outstanding volunteer work with the Society in 2019. He has been named a Fellow Member of OPTICA in 2023.

He was elected member of the UIT (Italian Union of Thermal-Fluid Dynamics) Steering Committee for the years 2017 - 2019, re-elected for 2020 - 2022 and 2023 - 2025. Since January 2023 he has been the Secretary of UIT. Since October 2018, he has been editing the UIT monthly [e-Newsletter](#).

Editorial activities:

- Editorial board member [Optics and Lasers in Engineering](#) (Elsevier) 2007-2019;
- Editorial board member [Heritage](#) (MDPI) 2019;
- Editorial board member [Energies](#) (MDPI) since 2023;
- Associate Editor [Optics and Lasers in Engineering](#) (Elsevier) since December 2019.
- Guest Editor of the following Special Issues of international journals:
  - (with Pramod K. Rastogi) "[Optical methods in Heat Transfer and Fluid Flow](#)", [Optics and Lasers in Engineering vol. 44, pp. 155-350, March-April 2006.](#)
  - (with Pramod K. Rastogi) "[Diffusion measurements by optical methods: Recent advances and applications](#)", [Optics and Lasers in Engineering vol. 46, pp. 849-920, December 2008.](#)
  - (with Jean-Pierre Prenel) "[Advances in flow visualization](#)", [Optics and Lasers in Engineering vol. 50, pp. 1-98, January 2012.](#)
  - (with D. Paoletti, S. Sfarra) "[33rd UIT \(Italian Union of Thermo-fluid dynamics\) Heat transfer Conference](#)", [Journal of Physics: Conference Series vol. 655, October 2015.](#)
  - (with S. Sfarra) "[Novel Idea for Infrared Thermography also Applied in Integrated Approach](#)", [Applied Sciences vol. 8, 2018.](#)
  - (with P. Ferraro) "[Optical tools for metrology, imaging and diagnostics](#)", [Optics and Lasers in Engineering vol. 104, pp. 1-304, May 2018.](#)
  - (with K.C. Kim and Pascal Picart) "[Flow visualization: state of the art and new perspectives](#)", [Optics and Lasers in Engineering, 2022 - 2023.](#)

He has chaired many conference sessions and in 2015 was the co-chair of the 33rd UIT Heat Transfer Conference, held in L'Aquila. Since 2013 he has been a member of the Programme Committee of the biennial Conference "O3A: Optics for Art, Architecture and Archaeology", the leading event for optical metrology for cultural heritage.

He was the recipient (with G. Schirripa Spagnolo) of the 2001 SPIE Rudolf Kingslake Medal and Prize and one of the recipients of the 2016 OSA Outstanding Reviewer recognition.

Between 2009 and 2016, He spent approximately one week per year at EPFL in Lausanne (Switzerland), collaborating with Prof. Pramod K. Rastogi. He is an external member of the [OpDATeCH Lab](#) - Optical Devices and Advanced Techniques for Cultural Heritage, at the University of Verona (Italy).

For more information:

- <http://laser.diiiie.univaq.it> Lab website
- [Academia.edu profile](#)
- [Google Scholar profile](#)
- [Linkedin profile](#)
- [ResearchGate profile](#)
- [SCOPUS profile](#)
- [SPIE profile](#)
- [Web of Science profile](#)