

INFORMAZIONI PERSONALI

Federica Coppari

 POSIZIONE
 OCCUPAZIONE
 ATTIVITÀ PROFESSIONALE
 TITOLO DI STUDIO
 DICHIARAZIONI PERSONALI

 Research scientist
 PhD Physics

 ESPERIENZA
 PROFESSIONALE

2014-Present

Research Scientist, LLNL, Livermore, CA

Experimental study of material behavior under extreme pressure and temperature conditions and high strain rates, using laser-driven compression and X-ray diagnostics (XRD and EXAFS)

2011-2014

Post-Doctoral Researcher, LLNL, Livermore, CA

Development of new techniques to map the structure and thermal response of materials at extreme pressures and densities: Ramp-compression and X-ray diagnostics (XRD and EXAFS) for use into the TPa pressure regime at NIF and Omega Lasers

2007-2010

Graduate Student, Université Pierre et Marie Curie (Paris VI), France

Study of amorphous-amorphous transitions at high pressure using synchrotron-based XRD & EXAFS diagnostics and Raman scattering

2006-2007

Beamline Associate, Synchrotron Soleil, France

Development of experimental setup for combined EXAFS and XRD measurements at the ODE beamline (Soleil Synchrotron)

ISTRUZIONE E FORMAZIONE

2010

Ph.D., Physics, Université Pierre et Marie Curie (Paris VI), France

2007

M. S., Physics, Università di Camerino, Camerino, Italy

2004

B. S., Physics, Università di Camerino, Camerino, Italy

COMPETENZE PERSONALI

Lingua madre Italian

Altre lingue

	COMPRESIONE		PARLATO		PRODUZIONE SCRITTA
	Ascolto	Lettura	Interazione	Produzione orale	
English	Fluent	Fluent	Fluent	Fluent	Fluent
French	Fluent	Fluent	Fluent	Fluent	Fluent

Competenze comunicative

Great communication skills due to numerous seminars and talks at international conferences

Competenze organizzative e gestionali	Leadership: - currently managing a team of 10 scientists (full term and postdoctoral researchers); - PI of experimental campaigns in large laser and synchrotron facilities; - leading scientist for the development of the EXAFS technique at the National Ignition Facility; - mentoring of PhD students and postdoctoral researchers
Competenze professionali e responsabilita'	<ul style="list-style-type: none">- Science ambassador for the "High Energy Density Center" at LLNL (2019-)- Member of the technical organizing committee of the APS-SCCM (American Physical Society - Shock Compression of Condensed Matter) international conference, 2019 and 2017- Reviewer of NASA proposals and High-Energy-Density Laboratory Plasma Science (Office of Fusion Energy Sciences, US Department of Energy) proposals; peer-reviewed articles for Science, Physical Review, Scientific Reports, Journal of Applied Physics, High Pressure Research, ...- Outreach: - 2019: Professional in the Classroom (explain high pressure physics and career path to 8th grade students); 2018: lead and organization of "Physics of phase transitions" workshop for 6th and 7th grade students within the project "Expanding your horizons" (encourage girls to STEM career); popular media interviews- Member of the American Physical Society- Conference Session Chair: Gordon Research Seminar meeting (2012), APS-SCCM (2019)
Competenze informatiche	Proficient use of Igor and Matlab programming codes
Patente di guida	B

- Publicazioni (selected)**
- *Measurement of body-centered cubic gold and melting under shock compression*, R. Briggs, F. Coppari, et al, **Phys. Rev. Lett.** **123**, 045701 (2019)
 - *Nanosecond x-ray diffraction of shock compressed superionic water ice*, M. Millot*, F. Coppari*, et al, **Nature**, **569**, 251 (2019), *Equal Contribution
 - *Crystal structure and equation of state of Fe-Si alloys at Super-Earth core conditions*, J. Wicks, [...], F. Coppari, et al, **Science Advances**, **4**, eaao5864 (2018)
 - *Experimental evidence for superionic water ice using shock compression*, M. Millot, [...], F. Coppari, et al, **Nature Physics**, **14**, 297 (2018)
 - *X-Ray Source Development for EXAFS measurements on the National Ignition Facility*, F. Coppari, et al, **Review of Scientific Instruments**, **88**, 083907 (2017)
 - *X-Ray Diffraction of Molybdenum Under Ramp Compression to 1 TPa*, J. Wang, F. Coppari, et al, **Physical Review B**, **94**, 104102 (2016)
 - *X-Ray Diffraction of Solid Tin to 1.2 TPa*, A. Lazicki, [...], F. Coppari, et al, **Physical Review Letters**, **115**, 075502 (2015)
 - *Experimental evidence for a phase transition in magnesium oxide at exoplanet pressures*, F. Coppari, et al, **Nature Geoscience** **6**, 926 (2013)
 - *Solid iron compressed up to 560 GPa*, Y. Ping, F. Coppari, et al, **Physical Review Letters** **111**, 065501 (2013)
 - *A platform for x-ray absorption fine structure study of dynamically compressed materials above 1 Mbar*, Y. Ping, [...], F. Coppari, et al, **Review Scientific Instruments** **84**, 123105 (2013)
 - *Powder diffraction from solids in the TeraPascal regime*, J. R. Rygg, [...], F. Coppari, et al, **Review of Scientific Instruments** **83**, 113904 (2012)
 - *Pressure-induced transformations in amorphous SiGe alloys*, F. Coppari, et al, **Physical Review B** **85**, 045201 (2012)
 - *Pressure-induced phase transitions in amorphous and metastable crystalline Germanium by Raman scattering, x-ray spectroscopy and ab-initio calculations*, F. Coppari, et al, **Physical Review B**, **80**, 115213 (2009)
 - *Local structure of liquid and undercooled liquid Cu probed by X-ray absorption spectroscopy*, F. Coppari, et al, **J. Physics: Conference Series** **121**, 042009 (2008)
- Seminari e Presentazioni (recenti)**
- **NASA-Ames, USA**, June 4th 2019: *Superionic ice detection: a window to the interior of ice giants*
 - **John Hopkins University (JHU)**, Baltimore, MD, 2019: *X-ray diagnostics for High Energy Density Science: recent developments on X-ray diffraction and EXAFS spectroscopy at the Omega and NIF Laser Facilities*
 - **University Nevada Las Vegas (UNLV)**, Las Vegas, NV, 2018: *Probing material properties in laser-driven dynamic compression experiments with EXAFS*
 - **Princeton Plasma Physics Laboratory (PPPL)**, Princeton, NJ, 2018: *EXAFS measurements to study material properties during laser-driven dynamic compression at the Omega and NIF laser facilities*
- Progetti**
- Principal investigator in Exploratory Research LDRD Project: "Accurate temperature determination from XRD and EXAFS measurements", 18-ERD-001
 - Leading scientist for the development of the EXAFS technique on NIF
 - Planning and lead of experimental campaigns at Laser Facilities (NIF, Omega and Jupiter) and synchrotron light sources
- Invited talks a Conferenze internazionali**
- **21th Biennial APS Conference on Shock Compression of Condensed Matter (APS-SCCM)**, Portland, OR, USA June 16-21, 2019: *Unraveling the exotic properties of water ices with laser-driven compression and x-ray diffraction*, (Plenary talk)
 - **9th Forum for Leaders in Space Science**, Beijing, China, May 15-16, 2019: *Unraveling the exotic properties of water at Uranus and Neptune's interior conditions*
 - **24th Congress and General Assembly of the International Union of Crystallography (IUCr)**, Hyderabad, India, August 21-28, 2017: *EXAFS and laser-driven compression at the Omega and NIF laser facilities*
 - **26th International Conference on High Pressure Science and Technology (AIRAPT26)**, Beijing, China, August 18-23, 2017: *EXAFS measurements to study material properties during laser-driven dynamic compression at the Omega and NIF laser facilities*
 - **Research at High Pressure, Gordon Research Conference (GRC)**, Holderness, NH, USA July 17-22, 2016: *X-Ray Diffraction of Dynamically Compressed Water Ice Up to 4 Mbar*
 - **19th Biennial APS Conference on Shock Compression of Condensed Matter (APS-SCCM)**, Tampa, FL, USA June 14-19, 2015: *Recreating planetary interiors in the laboratory by laser-driven ramp-compression*

- **1st workshop on Studies of Dynamically Compressed Matter with X-rays**, Grenoble, France, February 16-17, 2015: *X-ray studies of dynamically-compressed matter at large laser facilities: need for complementary measurements at synchrotrons?*
- **American Geophysical Union (AGU) Fall Meeting**, San Francisco, CA, USA, December 9-13, 2013: *New diagnostic for X-ray diffraction measurements at extra-solar planets conditions*

Riconoscimenti e premi

- 2019: New Leader for Space Science Award from the U.S. and Chinese National Academy of Sciences
- 2018: LLNL Director's Science and Technology Award: First Experimental Evidence for Superionic Water
- 2018: LLNL Exploratory Research LDRD, 18-ERD-001: Accurate temperature determination from XRD and EXAFS measurements
- 2016: LLNL Director's Science and Technology Award for Excellence in Publication: X-Ray Diffraction of Solid Tin to 1.2 TPa (PRL 2015)
- 2015: Defense Program Awards of Excellence
- 2014: LLNL Director's Science and Technology Award for Excellence in Publication: Experimental evidence for a phase transition in magnesium oxide at exoplanet pressures (Nat. Geosci. 2013)

**Pubblicazione ai fini della
Normativa in materia di
Trasparenza ex D.Lgs 33/2013 e
Trattamento dati personali**

Il presente CV è oggetto di pubblicazione obbligatoria sul sito istituzionale UNICAM nella sezione "Amministrazione trasparente" ai sensi del D.Lgs. 33/2013.

Si autorizza quindi la pubblicazione del presente CV al fine di adempiere alle disposizioni in materia di trasparenza.

Si autorizza il trattamento dei dati ai sensi del D. Lgs. 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

L'estensore del CV non dovrà apporre la firma.

Tale misura è adottata a tutela e difesa dei dati personali dell'interessato ai sensi del d.lgs. 196/2003.