

# Andrea Della Valle

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## SKILLS

<b>Tools and Languages</b>	Python, Fortran, $\text{\LaTeX}$ , R, MatLab
<b>Research topic</b>	Machine Learning, Data Analysis, Quantitative analysis of behavior
<b>Communication</b>	English, Italian

## EDUCATION

<b>PhD in Chemical and Pharmaceutical Sciences and Biotechnology</b> University of Camerino, Camerino, Italy International School of Advanced Studies Department of Experimental Medicine and Public Health Supervisor: Prof. Massimo Ubaldi	<b>November 2020 - June 2024</b>
<b>Master Degree on Physics, University of Camerino</b> 110/110, Title: Engineering the noise of a cavity field by means of a digital feedback, Advisor: Prof. Giovanni di Giuseppe	<b>October 2017 - October 2020</b>
<b>Bachelor Degree on Physics, University of Camerino</b> 110/110, Title: Rumore quantistico in interferometri per la rilevazione di onde gravitazionali, Advisor: Prof. David Vitali	<b>October 2013 - April 2017</b>

## RESEARCH EXPERIENCE

<b>Visiting Ph.D. student, University of Geneva</b> Advisor: Prof. Camilla Bellone	<b>April 2023 - September 2023</b>
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## POSTER PRESENTATION

Deep Learning approach for the recognition of behaviours in Forced Swim Test. *41° Congresso Nazionale della SIF*, 16-19 November 2022, Rome, Italy

## PUBLISHED PAPER

Infrared spectroscopy and machine learning for post-consumer plastics recycling. *Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy*.  
Deep learning recognition and analysis of Volatile Organic Compounds based on experimental and synthetic infrared absorption spectra. *International Journal of Chemical Engineering Research*  
Machine learning-based model for behavioural analysis in rodents applied to the forced swim test. *Scientific Reports*  
Predicting individual treatment response in alcohol use disorders: a reverse translational proof-of-concept study. *Translational Psychiatry*  
Different mechanisms underlie compulsive alcohol self-administration in male and female rats. *Biology of Sex Differences*  
Predicting individual treatment response in alcohol use disorders: a reverse translational proof-of-concept study. *Submitted to Biomedicine Pharmacotherapy*

## AWARDS

Borsa per i migliori poster presentati nell'ambito del 41° Congresso Nazionale della SIF Società Italiana di Farmacologia Rome, Italy	<b>November 2022</b>
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## CONFERENCES

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<b>Machine Learning 2025 International Conference</b> Camerino, Italy	<b>June 2025</b>
<b>Machine Learning for Spectroscopy</b> Bruxelles, Belgium	<b>May 2025</b>
<b>AI-based approaches to preserve environmental and human health</b> San Benedetto del Tronto, Italy	<b>May 2025</b>
<b>NATO SPS Multi-Year Project SARS-CoV-2 Multi-Messenger Monitoring for Occupational Health &amp; Safety (SARS 3M);</b> Rome, Italy	<b>September 2024</b>

## TEACHING ACTIVITIES

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<b>Instructional tutorial of Physics</b> <i>University of Camerino</i> <ul style="list-style-type: none"><li>Fluid dynamics e Thermo dynamics (Physics 1)</li></ul>	<b>March 2026 — in progress</b> <i>Camerino, Italy</i>
<b>Instructional tutorial of Physics</b> <i>University of Camerino</i> <ul style="list-style-type: none"><li>Fluid dynamics e Thermo dynamics (Physics 1)</li></ul>	<b>March 2025 — June 2025</b> <i>Camerino, Italy</i>
<b>Instructional tutorial of Physics</b> <i>University of Camerino</i> <ul style="list-style-type: none"><li>Mechanics (Physics 1)</li></ul>	<b>October 2021 — January 2022</b> <i>Camerino, Italy</i>
<b>Instructional tutorial of Physics</b> <i>University of Camerino</i> <ul style="list-style-type: none"><li>Mechanics (Physics 1)</li></ul>	<b>October 2020 — January 2021</b> <i>Camerino, Italy</i>
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<b>Instructional tutorial of Physics</b> <i>University of Camerino</i> <ul style="list-style-type: none"><li>Physics 1</li></ul>	<b>October 2018 — June 2019</b> <i>Camerino, Italy</i>