

Alessandro Pellis

Associate Professor

EDUCATION AND TRAINING

Jan 2013 – Jun 2016

Position: Ph.D. Student & Scientific Co-worker

Institution: University of Natural Resources and Life Sciences, Vienna (Austria)

Activities:

- Research on functionalization of polymer surfaces, synthesis of functional polymers, and biodegradation of aromatic polyesters
- Supervision of 2 Bachelor and 2 Master students
- Responsible for analytical instrumentation (HPLC-DAD, HPLC-RI, GPC)
- Writing scientific publications and project reports

Ph.D. Thesis: *Enzymatic synthesis and functionalization of bio-based polyesters*

Grade: 1/1 with distinction

Oct 2010 – Dec 2012

Degree: M.Sc. in Medical Biotechnology

Institution: University of Trieste

Thesis: *Synthesis of bio-based polyesters by means of lipases*

Grade: 110/110 cum laude

Oct 2007 – Sep 2010

Degree: B.Sc. in Biotechnology

Institution: University of Trieste

Thesis: *Evaluation of the molecular effects of drugs 5-azacytidine and lenalidomide in the human hepatocarcinoma cell line JHH6*

Grade: 110/110 cum laude

ACADEMIC EXPERIENCE

Mar 2024 – Present

Position: Associate Professor

Institution: University of Genoa (Italy)

Responsibilities:

- Teaching Organic Chemistry and Lab courses in Bachelor and Master programs (codes: 65529, 68214, 68213)
- Group Leader and PI of the Chemo-Enzymatic Processes Laboratory (Dept. of Chemistry and Industrial Chemistry)
- Writing scientific publications and national/EU project proposals
- Supervising B.Sc., M.Sc., and Ph.D. students
- Research on chemo-enzymatic synthesis, processing, and functionalization of renewable polymers

Oct 2021 – Feb 2024

Position: Tenure-Track Assistant Professor

Institution: University of Genoa (Italy)

(Similar duties as above)

Dec 2020 – Sep 2021

Position: Senior Postdoctoral Researcher

Institution: University of Natural Resources and Life Sciences, Vienna (Austria)

Responsibilities:

- PI of Horizon 2020 project “UPLIFT”
- Leader of “Chemo-Enzymatic Processes” team (3 Master, 1 Ph.D. student)
- Responsible for polymer analysis in core facility
- Research on synthesis, functionalization, degradation of biodegradable polymers, and lignocellulosic biomass valorization

Oct 2019 – Nov 2020

Position: Senior Postdoctoral Fellow (Erwin Schrödinger Return Phase)

Institution: University of Natural Resources and Life Sciences, Vienna (Austria)

Responsibilities:

- PI of Erwin Schrödinger Individual Fellowship
- Research on chemo-enzymatic synthesis, polymer functionalization and biodegradation

Oct 2017 – Sep 2019

Position: Postdoctoral Fellow (Erwin Schrödinger Fellowship)

Institution: University of York, Green Chemistry Centre of Excellence (UK)

- Research on chemo-enzymatic synthesis of polyesters and post-functionalization
- Teaching in the Master’s program “Green Chemistry & Sustainable Industrial Technology”

Jul 2016 – Jun 2017

Position: Postdoctoral Researcher (Marie Curie FP7 Project REFINE)

Institution: BOKU, Vienna (Austria)

- Research on functional polymers and recycling of textile and food waste
- Task leader in Horizon 2020 “Resintex” project
- Supervising 5–10 students

Oct 2016 – Feb 2017

Position: Lecturer

Institution: University of Applied Sciences Wiener Neustadt (Austria)

- Taught “Scientific Writing in English”. Tutoring undergraduate students on the fundamentals of scientific writing in English for their thesis preparation and literature research. The course included both theoretical and practical sessions with exercises in a multimedia classroom. 2.5 ECTS course, approximately 40 students, duration: 1 semester.

TITLES**MAIN CONFERENCES AND SEMINARS****2014**

01. Date: 07–10.04.2014

Conference: *3rd Multistep Enzyme Catalyzed Processes Congress*

Location: Madrid, Spain

Type: Flash talk

Title: *Two-step enzymatic functionalization of poly(L-lactic acid) films*

02. Date: 31.08–04.09.2014

Conference: *7th International Congress on Biocatalysis*
Location: Hamburg University of Technology, Germany
Type: Oral communication
Title: *Lipase-catalyzed functionalization of poly(L-lactic acid) films*

2015

- 03.** Date: 15–20.12.2015
Conference: *2015 International Chemical Congress of Pacific Basin Societies*
Location: Honolulu, Hawaii, USA
Type: Oral communication
Title: *A green route to biobased polyesters: solvent-free thin film reactions for enzymatic polycondensations*
- 04.** Date: 15–20.12.2015
Conference: *2015 International Chemical Congress of Pacific Basin Societies*
Location: Honolulu, Hawaii, USA
Type: Oral communication
Title: *Two-step surface functionalization of poly(L-lactic acid) films with enzymes*

2016

- 05.** Date: 07–09.09.2016
Conference: *9th International Conference on Fiber and Polymer Biotechnology*
Location: Osaka, Japan
Type: Oral communication
Title: *Cutinase-catalyzed synthesis of biobased aliphatic polyesters*

2017

- 06.** Date: 02–06.04.2017
Conference: *253rd ACS Spring Meeting*
Location: Moscone Center, San Francisco, USA
Type: Oral communication
Title: *Thermobifida cellulosilytica cutinase as a powerful tool for the synthesis and functionalization of biobased polyesters*
- 07.** Date: 29–31.05.2017
Conference: *AUTEX 2017 World Textile Conference*
Location: Corfu, Greece
Type: Oral communication
Title: *Biotechnological functionalizations of poly(L-lactic acid) films for various applications*
- 08.** Date: 07–09.06.2017
Conference: *Designer Biology Symposium*
Location: Vienna, Austria
Type: Oral communication
Title: *Cutinases: sustainable catalysts for the synthesis and functionalization of polyesters*
- 09.** Date: 30.04–03.05.2017
Conference: *MoDeSt 2017 Workshop*
Location: Albufeira, Algarve, Portugal
Type: Oral communication
Title: *Fungal cutinases as environmentally friendly tools for the synthesis and functionalization of biobased polyesters*

2018

- 10.** Date: 24–27.04.2018

Conference: *10th International Conference on Fiber and Polymer Biotechnology (IFPB* 2018)

Location: Mercure Hotel, Balneario Camboriu, Brazil

Type: Oral communication

Title: *Enzymatic tools for the green synthesis of clickable polyesters*

11. Date: 01–04.07.2018

Conference: *European Congress on Biotechnology (ECB 2018)*

Location: Geneva, Switzerland

Type: Oral communication

Title: *Chemo-enzymatic strategies for the synthesis of functional bio-based polyesters*

12. Date: 15–17.08.2018

Conference: *25th Bio Environmental Polymer Society Meeting*

Location: Troy, NY, USA

Type: Oral communication

Title: *Chemo-enzymatic tools for the green synthesis of biobased polyesters*

2019

13. Date: 31.03–04.04.2019

Conference: *ACS National Meeting Spring 2019*

Location: Orlando, Florida, USA

Type: Oral communication

Title: *Chemo-enzymatic tools for the green synthesis of biobased polyesters*

14. Date: 17–20.11.2019

Conference: *European Summit of Industrial Biotechnology (ESIB 2019)*

Location: Graz, Austria

Type: Invited speaker

Title: *Enzymatic transformations: a polymer biotechnology journey*

15. Date: 22–25.09.2019

Conference: *4th EuCheMS Conference on Green and Sustainable Chemistry*

Location: Tarragona, Spain

Type: Oral communication

Title: *Enzymes: powerful catalysts for the synthesis of functional polyesters*

2021

16. Date: 12–14.04.2021

Conference: *POLY-CHAR 2021*

Location: Venice, Italy (online)

Type: Oral communication

Title: *Tackling bioeconomy's challenges utilizing synergistic chemo-enzymatic methods: some waste to materials cases*

17. Date: 06–08.05.2021

Conference: *6th International Conference on Biocatalysis in Non-Conventional Media (BNCM2021)*

Location: Milan, Italy (online)

Type: Oral communication

Title: *Green solvents as media for the enzymatic synthesis of polyesters*

2022

18. Date: 01–02.03.2022

Event: *International seminar biotechnology applied to the plastics sector*

Location: Valencia, Spain (online)

Type: Invited speaker

Title: *Biotechnological approaches to enable plastics circularity: the UPLIFT project*

19. Date: 27–29.06.2022

Conference: *EFB Biocatalysis for the biological transformation of polymer science*

Location: Cologne, Germany

Type: Invited speaker

Title: *Chemo-enzymatic strategies for polymers circularity*

2023

20. Date: 02–03.03.2023

Conference: *NKS-Makro Wintermeeting: Polymer-based materials today and in the future*

Location: Brumunddal, Norway

Type: Invited speaker

Title: *Chemo-enzymatic synthesis and functionalization of bio-based polymers*

21. Date: 13–15.09.2023

Conference: *11th European Symposium on Biopolymers*

Location: Brno, Czech Republic

Type: Oral communication

Title: *Enzymatic catalysis: a powerful tool for the synthesis of functional oligomers and biobased additives*

2024

22. Date: 20.03.2024

Conference: *Plastics: challenges and biotechnological solutions*

Location: Online

Type: Invited speaker
Title: *New biobased materials through selective enzymatic catalysis*

23. Date: 27.03.2024

Event: *Renewable Chemistry Workshop*

Location: King's Manor, York, UK

Type: Invited speaker

Title: *Enzymatic Catalysis as a Powerful Tool to Exploit Levoglucosenone and Other Biomass-Derived Building Blocks*

24. Date: 25–29.08.2024

Conference: *11th International Congress on Biocatalysis*

Location: Hamburg, Germany

Type: Invited speaker

Title: *Enzymatic catalysis for the synthesis of biomass-derived materials*

25. Date: 29.10.2024

Event: *Bioeconomy Dialogues 2024*

Location: Milan, Italy

Type: Invited speaker

Title: *Chemo-enzymatic methods for polymeric materials*

2025

26. Date: 21.02.2025

Event: *Green Chemistry Winter School Scientific Workshop*

Location: Padua, Italy

Type: Invited speaker

Title: *Chemo-enzymatic strategies for the synthesis of biobased materials*

Scientific Responsibility for International and National Research Projects Funded Through Competitive Peer-Reviewed Calls

2016

01. Period: 04.2016 – 05.2016
Type: Short Term Scientific Mission (STSM)
Role: Grant recipient
Organization: EU, EUBIS Cost Action (COST Action TD1203)
Title: *Enzymatic synthesis of bio-based polyesters*

2017

02. Period: 10.2017 – 10.2020
Type: Erwin Schrödinger Individual Fellowship
Role: Beneficiary, project administrator, and scientific coordinator
Organization: Austrian Science Fund (Grant Agreement J4014-N34)
Title: *Chemo-Enzymatic Synthesis of Functional Bio-Based Polyesters*

2018

03. Period: 06.2018 – 01.2019
Type: Proof of Concept Funds
Role: Co-applicant (Project leader: Dr. Leonardo Gomez)
Organization: Lignocellulosic Biorefinery Network (LBNet) (Grant Agreement: ISCF05_Dec17 Gomez)
Title: *Sweet Polymers: Production of Galactarate Polyesters from Pectin Waste via a Solely Enzymatically Catalyzed Pathway*

2019

04. Period: 02.2020 – 01.2021
Type: Proof of Concept Funds
Role: Co-applicant (Project leader: Dr. Leonardo Gomez)
Organization: Biomass Biorefinery Network (BBNet) (Project ID: PO03-Nov19-Gomez-01)
Title: *Enzymatic production of brown algae-derived polyol diacids*

2020

05. Period: 03.2021 – 02.2024
Type: EU Research & Innovation Actions (RIA), CE BIOTEC 09 2020
Role: Co-applicant, scientific coordinator, and administrator for ACIB
Organization: EU Research & Innovation Actions
Title: *Sustainable Plastics for the Food and Drink Packaging Industry*

2022

06. Period: 09.2022 – 08.2026
Type: EU Research & Innovation Actions (RIA), HLTH-2021-IND-07
Role: Co-applicant, scientific coordinator, and administrator for ACIB
Organization: EU Research & Innovation Actions
Title: *Boosting the reduction of the environmental impact of pharmaceutical products throughout their entire life cycle (ETERNAL)*

07. Period: 10.2022 – 12.2025
Type: Mini Curiosity Driven
Role: Principal Investigator
Organization: Department of Chemistry and Industrial Chemistry, University of Genoa
Title: *BIObased RE-synthesizable FUNctional polymers (BioReFun)*

2023

08. Period: 09.2023 – 08.2025
Type: TRAPEZIO Call – “Paving the way to research excellence and talent attraction,” Line 1: support for competitive research
Role: Principal Investigator
Organization: Fondazione Compagnia di San Paolo

Title: *Advanced, sustainable, and bio-based hybrid non-isocyanate polyurethane (HNIPU) coatings*

09. Period: 11.2023 – 29.11.2025

Type: PRIN – Research projects of relevant national interest (Call 2022 PNRR)

Role: Principal Investigator

Organization: Italian Ministry of Education and Research (MIUR)

Title: *Thorough Upcycling of Rice Waste Biomass into BiOactive PACKaging via Chemoenzymatic Processes (TURBOPACK)*

2024

10. Period: 01.06.2024 – 31.05.2029

Type: HORIZON ERC-2023-STG

Role: Principal Investigator

Organization: European Research Council

Title: *Chemo-enzymatic processing of bio-based building blocks to circular functional materials (CIRCULARIZE)*. Proposal number: 101114664

Amount: €1,500,000

11. Period: 01.09.2024 – 30.08.2026

Type: Ulysseus – Seed Money (Université Côte d'Azur Ulysseus)

Role: Co-Principal Investigator

Organization: Ulysseus University Alliance

Title: *Synthesis and characterization of biomass-derived sustainable polymers (SCABIOPOL)*

Awards and Recognitions for Scientific Activity, Including Membership in Prestigious Sector Academies

2013

01. Period: 01.2013 – 12.2015

Type: Marie Curie Fellowship (Early Stage Researcher)

EU-funded fellowship for Ph.D. research

Organization: EU, FP7 Project REFINE

2016

02. Period: 04.2016 – 05.2016

Type: Short Term Scientific Mission (STSM) Fellowship

EU-funded grant for a short-term research mobility period abroad

Organization: EU, EUBIS Cost Action

03. Period: June 2016

Type: Award – 2nd Place, *Science Award*

Award for research activity during the Ph.D. focused on the synthesis and degradation of bio-based polymers

Organization: Rotary Club of Tulln an der Donau (Austria)

04. Period: September 2016

Type: Award – 1st Place, *IFA-Tulln Publication Award*

Award by the Department of Agrobiotechnology for high scientific productivity and quality

Organization: Department of Agrobiotechnology, IFA-Tulln

2017

05. Period: 09.2017 – 10.2020

Type: Erwin Schrödinger Individual Fellowship

Austrian government fellowship equivalent to a Marie Curie Individual Fellowship

Organization: Austrian Science Fund

06. Period: May 2017

Type: Award – Klaus Fischer Innovation Award (Best Ph.D. Thesis)
Award for innovative research in green and sustainable chemistry during work at BOKU
Organization: University of Natural Resources and Life Sciences, Vienna

2020

07. Period: November 2020

Type: Award – 1st Place, *Research Sustainability Award*
Award for sustainable research conducted during tenure at BOKU
Organization: University of Natural Resources and Life Sciences, Vienna

2024

08. Period: 22.05.2024

Type: *John C. Warner Early Career Researcher Prize*
Award for the best scientific article in green chemistry by an early-career researcher, conferred by *Green Chem. Lett. Rev.*
Organization: Taylor & Francis, *Green Chemistry Letters and Reviews*