Dr. Christoph Winkler

Curriculum Vitae

Contact

University of Graz
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►*anchor.fm/in-the-active-site*

Personal Information

► Date of birth: April 8, 1985, Bern (CH)

► Nationality: Austrian – Swiss

Researcher ID

ORCID: *0000-0003-3068-9817*
Scopus: *36496042900*
Web of Science: *AAJ-2259-2020*

Scientific Impact

Publications: 43
Patents: 2

Lectures: 91
Posters: 94

h-index (Scopus): 24

Current Position

Senior Scientist and PI at the Institute of Chemistry at the University of Graz

Research Areas

► PHOTOBIOCATALYSIS | I investigate the application of light in biocatalytic reactions. This includes the use of photons energy source (*e.g.*, for cofactor recycling), the combination of enzymes with classic photocatalysis and the development of novel, unprecedented photo-enzymatic reactivities.

► REACTION TECHNOLOGY | The interest in Photobiocatalysis led to the development of several generations of photobioreactors as well as photobiocatalytic continuous flow technology.

► BIOCATALYSIS FOR SYNTHESIS | I develop enzymatic alternatives to synthetically challenging reactions, including the following enzyme classes: ene-reductases, cytochrome P450s, carboxylate reductases, hydrolases, thioesterases and several classes of (de)carboxylases.

Career

► Senior Scientist and PI | *University of Graz / Graz, Austria / since May 2018*
In the "Biocatalytic Synthesis" group, led by Prof. Wolfgang Kroutil
Activities: (Co-)Supervision of Bachelor students (5), Master students (4) and PhD-students (8). Teaching lectures and practical courses. PI in research projects, Support in the management of the working group; Organization of research conferences.

► Researcher and Project Leader | *Austrian Centre of Industrial Biotechnology, ACIB GmbH / Graz, Austria / April 2017 – April 2018*
Activities: Management of industry research projects. (Co-)Supervision of Bachelor students (1), Master students (2) and PhD-students (1). Development of photobiocatalytic reactions. And photobiocatalytic reaction technology.

► Lector | *University of Graz / Graz, Austria / February 2017 – June 2017*

► University Assistant | *University of Graz / Graz, Austria / September 2014 – April 2017*
In the "Biocatalysis" group, led by Prof. Kurt Faber
Activities: Co-supervision of Bachelor students (5) and Master students (1) and PhD-students (1). Teaching lectures and practical courses. Management of research projects.

► Researcher | *Austrian Centre of Industrial Biotechnology, acib GmbH / Graz, Austria / September 2015 – December 2015*

► Quality Manager | *Genericon Pharma GmbH / Graz, Austria / December 2013 – September 2014*

Education

► Habilitation in Organic Chemistry | *University of Graz / Graz, Austria / ongoing*

Habilitation thesis "*Contributions to Photobiocatalysis: From Reactor Technology to Synthetic Methods*" submitted in July 2024.

► Doctoral Studies of Chemistry | *University of Graz / Graz, Austria / October 2010 – September 2013*

Thesis for the Doctorate in Chemistry with the title "*Nicotinamide Independent Asymmetric C=C Reduction using Ene Reductases*" with Prof. Dr. Kurt Faber at the Department of Chemistry (FWF project: 22722). The thesis passed with distinction.

► Studies in Chemistry | *University of Graz and Graz University of Technology / Graz, Austria / October 2004 – September 2010*

Thesis for the Magister in natural sciences (Master) with the title "*Asymmetric Bioreduction of N- and O-Substituted Alkenes Using Enoate Reductases*" with Prof. Dr. Kurt Faber at the Department of Chemistry.

Third Party Funded Projects

► Project Leader in the project "*Hydroxylation to access aroma compounds EU NAT*"; one PhD student; 2017; ACIB GmbH; Austrian FFG, BMWFJ, BMVIT, SFG, Standortagentur Tirol and ZIT; FFG-COMET Funding Program.

► Second PI in the project: "*Upgrading di biogas a biometano per applicazioni industriali e riuso enzimatico della CO_2 per la produzione di materiali bioplastici*" ("*Biogas upgrading to biomethane for industrial applications and enzymatic reuse of CO_2 addressed to bioplastic materials*"); 2017; one PhD student; Italian Ministero dell'Istruzione e del Merito, Dottorati innovativi a caratterizzazione industriale – XXXIII ciclo (Industrial PhD program):

► PI in the project: "*Enzymes in the Spotlight: Unlocking Unprecedented Organic Reactions using Enzymes and Light*"; 2017; one PhD student; Institute of Chemistry at the University of Graz, competitive call for High Potentials

►PI in the project: "*Biocatalytic Synthesis of Challenging Macrocycles*"; 2023; two PhD students; Austrian FWF; Project No. P 37113

Prizes and Awards

► Autor profile in "*Angewandte Chemie"* for the first paper as corresponding author; "*Introducing Christoph K. Winkler*"; 2022

► Finalist in the teaching prize "*Gute Lehre*"; www.gutelehre.at; *Lehrveranstaltungsbündel Organische Chemie: Fachverständnis aufbauen und Handlungskompetenz fördern*", 2023; (main nominated person: Dr. Jörg Schrittwieser; other contributors: Dr. Silvia Glück-Harter, Ass.-Prof. Priv.-Doz. Dr. Mélanie Hall, Dr. Stefan Payer, Dr. Christoph Winkler)

► Inventor Prize of the University of Graz (*Erfinder der Karl-Franzens Universität Graz*), 2021

► Inventor Prize of the University of Graz (*Erfinder der Karl-Franzens Universität Graz*), 2019

► Finalist in the "*Akzo Nobel Research Challenge*"; Akzo Nobel; 2017

► Young scientists best paper award, Journal: *Monatsh. Chem.* (*Chem. Month*), 2016, for the publication "*Trametes versicolor carboxylate reductase uncovered*"

► PhD studies with distinction; University of Graz; 2013

► "*Best oral presentation award*"; Doctoral School of Chemistry, University of Graz; 2012

► "*Preis der Doktoratsschule Chemie*" (*Award for excellent performance*); Doctoral School of Chemistry, University of Graz, 2012

► "*International year of chemistry scholarship*", Austrian Chemical Society (GÖCH), 2011

► "*Förderungspreis der GÖCH für Diplomarbeiten*" (award for master thesis), Austrian Chemical Society (GÖCH), 2011

► "*Biocat Poster Award*", Biocat conference, 2010

► Member of PRO SCIENCIA, 2009-2013

Organization of International Conferences

► NextGenBiocat 2024, Heraklion; Member of the scientific committee

► NextGenBiocat 2023, Graz; Member of the organization board

► NextGenBiocat 2022, Delft; Member of the organization board

► NextGenBiocat 2021, Graz (online); Conference chair

► Biotrans 2021, Graz; Member of the local organization committee

► DocDays 2011, Graz; Member of the organization committee

Reviewer for Funding Agencies

European Research Council (ERC), Czech Science Foundation, French National Research Agency (ANR), Dutch Research Council (NOW), Boeringer Inngelheim Foundation

Reviewer for Peer-Reviewed Journals and Book Proposals

Science, Nature, Nat. Chem., Nat. Catal., Nat. Commun., Nat. Synth., Green Chem., Appl. Microbiol. Biotechnol., Biotechnol. Lett., Biotechnol Adv., Biotechnol. Biofuels, Frontiers Catalysis, Catalysts, RSC Adv., ChemBioChem, J. Biotechnol., J. Mol. Catal. A, Life, Molecules, Chem. Eur. J., Pharmaceuticals, Processes, RSC Adv., Sci. Bull., Symmetry; Wiley

Outreach, Science to Public

► Co-host of the science-to-public PodCast "*In the Active Site*" together with Dr. Mathias Pickl, 2020, *https://anchor.fm/in-the-active-site*

► Regular Exhibitor at the "*Lange Nacht der Forschung*", University of Graz

► Regular Exhibitor at the Open Day at the University of Graz

► Co-host of the "*Mitmach-Labor*" for ground school children at the Institute of Chemistry, University of Graz

► Board member the Forum GWK, organization of science-to-public lectures and workshops, 2017-2020

Committee Work

- Head of the Doctoral Academy "*Sustainable Biocatalysis*", University of Graz
- Habilitation commission, University of Graz, 2024
- Guest Editor for the special collection "*Next Generation in Biocatalysis*" in *ChemBioChem,* 2021
- Reaxys Advisor, 2021-2023
- Review Editor for *Frontiers in Catalysis*