

## PROF. DANIELA UBIALI, PHD

### PERSONAL DATA

**Address:** University of Pavia, Dept of Drug Sciences, Via Taramelli 12, 27100, Pavia (Italy)

**Contacts:** Tel: (+39) 0382-987889 - E-mail: daniela.ubiali@unipv.it

**Role:** Associate Professor of Chemistry and Biotechnology of Fermentation (SSD CHIM/11)

**ORCID:** 0000-0003-3528-2960

### EDUCATION

**1996: Master Degree** in Medicinal Chemistry and Pharmaceutical Technology (University of Pavia)

**2000: PhD** in Medicinal Chemistry and Pharmaceutical Technology (University of Pavia)

### ACADEMIC CAREER

**2002-2018:** Assistant Professor of Medicinal Chemistry and Pharmaceutical Technology (SSD CHIM/08), University of Pavia, Dept of Drug Sciences

**2018-onwards:** Associate Professor of Chemistry and Biotechnology of Fermentation (SSD CHIM/11), University of Pavia, Dept of Drug Sciences

**2022:** National habilitation as Full Professor of Chemistry and Biotechnology of Fermentation (SSD CHIM/11)

### TEACHING ACTIVITIES (AA 2023/24)

#### Master Degrees

Industrial Biotechnologies (CFU 3, 24 h)

Industrial Bioprocesses for Drug Production (CFU 5, 40 h)

Laboratory of Drug Synthesis (CFU 4, 40 h)

#### Bachelor Degree

Integrated Laboratory of Pharmaceutical Biotechnologies – Biocatalysis (CFU 3, 36 h)

### TUTORING & SUPERVISION OF BACHELOR, MASTER, AND PHD THESES

Tutoring Bachelor and Master students in Biotechnology, Advanced Biotechnology, Medical and Pharmaceutical Biotechnologies, Medicinal Chemistry and Pharmaceutical Technology on a regular basis

Tutor/co-tutor of 4 PhD students; external reviewer of PhD theses and member of PhD defence committees

### ACADEMIC POSITIONS

**2003-onwards:** member of the “Commissione Trasferimenti” and “Commissione C.OR –Orientamento”, Dept of Drug Sciences, University of Pavia

**2010-onwards:** member of the Board of the II level Master in Progettazione e Sviluppo dei Farmaci, University of Pavia

**2011-2013:** member of the Board of the PhD School in Medicinal Chemistry and Pharmaceutical Technology, University of Pavia (cycles: XXVII-XXVIII)

**2012-2016:** member of the Board of the II level Master in Prodotti Nutraceutici: Progettazione, Sviluppo Formulativo, Controllo e Commercializzazione, University of Pavia

**2011-2014:** member of the Scientific Committee of the course Laboratorio di Comunicazione Scientifica Divulgativa, Collegio Nuovo – Fondazione Sandra e Enea Mattei, Pavia (appointed by the Dept. of Drug Sciences, University of Pavia)

**2016-onwards:** member of the Board of the PhD School in Biomolecular Sciences and Biotechnology, IUSS-Scuola Universitaria Superiore, Pavia (from cycle XXXII)

**2019-onwards:** Responsible (Coordinator) of the Biotechnology course (Bachelor degree, L2), University of Pavia

#### CURRENT RESEARCH ACTIVITIES

##### **BIOCATALYSIS**

Study and development of innovative and environmentally friendly chemoenzymatic routes based on biotransformations catalyzed by immobilized enzymes for the preparation of API, API intermediates, platform and commodity chemicals

##### **BIOREFINERY – CIRCULAR ECONOMY**

Study and development of green and sustainable biotechnological approaches (biocatalysis and fermentation) to the upcycling of byproducts and wastes from the (agro)industry (e.g. rice bran, cheese whey permeate, waste cooking oil) into high added value products for the nutraceutical, cosmetic, pharma, and biofuel sectors

#### VISITING STAYS ABROAD

**1997-1999** (discontinuous stay, 10 months): University of Massachusetts Medical School and GLSynthesis Inc., Worcester (MA, USA). Supervisor: Prof. George E. Wright

#### RESEARCH GRANTS (2010-ONWARDS)

**2023-2025:** “Una bioraffineria integrata per la produzione sostenibile di biocarburanti ed emulsionanti da scarti agroindustriali” – REFINEMENT

**Call:** “Ecosistemi NODES Spoke 2 (PNRR) PoC Accademici”

**Role:** Participant (Responsible of the biocatalysis Working Unit)

**2022-2025:** Ecosistemi dell’innovazione “NODES -Nord Ovest Digitale E Sostenibile” (Codice progetto MUR: ECS00000036)

**Call:** PNRR Missione 4, Componente 2, Investimento 1.5, “Creazione e rafforzamento di “Ecosistemi dell’innovazione” costruzione di “leader Territoriali di R&S”

**Role:** Participant (Spoke 2, Green technologies and sustainable industries)

**2021-2024:** “Integrated platform for the sustainable production of bio-based surfactants from renewable resources (BioSurf)” (Rif. 2020-1094)

**Call:** Economia Circolare: ricerca per un futuro sostenibile 2020, Fondazione Cariplo

**Role:** Principal Investigator

**2020-2023:** “Approvvigionamento energetico e gestione della risorsa idrica nell’ottica dell’Economia Circolare” CE4WE – Circular Economy for Water and Energy (Rif. 1139857)

**Call:** Hub Ricerca e Innovazione, cofinanziata da POR FESR 2014-2020 ASSE1

**Role:** Participant

**2018-2021:** “BIOCOSM: biocatalysis for oils and fats in cosmetics” (Rif. 2017-0978)

**Call:** Bando congiunto ricerca integrata biotecnologie industriali e bioeconomia2017, Fondazione Cariplo e Innovhub-SSI

**Role:** Responsible of the Working Unit Consorzio Italbiotec, including the University of Pavia

**2017-2019:** “BIOFLOW: an innovative platform for the in-flow biocatalytic preparation of high value chemicals” (Rif. 2016-0731)

**Call:** Ricerca integrata biotecnologie industriali 2016, Fondazione Cariplo

**Role:** Participant

**2015-2017:** “Quality wine meter” (Rif. n. F/0010/01-03/X26)

**Call:** Progetti di ricerca e sviluppo negli ambiti tecnologici identificati dal Programma Quadro comunitario Horizon 2020, Fondo per la Crescita Sostenibile (D.M. 20 giugno 2013)

**Role:** Participant

**2014-2017:** “From waste to resource: an integrated valorization of the rice productive chain residues” (RiceRes, Rif. 2014-0558)

**Call:** Ricerca integrata biotecnologie industriali 2014, Fondazione Cariplo

**Role:** Responsible of the Working Unit University of Pavia

**2011-2013:** “From ancient crops materials and products for the future” (VeLiCa, Rif. 14493A)

**Call:** Fondo per la promozione di Accordi Istituzionali (21 giugno 2010), Regione Lombardia

**Role:** Participant

**2010-2012:** “A biotechnological approach for the rational design of vaccines: a novel vaccine against TB” (VATUB)

**Call:** Realizzazione di iniziative finalizzate ad incrementare l’attrattività del territorio lombardo, la valorizzazione del capitale umano e la cooperazione scientifica (11 giugno 2009), Regione Lombardia

**Role:** Participant

**2010-2012:** “Poli( $\gamma$ -glutamate) ( $\gamma$ -PGA): a biocompatible and biodegradable material for the immobilization of biologically active molecules”

**Call:** Promuovere la ricerca d’eccellenza 2010/2011, Fondazione Alma Mater Ticinensis

**Role:** Participant

**2010-2012:** “Poli( $\gamma$ -glutamate): bioproduction of an ecofriendly biopolymer and its derivatization thereof for the active packaging of foods”

**Call:** Presentazione di proposte per la sperimentazione di iniziative di promozione, sviluppo, valorizzazione della ricerca e del capitale umano con ricaduta diretta sul territorio Lombardo 2009, INSTM (Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali) e Regione Lombardia

**Role:** Participant

#### PEER REVIEW OUTPUT & BIBLIOMETRIC DATA (SCOPUS)

Peer reviewed publications: **70**

Book chapter: **1**

Patent application: **1**

Poster/oral communications in national and international conferences: **>70**

Scopus (last update 07/04/24)

Documents: **69**

Citations: **1453**

h-index: **24**

#### PUBLICATIONS (ORIGINAL ARTICLES & REVIEWS, 2010-ONWARDS)

**47)** Crotti M., Robescu M.S., Bolivar J.M., **Ubiali D.**, Wilson L., Contente M.L.\* (2023) **What’s new in flow biocatalysis? A snapshot of 2020–2022.** FRONTIERS IN CATALYSIS in press. DOI: 10.3389/fctls.2023.1154452

**46)** Semproli R., Chanquia S.N., Bittner J.P., Müller S., Domínguez de María P., Kara S.\*, **Ubiali D.\*** (2023) **Deep Eutectic Solvents for the enzymatic synthesis of sugar esters: A generalizable strategy?** ACS SUSTAINABLE CHEMISTRY AND ENGINEERING in press. DOI: 10.1021/acssuschemeng.2c07607

**45)** Robescu M.S.\*, Alcántara A.R., Calvio C., Morelli C.F., Speranza G., **Ubiali D.**, Bavaro T.\* (2023) **L-Theanine goes greener: A highly efficient bioprocess catalyzed by the immobilized  $\gamma$ -glutamyl transferase from *Bacillus subtilis*.** CHEMSUSCHEM in press. DOI: 10.1002/cssc.202202108

- 44)** Semproli R., Robescu M.S., Sangiorgio S., Pargoletti E., Bavaro T., Rabuffetti M., Cappelletti G., Speranza G.,\* **Ubiali D.\*** (2023) **From lactose to alkyl galactoside fatty acid esters as non-ionic biosurfactants: A two-step enzymatic approach to cheese whey valorization.** CHEMPLUSCHEM Vol. 88 (1) Article number e202200331. DOI: 10.1002/cplu.202200331
- 43)** Robescu M.S., Annunziata F., Somma V., Calvio C., Morelli C.F., Speranza G., Tamborini L., **Ubiali D.**, Pinto A.\*, Bavaro T.\* (2022) **From batch to continuous flow bioprocessing: Use of an immobilized  $\gamma$ -glutamyl transferase from *B. subtilis* for the synthesis of biologically active peptide derivatives.** JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY p. 13692-13699 Vol. 70 (42). DOI: 10.1021/acs.jafc.2c03702
- 42)** Sangiorgio S., Vidović N., Boschin G., Aiello G., Arcidiaco P., Arnoldi A., Morelli C.F., Rabuffetti M., Recca T., Scarabattoli L., **Ubiali D.**, Speranza G.\* (2022) **Preparation, characterization and in vitro stability of a novel ACE-inhibitory peptide from soybean protein.** FOODS Vol. 11(17) Article number 2667. DOI: 10.3390/foods11172667
- 41)** Sangiorgio S., Cambò M., Semproli R., **Ubiali D.**, Speranza G., Rabuffetti M.\* (2022) **2-O-Acetyl-3,4,5,6-tetra-O-benzyl-d-myo-inositol diphenylphosphate: A new useful intermediate to inositol phosphate and phospholipids.** CHIRALITY p. 1038-1043 Vol. 34 (8). DOI: 10.1002/chir.23457
- 40)** Donzella S.,\* Fumagalli A., Arioli S., Pellegrino L., D’Incecco P., Molinari F., Speranza G., **Ubiali D.**, Robescu M.S., Compagno C. (2022) **Recycling food waste and saving water: Optimization of the fermentation processes from cheese whey permeate to yeast oil.** FERMENTATION Vol. 8 (7) Article number 341. DOI: 10.3390/fermentation8070341
- 39)** Sangiorgio S., Pargoletti E., Rabuffetti M., Robescu M.S., Semproli S., **Ubiali D.**, Cappelletti G.,\* Speranza G.\* (2022) **Emulsifying properties of sugar-based surfactants prepared by chemoenzymatic synthesis.** COLLOIDS AND INTERFACE SCIENCE COMMUNICATIONS Vol. 48 Article number 100630. DOI: 10.1016/j.colcom.2022.100630
- 38)** Bavaro T.,\* Tengattini S., Rezwan R., Chiesa E., Temporini C., Dorati R., Massolini G., Conti B., **Ubiali D.**, Terreni M. (2021) **Design of epidermal growth factor immobilization on 3D biocompatible scaffolds to promote tissue repair and regeneration.** SCIENTIFIC REPORTS Vol. 11 (1) Article number 2629. DOI: 10.1038/s41598-021-81905-1
- 37)** Semproli R., Robescu Marina S., Cambò M., Mema K., Bavaro T., Rabuffetti M., **Ubiali D.**,\* Speranza G.\* (2021) **Chemical and enzymatic approaches to esters of *sn*-glycero-3-phosphoric acid.** EUROPEAN JOURNAL OF ORGANIC CHEMISTRY p. 4027-40376 Vol. 2021 (29). DOI: 10.1002/ejoc.202100235
- 36)** Rabuffetti M., Rinaldi F., Lo Bianco A., Speranza G., **Ubiali D.**, de Moraes M.C., Rodrigues Pereira da Silva L.C., Massolini G., Calleri E.\*, Lavecchia A.\* (2021) **Discovery of a novel inhibitor of human purine nucleoside phosphorylase by a simple hydrophilic interaction liquid chromatography enzymatic assay.** CHEMMEDCHEM p. 1325–1334 Vol. 16 (8). DOI: 10.1002/cmdc.202000874
- 35)** Bavaro T., Benucci I., Pedrali A., Marrubini G., Esti M., Terreni M., Massolini G., **Ubiali D.\*** (2020) **Lipase-mediated hydrolysis of hempseed oil in a packed-bed reactor and in-line purification of PUFA as mono- and diacylglycerols.** FOOD AND BIOPRODUCTS PROCESSING p. 345-353 Vol. 123. DOI: 10.1016/j.fbp.2020.07.009
- 34)** Overturf E., Ravasio N.\*, Zaccheria F., Tonin C., Patrucco A., Bertini F., Canetti M., Avramidou K., Speranza G., Bavaro T., **Ubiali D.** (2020) **Towards a more sustainable circular bioeconomy. Innovative approaches to rice residue valorization: The RiceRes case study.** BIORESOURCE TECHNOLOGY REPORTS Article number 100427 Vol. 11. DOI: 10.1016/J.BITEB.2020.100427

- 33)** Semproli R., Vaccaro G., Ferrandi E.E., Vanoni M., Bavaro T., Marrubini G., Annunziata F., Conti P., Speranza G., Monti D.\*, Tamborini L.\*, **Ubiali D.\*** (2020) **Use of immobilized amine transaminase from *Vibrio fluvialis* under flow conditions for the synthesis of (S)-1-(5-fluoropyrimidin-2-yl)-ethanamine.** CHEMCATCHEM p. 1359-1367 Vol. 12 (5). DOI: 10.1002/cctc.201902080
- 32)** Dugheri S.\*, Mucci N., Bonari A., Marrubini G., Cappelli G., **Ubiali D.**, Campagna M., Montalti M., Arcangeli G. (2020) **Solid phase microextraction techniques used for gas chromatography: A review.** ACTA CHROMATOGRAPHICA p. 1-9 Vol. 32 (1). DOI: 10.1556/1326.2018.00579
- 31)** Tamborini L.\*, Previtali C., Annunziata F., Bavaro T., Terreni M., Calleri E., Rinaldi F., Pinto A., Speranza G., **Ubiali D.\***, Conti P. (2020) **An enzymatic flow-based preparative route to vidarabine.** MOLECULES Vol. 25 (5) Article number 25051223. DOI: 10.3390/molecules25051223
- 30)** Tentori F., Bavaro T., Brenna E.\*, Colombo D., Monti D., Semproli R., **Ubiali D.\*** (2020) **Immobilization of old yellow enzymes via covalent or coordination bonds.** CATALYSTS Vol. 10 (2) Article number 260. DOI: 10.3390/catal10020260
- 29)** Bruni M., Robescu M.S., **Ubiali D.**, Marrubini G., Vanna R., Morasso C., Benucci I., Speranza G., Bavaro T.\* (2020) **Immobilization of  $\gamma$ -glutamyl transpeptidase from equine kidney for the synthesis of kokumi compounds.** CHEMCATCHEM p. 210-218 Vol. 12 (1). DOI: 10.1002/cctc.201901464
- 28)** Robescu M.S., Serra I.\*, Terreni M., **Ubiali D.\***, Bavaro T. (2020) **A multi-enzymatic cascade reaction for the synthesis of vidarabine 5'-monophosphate.** CATALYSTS Vol. 10 (1) Article number 60. DOI: 10.3390/catal10010060
- 27)** Dugheri S.\*, Mucci N., Bonari A., Marrubini G., Cappelli G., **Ubiali D.**, Campagna M., Montalti M., Arcangeli G. (2020) **Liquid phase microextraction techniques combined with chromatography analysis: a review.** ACTA CHROMATOGRAPHICA p. 69-79 Vol. 32 (2). DOI: 10.1556/1326.2019.00636
- 26)** Rabuffetti M., Bavaro T., Semproli R., Cattaneo G., Massone M., Morelli C.F., Speranza G.\*, **Ubiali D.\*** (2019) **Synthesis of Ribavirin, Tecadenoson, and Cladribine by enzymatic transglycosylation.** CATALYSTS p. 355 Vol. 9 (4). DOI: 10.3390/catal9040355
- 25)** Lesma G.\*, Luraghi A., Bavaro T., Bortolozzi R., Rainoldi G., Roda G., Viola G., **Ubiali D.**, Silvani A.\* (2018) **Phytosterol and  $\gamma$ -oryzanol conjugates: synthesis and evaluation of their antioxidant, antiproliferative, and anticholesterol activities.** JOURNAL OF NATURAL PRODUCTS p. 2212-2221 Vol. 81. DOI: 10.1021/acs.jnatprod.8b00465
- 24)** Cattaneo G., Rabuffetti M., Speranza G., Kupfer T., Peters B., Massolini G., **Ubiali D.\***, Calleri E.\* (2017) **Synthesis of adenine nucleosides by transglycosylation using two sequential nucleoside phosphorylase-based bioreactors coupled on-line to an HPLC system for reaction monitoring.** CHEMCATCHEM p. 4614-4620 Vol. 9. DOI: 10.1002/cctc.201701222
- 23)** Serra I.\*, **Ubiali D.**, Piškur J., Munch-Petersen B., Bavaro T., Terreni M. (2017) **Immobilization of deoxyadenosine kinase from *Dictyostelium discoideum* (DddAK) and its application in the 5'-phosphorylation of arabinosyladenine and arabinosyl-2-fluoroadenine.** CHEMISTRY SELECT p. 5403-5408 Vol. 2. DOI: 10.1002/slct.201700558
- 22)** Dall'Oglio F., Contente M. L., Conti P., Molinari F., Monfredi D., Pinto A., Romano D., **Ubiali D.**, Tamborini L.\*, Serra I.\* (2017) **Flow-based stereoselective reduction of ketones using an immobilized**

**ketoreductase/glucose dehydrogenase mixed bed system.** CATALYSIS COMMUNICATIONS p. 29-32 Vol. 93. DOI: 10.1016/j.catcom.2017.01.025

**21)** Cattaneo G., **Ubiali D.**, Calleri E., Rabuffetti M., Höfner G. C., Wanner K. T., De Moraes M. C., Martinelli L. K. B., Santos D. S., Speranza G., Massolini G.\* (2016) **Development, validation and application of a 96-well enzymatic assay based on LC-ESI-MS/MS quantification for the screening of selective inhibitors against *Mycobacterium tuberculosis* purine nucleoside phosphorylase.** ANALYTICA CHIMICA ACTA p. 89-97 Vol. 943. DOI: 10.1016/j.aca.2016.09.025

**20)** Biagiotti, M., Borghese, G., Francescato, P., Morelli, C.F., Albertini, A.M., Bavaro, T., **Ubiali, D.**, Mendichi, R., Speranza, G.\* (2016) **Esterification of poly( $\gamma$ -glutamic acid) ( $\gamma$ -PGA) mediated by its tetrabutylammonium salt.** RSC ADVANCES p. 43954-43958 Vol. 6. DOI: 10.1039/c6ra08567a

**19)** **Ubiali D.**,<sup>^</sup> Morelli C. F.,<sup>^</sup> Rabuffetti M., Cattaneo G., Serra I., Bavaro T., Albertini A. M., Speranza G.\* (2015) **Substrate specificity of a purine nucleoside phosphorylase from *Aeromonas hydrophila* and its use as a biocatalyst in the synthesis of 6-substituted purine ribonucleosides.** CURRENT ORGANIC CHEMISTRY p. 2220-2225 Vol. 19. <sup>^</sup>Equal contribution. DOI: 10.2174/1385272819666150807191212

**18)** Calleri E.,\* Cattaneo G., Rabuffetti M., Serra I., Bavaro T., Massolini G., Speranza G., **Ubiali D.\*** (2015) **Flow-synthesis of nucleosides catalyzed by an immobilized purine nucleoside phosphorylase from *Aeromonas hydrophila*: integrated systems of reaction control and product purification.** ADVANCED SYNTHESIS AND CATALYSIS p. 2520-2528 Vol. 357. DOI: 10.1002/adsc.201500133

**17)** Serra I., Daly S., Alcantara A. R., Bianchi D., Terreni M., **Ubiali D.\*** (2015) **Redesigning the synthesis of Vidarabine via a multienzymatic reaction catalyzed by immobilized nucleoside phosphorylases.** RSC ADVANCES p. 23569-23577 Vol. 5. DOI: 10.1039/c6ra08567a

**16)** Torres-Salas P., Pedrali A., Bavaro T., Ambrosini S., Marrubini G., Pappalardo V. M., Massolini G., Terreni M., **Ubiali D.\*** (2014) **Preparation of PUFA concentrates as acylglycerols via enzymatic hydrolysis of hempseed oil (*Cannabis sativa* L.) in a homogeneous low-water medium.** EUROPEAN JOURNAL OF LIPID SCIENCE AND TECHNOLOGY p. 1496 – 1504 Vol. 116. DOI: 10.1002/ejlt.201400201

**15)** Serra I., Conti S., Piškur J., Clausen A. R., Munch-Petersen B., Terreni M., **Ubiali D.\*** (2014). **Immobilized *Drosophila melanogaster* deoxyribonucleoside kinase (*DmdNK*) as a high performing biocatalyst for the synthesis of purine arabinonucleotides.** ADVANCED SYNTHESIS AND CATALYSIS p. 563 – 570 Vol. 356. DOI: 10.1002/adsc.201300649

**14)** Calleri E.,<sup>^</sup> **Ubiali D.**,<sup>^</sup> Serra I., Temporini C., Cattaneo G., Speranza G., Morelli C. F., Massolini G.\* (2014) **Immobilized purine nucleoside phosphorylase from *Aeromonas hydrophila* as an on-line enzyme reactor for biocatalytic applications.** JOURNAL OF CHROMATOGRAPHY B, ANALYTICAL TECHNOLOGIES IN THE BIOMEDICAL AND LIFE SCIENCES p. 79 – 86 Vol. 968. <sup>^</sup>Equal contribution. DOI: 10.1016/j.jchromb.2013.12.031

**13)** Bonomi P., Bavaro T., Serra I., Tagliani A., Terreni M.,\* **Ubiali D.\*** (2013). **Modulation of the microenvironment surrounding the active site of penicillin G acylase immobilized on acrylic carriers improves the enzymatic synthesis of cephalosporines.** MOLECULES p. 14349 - 14365 Vol. 18. DOI: 10.3390/molecules181114349

**12)** Serra I., Bavaro T., Cecchini D. A., Daly S., Albertini A. M., Terreni M., **Ubiali D.\*** (2013). **A comparison between immobilized pyrimidine nucleoside phosphorylase from *Bacillus subtilis* and thymidine phosphorylase from *Escherichia coli* in the synthesis of 5-substituted pyrimidine 2'-deoxyribonucleosides.** JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC p. 16 - 22 Vol. 95. DOI: 10.1016/j.molcatb.2013.05.007

- 11)** Bagnasco L., Pappalardo V. M., Meregaglia A., Kaewmanee T., **Ubiali D.**, Speranza G., Cosulich M. E.\* (2013). **Use of food-grade proteases to recover umami protein-peptide mixtures from rice middlings.** FOOD RESEARCH INTERNATIONAL p. 420 - 427 Vol. 50. DOI: 10.1016/j.foodres.2012.11.007
- 10)** Temporini C., Pochetti G., Fracchiolla G., Piemontese L., Montanari R., Moaddel R., Laghezza A., Altieri F., Cervoni L., **Ubiali D.**, Prada E., Loiodice F., Massolini G., Calleri E.\* (2013). **Open tubular columns containing the immobilized ligand binding domain of peroxisome proliferator-activated receptors  $\alpha$  and  $\gamma$  for dual agonists characterization by frontal affinity chromatography with mass spectrometry detection.** JOURNAL OF CHROMATOGRAPHY A p. 36 - 43 Vol. 1284. DOI: 10.1016/j.chroma.2013.01.077
- 09)** Bavaro T.,\* Torres-Salas P., **Ubiali D.**, Terreni M. (2013). **Regioselective enzymatic hydrolysis of hexa-O-acetyl-lactal in a green non-aqueous medium.** RSC ADVANCES p. 7355 - 7359 Vol. 3. DOI: 10.1039/c3ra40266e
- 08)** Serra I.,\* **Ubiali D.**, Piškur J., Christoffersen S., Lewkowicz E. S., Iribarren A. M., Albertini A. M., Terreni M. (2013). **Developing a collection of immobilized nucleoside phosphorylases for the preparation of nucleoside analogues: enzymatic synthesis of arabinosyladenine and 2',3'-dideoxyinosine.** CHEMPLUSCHEM p. 157 - 165 Vol. 78. DOI: 10.1002/cplu.201200278
- 07)** Serra I., **Ubiali D.**, Cecchini D. A., Calleri E., Albertini A. M., Terreni M., Temporini C.\* (2012). **Assessment of immobilized PGA orientation via the LC-MS analysis of tryptic digests of the wild type and its 3K-PGA mutant assists in the rational design of a high-performance biocatalyst.** ANALYTICAL AND BIOANALYTICAL CHEMISTRY p. 745 – 753 Vol. 405 (2-3). DOI: 10.1007/s00216-012-6143-z
- 06)** **Ubiali D.**, Serra C. D., Serra I., Morelli C. F., Terreni M., Albertini A. M., Manitto P.,\* Speranza G.\* (2012). **Production, characterization and synthetic application of a purine nucleoside phosphorylase from *Aeromonas hydrophila*.** ADVANCED SYNTHESIS & CATALYSIS p. 96 - 104 Vol. 354. DOI: 10.1002/adsc.201100505
- 05)** Abbate S.,\* Lebon F., Longhi G., Morelli C., **Ubiali D.**, Speranza G.\* (2012). **Vibrational and electronic circular dichroism spectroscopies and DFT calculations for the assignment of the absolute configuration of hydroxyl substituted 2-tetralols.** RSC ADVANCES p. 10200 - 10208 Vol. 2. DOI: 10.1039/c2ra21080k
- 04)** Petenzi M., Bavaro T., Cornaggia C., **Ubiali D.**, Pregnolato M., Pasini D.\* (2012). **Synthesis, postmodification and characterization of linear polystyrene-based supports for the interaction with immobilized biocatalysts.** POLYMER INTERNATIONAL p. 1611 - 1618 Vol. 61. DOI: 10.1002/pi.4307
- 03)** Serra I., Serra C. D., Rocchietti S., **Ubiali D.**, Terreni M.\* (2011) **Stabilization of thymidine phosphorylase from *Escherichia coli* by immobilization and post immobilization techniques.** ENZYME AND MICROBIAL TECHNOLOGY p. 52 – 58 Vol. 49(1) DOI: 10.1016/j.enzmictec.2011.03.011
- 02)** Temporini C., Bonomi P., Serra I., Tagliani A., Bavaro T., **Ubiali D.**, Massolini G., Terreni M.\* (2010) **Characterization and study of the orientation of immobilized enzymes by tryptic digestion and HPLC-MS: Design of an efficient catalyst for the synthesis of cephalosporins.** BIOMACROMOLECULES p. 1623 – 1632 Vol. 11(6). DOI: 10.1021/bm100259a
- 01)** Bavaro T., **Ubiali D.**, Brocca S., Rocchietti S., Nieto I., Pregnolato M., Lotti M., Terreni M.\* (2010). **Recombinant lipase from *Candida rugosa* for regioselective hydrolysis of peracetylated nucleosides. A comparison with commercial non-recombinant lipases.** BIOCATALYSIS AND BIOTRANSFORMATION, P. 108–116 Vol. 28(2), DOI: 10.3109/10242420903497362

## PATENTS

Pregolato M., Terreni M., **Ubiali D.**, Bavaro T. (2008). **2',3'-Di-O-acyl-5-fluoronucleosides**. WO 2008/107771 A2

## MEMBER OF SCIENTIFIC & ORGANIZING COMMITTEES (2011-ONWARDS)

**2011-2016:** “Italian Forum on Industrial Biotechnology and Bioeconomy” (IFIB), formerly “Italian Industrial Biotechnology” (IIB). Workshop co-organized by Assobiotec, SPRING (Italian Cluster of Circular Bioeconomy), Innovhub-IIS. Member of the Scientific Committee (2011-2013) and the Organizing Committee (2011-2015)

**2015:** “Ricerche applicate in ambito biotecnologico e farmaceutico”, Pavia, (Italy). Workshop organized by the University of Pavia. Co-organizer and speaker

**2015:** “Industrial enzymes”, Pavia (Italy). International conference co-organized by Acib (Austrian Centre of Industrial Biotechnology) and the University of Pavia. Member of the Organizing Committee

**2017:** “Professione biotecnologo: formazione, prospettive, opportunità”, Pavia (Italy). Roundtable co-organized by the Dept of Biology and Biotechnology and Collegio Nuovo Fondazione Sandra e Enea Mattei. Co-organizer and chair

**2017:** “*Bioeconomy dialogues: Progetti green dal territorio e oltre*”, Pavia (Italy). Workshop co-organized by the Cluster Lombardy Green Chemistry Association and the University of Pavia. Co-organizer and chair

**2018:** EMBO workshop “Enzymes, biocatalysis and chemical biology: The new frontiers”, Pavia (Italy). Member of the Organizing Committee and chair

**2021:** “6<sup>th</sup> International Conference on Biocatalysis in Non-Conventional Media (BNCM2021)”, Milano (Italy), virtual conference. Member of the Scientific and Organizing Committees, and chair

**2021:** “Bioeconomy school: from basic science to a new economy”, Como (Italy), virtual event. School co-Director, member of the Scientific Committee and invited speaker

**2021:** “La “nuova alleanza”: green deal e tradizione alimentare italiana”, Pavia (Italy). Webinar co-organized in collaboration with the University of Milano Bicocca and Festival dello Sviluppo Sostenibile ASVIS with the support of Fondazione Cariplo. Co-organizer, chair, speaker

**2023:** “*Bioeconomy dialogues: Progetti green dal territorio e oltre*”, Pavia (Italy). Workshop co-organized by the Cluster Lombardy Green Chemistry Association and the University of Pavia with the support of NODES-SPOKE 2. Co-organizer and chair

**2023:** “The bioeconomy transformation: science, economics, business and society”, Como (Italy). School co-Director, member of the Scientific and Organizing Committees, chair and speaker

**2024:** “Sustainability and the food chain: new actors stepping into the limelight”, Como (Italy). Member of the Organizing Committee and speaker

**2024:** “Biocat4Value – Biocatalysis Conference for Biological Transformation along Renewable Value Chains”, Dusseldorf (Germany). Member of the Scientific and Organizing Committees

## GUEST EDITOR, AD HOC REVIEWER, INVITED EXPERT (2009-ONWARDS)

**2009-onwards:** ad hoc referee for JOURNAL OF MOLECULAR CATALYSIS B: ENZYMATIC; FEMS MICROBIOLOGY LETTERS; PROCESS BIOCHEMISTRY; SYNTHESIS; APPLIED CLAY SCIENCES; MOLECULES; ADVANCED SYNTHESIS AND CATALYSIS; JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE; CATALYSIS COMMUNICATION; BIOCATALYSIS & BIOTRANSFORMATION; MOLECULAR CATALYSIS; CHEMCATCHEM; BIOPROCESS AND BIOSYSTEMS ENGINEERING; COMPUTATIONAL AND STRUCTURAL BIOTECHNOLOGY JOURNAL; BIOCHIMICA



BIOPHYSICA ACTA – PROTEINS AND PROTEOMICS; ENZYME MICROBIAL TECHNOLOGY; BEILSTEIN JOURNAL OF ORGANIC CHEMISTRY; CHIRALITY; ANALYTICAL CHEMISTRY

**2015-2017:** Deal Line-Up BioItaly Investment Forum, Intesa Sanpaolo StartUp Initiative, Milano (Italy). Invited expert for the assessment of the most innovative projects and start-ups in the Green/White Biotechnology sector

**2016-2019:** Lombardy Green Chemistry Association, Milano (Italy). Member of the Advisory Board and Representative of the Lombardy Universities and Research Centers

**2018-2019:** co-guest editor for CATALYSTS, special issue “Immobilization of enzymes”. Articles published: 23

**2021-2023:** co-guest editor for CATALYSTS, special issue: “Biocatalysis in non-conventional media”. Articles published: 3

**2022-2023:** co-guest editor for FRONTIERS IN CATALYSIS, special issue: “Flow biocatalysis as a powerful tool in sustainable and efficient organic synthesis”. Articles published: 3

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