

CV Alberto Venturelli PhD (Associate Professor in Medicinal Chemistry CHEM 07/A)

Education

2004: PhD in Medicinal Chemistry, University of Modena and Reggio Emilia, Italy. 2003: Marie Curie Fellowship, School of Chemistry, University of Exeter (UK) (Dr. Adrian Dobbs). 2001: Graduate visiting student, Northwestern University Medical School, Department of Molecular Pharmacology and Biological Chemistry, Chicago Illinois (USA) (Dr. Brian K. Shoichet). 1999: Graduate visiting student, Imperial College of Science, Technology and Medicine, London, UK (Dr. Katherine Brown). 1999: Advanced training course in "Laboratory methodologies for drug research" Department of Pharmaceutical Sciences, University of Modena and Reggio Emilia (Italy). 1999: Master Degree in Medicinal Chemistry (Life Sciences), University of Modena and Reggio Emilia (Italy).

Brief Chronology of Employment

2023 to present: Associate Professor in Medicinal Chemistry (CHEM07/A), Department of Life Sciences University of Modena and Reggio Emilia (Italy). 2020-2023: Tenure-track Assistant Professor in Medicinal Chemistry (CHIM08), Department of Life Sciences, University of Modena and Reggio Emilia, (Italy). 2020-2010: scientific responsible at TYDOCK PHARMA Srl, University spin off, Modena (Italy). 2000-2010: Research assistant at the Department of Life Science, University of Modena and Reggio Emilia, Modena (Italy).

Teaching activity

- LMF-48 *Analysis of Medicine II*. Single-Cycle Master Degrees (5 years): PHARMACY (D.M. 270/04) Department of Life Sciences, University of Modena and Reggio Emilia, Modena (Italy).
- LMCTF-63 *Innovative biotechnology drugs*. Single-Cycle Master Degrees (5 years): Pharmaceutical chemistry and technology (D.M. 270/04) Department of Life Sciences University of Modena and Reggio Emilia, Modena (Italy).

Main Research Interests

The main research interests focus on the study of the interaction between small ligands and macromolecules involved in cell hyperproliferation such as tumour diseases and bacterial and parasitic infections. The main targets studied are Thymidylate synthases (the design and development of inhibitors with antitumor activity), Serine and metallo beta-lactamases (the design and development of inhibitors), Decaprenylphosphoryl- β -d-ribose 2'-epimerase (DprE1) (the design and development of inhibitors as antitubercular drugs), Pteridine reductase 1 (PTR1) (the design and development of inhibitors that act as antiparasitic drugs), and Yes-associated protein/transcriptional enhancer associate domain (YAP/TEAD) (the design and synthesis of allosteric inhibitors as antitumor

drugs). In particular, I deal with all aspects related to the chemical synthesis and chemical characterisation of small molecules within the lead-to-hit and lead-optimization drug discovery programs. Working within a highly qualified team of multidisciplinary experts, I have acquired knowledge involving all aspects of the entire drug discovery process. In carrying out my research, I apply chemical-physical methodologies such as drug design, chemical design and synthesis, and screening of molecular libraries for the selection of drug candidates. My investigative methodologies include NMR, mass spectrometry, and isothermal titration calorimetry. The applied synthetic methods include parallel synthesis in both solid and liquid phases, and classical and microwave synthesis.

Participation in national and international research projects

- 2023-2025 “YAP-TEAD impairment to target the Hippo pathway induced cancer cell growth (TEAD-I3T)”. Progetto 2022WYAZ47 – CUP E53D23001480006 - NATIONAL RESTARTMENT AND RESILIENCE PLAN (NRP) - Mission 4 - From Research to Enterprise -Investment 1.1 Fund for the National Research Program (NRP) and Research Projects of Significant National Interest (PRIN)” funded by the European Union - NextGenerationEU - ref.D.D. No. 104 of 02/02/2022
- 2022-2027 “Thymidylate synthase dimer disrupters induce DNA damage halt cell growth overcome drug Resistance in colorectal cancer” AIRC (Associazione Italiana per al Ricerca sul Cancro) project AIRC2021-IG25785.
- 2022 – 2026 “One Health drugs against parasitic vector borne diseases in Europe and beyond (OneHealthdrugs)” European COST Action (CA21111). European Commission (Brussels, BE) URL: <https://www.cost.eu/actions/CA21111/> Part of GRANT_NUMBER: CA21111.
- 2021- 2023 “TEAD ligands prevent YAP binding and combat colorectal cancer growth and resistance” University Research Fund 2021 - Call for funding for interdisciplinary research projects Mission Oriented – UNIMORE “TEAD ligands prevent YAP binding and combat colorectal cancer growth and resistance”. FAR2021INTERM_O_UNIM.
- 2019 Coordinator of the European project H2020-SME INST-854590_Tydo-Stimulant.
- 2014-2017 Partner to the European project FP7 PILOT ABP “Pilot plant for environmentally friendly animal by- product industries” FP7-ENV-2013.6.3-2 GRANT AGREEMENT 603986.
- 2013-2014 Partner to the European project “Dai Distretti Produttivi ai Distretti Tecnologici – 2: Interventi per il rafforzamento dell’orientamento tecnologico dei distretti produttivi dell’Emilia- Romagna”, Distretto 5-Farmaceutica e Biotecnologie RETE D IMPRESA GTR.
- 2013-2014 Coordinator of the Regional project “Dai Distretti Produttivi ai Distretti Tecnologici – 2Distretto 5-Farmaceutica e Biotecnologie RETE D IMPRESA NEW POLI PHARMA NET 2012-2015 Coordinator of the European project OPTObacteria “Multianalyte Automatic System For The Detection Of Drug Resistant Bacteria” (TYDOCK PHARMA S.r.l.). SP4-Capacities Research for the benefit of specific groups. FP7-SME-2011 Grant Agreement Number 286998.
- 2011-2016 Partner to the European project MM4TB “More Medicines for tuberculosis” FP7-HEALTH- 2010 SINGLE STAGE- SP1 Cooperation Collaborative project Grant Agreement number 260872.

- 2014-2018 Partner of the European project NMTryp “ “New Medicine for Trypanosomatidic Infection” FP7-HEALTH-2013-INNOVATION-1 HEALTH.2013.2.3.4-2 Drug development for neglected parasitic diseases. CP-FP Collaborative Project- Small or medium-scale focused research project. Grant Agreement number: 603240-2.
- 2009-2010 Coordinator of the National project “SMART” (Specie Specificity Management in Resistant infectious diseases targeting Thymidylate synthase) coordinato per conto di TYDOCK PHARMA approvato dal Consorzio EUROTRANSBIO (EUROpean network of TRANSnational collaborative Research and Development for SME projects in the field of BIOtechnology). Project number A20/1919/1/X13.

Publications

Over 45 scientific publications, 1 book chapter and many posters presentation at national and international congresses.

Granted Patents

- Costantino, Luca; Costi, Maria Paola; Ponterini, Glauco; Gaetano, Marverti; Franchini, Silvia; Tondi, Donatella; D’Arca, Domenico; Ferrari, Stefania; Luciani, Rosaria; Venturelli, Alberto; Sammak, Susan; Lauriola, Angela; Gozzi, Gaia: ANTICANCER DRUGS- Owner: UNIMORE, Italy, patent number 102015000088249 Granted 26 giugno 2018.
- Costi, MARIA PAOLA; Marverti, Gaetano; Cardinale, Daniela; Venturelli, Alberto; Ferrari, Stefania; Ponterini, Glauco: PEPTIDES BINDING TO THE DIMER INTERFACE OF THYMIDYLATE SYNTHASE FOR THE TREATMENT OFCANCER-US8916679 “B2 - *Granted patent as second publication*”.
- M.P.Costi, G.Ponterini, G.Marverti, D.Cardinale, A.Venturelli, S.Ferrari: PEPTIDES BINDING TO THE DIMER INTERFACE OF THYMIDYLATE SYNTHASE FOR THE TREATMENT OF CANCER- n.PCT/IB2009/055439.
- Costi MP, Wade R, Henrich S, D, Montejenues, Ferrari S, Venturelli A, Lazzari S, Guerrieri D., Nerini E.: USO DI INIBITORI DELLA PTERIDINA REDUTTASI PER LA PREVENZIONE E/O IL TRATTAMENTO DI INFEZIONI PARASSITARIE- patent n. MI2010A002191.
- Costi Maria Paola, Venturelli Alberto, Hartkoorn Ruben, Neres Jao, Cole Stewart, Farina Davide Salvatore Francesco, Ferrari Stefania: QUINOXALINE DERIVATIVES AS ANTITUBERCULOSIS AGENTS- MI2014A001983 2014.
- Pellati Federica, Mascolo Danilo, Venturelli Alberto, Barbato Amedeo, Righi Davide, Castaldi Paco: NUOVO TRATTAMENTO ASSISTITO DA MICROONDE PER LA PRODUZIONE DI MISCELE ARRICCHITE IN POLICOSANOLI DA MATRICI CEROSE- n. PCT/IB2015/051432.
- Venturelli Alberto, Costi Maria Paola, Pecorari Piergiorgio, Rossi Tiziana, Casolari Chiara, Tondi Donatella, Barlocco Daniela: NAPHTHOFURANONE DERIVATIVES AS SPECIFIC INHIBITORS OF THYMIDYLATE SYNTHASES- patent n. WO 2008/003510.

Recent Meetings organisation

- Member of the Organising Committee of the International Congress 'Recent Developments in Pharmaceutical Analysis' RDPA 2021-5-8 September 2021. www.rdpa2021.unimore.it
- Member of the Organising Committee of the International Congress *1st Meeting of the COST Action CA21111 "One Health drugs against parasitic vector borne diseases in Europe and beyond OneHealthdrugs"* 23-24 January 2023 Via San Geminiano 3, Modena, Italy.

Honours

- Scholarship Rotary "Club Val di Secchia" Study of new ligands for bacterial thymidylate synthases" (1999).
- "Basel Award 6th MipTec in Basel from 12 to 15 May 2003 at the Convention Center Basel. Best poster "Developing new beta-lactamase inhibitors through structure-based design and pharmacokinetic properties improvement." Alberto Venturelli, Brian Shoichet, Fabio Prati, Giuseppe Cannazza, Maria Paola Costi. MipTec The Leading European (2003).
- Marie Curie Fellowship University of Exeter, School of Chemistry Exeter UK, Dr. Adrian Dobbs. " Total synthesis of Ircinia sulphonic acid as a natural agent capable of reversing multidrug resistance in vincristine-treated cancer cell lines" (2003).
- Spinner award for regional competition nell'ambito del trasferimento tecnologico, Emilia Romagna, registered on 16/06/2006 n. 468/III.2004 (2004).
- Project award "StarCup Modena e Reggio Emilia" for the establishment of an academic spin-off by aspiring entrepreneurs and start-up. Fondazione Cassa di Risparmio di Carpi. Award for Tydock Pharma (2005).
- ICE recommendation (National Institute for Foreign Trade) which ranked Tydock Pharma among the 15 most established and promising spin-offs in Italy Italian Trade Commission in New York (ICE Report 2009).
- Winner of the competition for allocation of teaching within the SMART HEATH 2.0 Education PON 04a2_C project to conduct 2 hours of teaching within module S-C-S-2. Title: The OPTObacteria project (2014).
- Faculty of 1000 RECOMMENDATIONS "2-carboxyquinoxalines kill mycobacterium tuberculosis through noncovalent inhibition of DprE1". ACS Chem Biol. 2015 Mar 20;10(3):705-14. doi: 10.1021/cb5007163. Epub 2014 Dec 9 (2014).

Technological transfer actions

- Eligibility for the Spinner Global Grant (Spinner point of Modena, Italy) within the framework of "Innovative entrepreneurial idea with a high knowledge content" for the creation of the Spin off TYDOCK. Spinner Global Grant -Services for the promotion of innovation and research Action1 "Economy of Knowledge". Measure D3, Measure D4 of the P.O.R.-Objective 3 ESF

Emilia Romagna 2000/2006. Registered on 16/06/2006 under no. 468/III (Notice published in BUR- RER part III no. 95 of 02/07/2003).

- Second prize for the project TYDOCK at the "StarCup Modena e Reggio Emilia" competition (competition for innovative ideas and projects of aspiring entrepreneurs and new businesses by Fondazione Cassa di Risparmio di Carpi, Modena (Italy)).
- Participation at the national innovation competition (PNI) held in Padua on 16/12/05 obtaining first place at regional level (<http://www.premioinnovazione.it/>).
- Establishment of the Academic Spin-Off TYDOCK PHARMA (Founding member, scientific director and President from 17 July 2006 to September 2020). Approved by the University's Board of Directors University of Modena and Reggio Emilia, Modena (Italy) on 28 June 2006. The spin-off was established on 17 July 2006 in Modena (Italy).
- ICE recommendation (Italian National Institute for Foreign Trade), which ranked Tydock Pharma among the 15 most established and promising spin-offs in Italy Italian Trade Commission in New York [ICE Report 2009].
- Italian Ministry of Education, University and Research acknowledgement to the spin-off TYDOCK PHARMA srl for winning the European project OPTObacteria FP7-SME-2011 Grant Agreement Number 286998 (Directorial Decree no. 1783/ric of 2 October 2013 art. 16, paragraph 6, of Ministerial Decree no. 593 of 08/08/00).
- Invited lecture "case history" at BUGNION Milan MI. Title: Alberto Venturelli. Tydock Pharma - Drug discovery and biotech: a start up case history. NEW BOUNDARIES AND STRATEGIES FOR BIOTECH PATENTS IN EUROPE AND THE U.S. The aftermath of Myriad - Patentability requirements at the EPO The never-ending story of the Unified Patent. 18 March 2015, Milan (Italy).

Modena 2/09/2024