

Alessandro Angelini

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Education

- 04/2008 **Ph.D., Biochemistry and Biotechnology**, University of Padua, Italy
03/2004 **M.Sc., Biotechnology**, *Cum Laude*, University of Padua, Italy

Research activity

- 02/2020-present **Associate Professor of Biochemistry**, Ca' Foscari University of Venice, Italy
02/2017-01/2020 **Tenure track Assistant Professor**, Ca' Foscari University of Venice, Italy
02/2012-8/2016 **Postdoctoral researcher**, Massachusetts Institute of Technology (MIT), Cambridge, MA, USA
"Directed evolution of multispecific therapeutic proteins"
Supervisor: Prof. ██████████
11/2008-11/2011 **Postdoctoral researcher**, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland
"Development of phage-encoded bicyclic peptides antagonists"
Supervisor: Prof. ██████████
01/2005-04/2008 **Ph.D. student**, University of Padua, Italy
"Structural characterization of Cag proteins from the pathogenicity island of *Helicobacter pylori*"
Supervisor: Prof. ██████████

Visiting scholar activities

- 05/2017-01/2018 **Visiting Scientist** in the laboratory of Prof. Gabriel D. Victora
The Rockefeller University, New York, NY, USA
05/2008-10/2008 **Visiting Postdoctoral researcher** in the laboratory of Dr. Darren Hart
European Molecular Biology Laboratory (EMBL), Grenoble, France
02/2006-03/2007 **Visiting Ph.D. student** in the Laboratory of Dr. Laurent Terradot
European Synchrotron Radiation Facility (ESRF), Grenoble, France

Funding research project

- 2021 *Fondo integrativo speciale per la ricerca (FISR) – bando 2020*
Head of the operating unit of Venice – 6 months funding
2020 *Progetto di Ricerca Corrente – Ministero della salute – bando 2020*
Head of the operating unit of Venice – 2 years funding
2020 *Progetto di Ricerca Finalizzata – Ministero della salute – bando 2019*
Head of the operating unit of Venice – 3 years funding
2020 *Fondazione Cariparo - Progetti di Ricerca su COVID-19*
Head of the operating unit of Venice – 9 months funding
2019 *Progetti di Ricerca di Rilevante Interesse Nazionale (PRIN) – bando 2017*
Head of the operating unit of Venice – 3 years funding

Individual fellowships and research awards

2019	“Premio alla Ricerca 2018” – Award for best researcher at the Ca’ Foscari University of Venice for the category “Consolidator”
2014	Ludwig Foundation for Cancer Research Postdoctoral Fellowship (2 years funding)
2013	Samsung Electronics Co. Ltd. Founds for Research Projects (1 year funding)
2012	Swiss National Science Foundation (SNSF) Fellowship for Advanced Researcher (18 months funding)
2006	Engineer Aldo Gini Foundation Fellowship for Undergraduate Student (6 months funding)

Publications

- Pluda S., Mazzocato Y. and A. **Angelini*** (2021). “Peptide-based inhibitors of ADAM and ADAMTS metalloproteinases”. *Frontiers in Molecular Biosciences*. 8, 703715
- Moro G., Chiavaioli F., Liberi S., Zubiato P., Del Villar I., **Angelini A.**, De Wael K., Baldini F., Moretto L.M. and A. Giannetti (2021). “Nanocoated fiber label-free biosensing for perfluorooctanoic acid detection by lossy mode resonance”. *Results in Optics*. 5, 100123
- Maso L., Trande M., Liberi S., Moro G., Daems E., Linciano S., Sobott F., Covaceuszach S., Cassetta A., Fasolato S., Moretto L.M., De Wael K., Cendron L. and A. **Angelini*** (2021). “Unveiling the binding mode of perfluorooctanoic acid to human serum albumin”. *Protein Science*. 30, 830-41
- Daems E., Moro G., Berghmans H., Moretto L.M., Dewilde S., **Angelini A.**, Sobott F. and K. De Wael (2021). “Native mass spectrometry for the design and selection of protein bioreceptors for perfluorinated compounds”. *Analyst*. 146, 2065-73
- Mothukuri G.K., Kale S.S., Stenbratt C.L., Zorzi A., Vesin J., Bortoli Chapalay J., Deyle K., Turcatti G., Cendron L., **Angelini A.** and C. Heinis (2020). “Macrocyclic synthesis strategy based on step-wise "adding and reacting" three components enables screening of large combinatorial libraries”. *Chemical Science*. 11, 7858-63
- Moro G., Bottari F., Liberi S., Covaceuszach S., Cassetta A., **Angelini A.**, De Wael K. and L.M. Moretto (2020). “Covalent immobilization of delipidated human serum albumin on poly(pyrrole-2-carboxylic) acid film for the impedimetric detection of perfluorooctanoic acid”. *Bioelectrochemistry*. 134, 107540
- Mesin L., Schiepers A., Ersching J., Barbulescu A., Battaglioni Cavazzoni C., **Angelini A.**, Okada T., Kurosaki T. and G. D. Victora (2020). “Restricted clonality and limited germinal center reentry characterize memory B cell reactivation by boosting”. *Cell*. 180, 92-106
- Linciano S., Pluda S., Bacchin A. and A. **Angelini*** (2019). “Molecular evolution of peptides by yeast surface display technology”. *Medicinal Chemistry Communications*. 10, 1569-80
- Kale S.S., Bergeron-Brlek M., Wu Y., Kumar M.G., Pham M.V., Chapalay J.B., Vesin J., Kong X., Machado J.F., Deyle K., Gonschorek P., Turcatti G., Cendron L., **Angelini A.** and C. Heinis (2019). “Thiol-to-amine cyclization reaction enables screening of large libraries of macrocyclic compounds and the generation of sub-kilodalton ligands”. *Science Advances*. 5, eaaw2851
- Zorzi A., Linciano S. and A. **Angelini*** (2019). “Non-covalent albumin-binding ligands to extend the circulating half-life of small biotherapeutics”. *Medicinal Chemistry Communications*. 10, 1068-81
- **Angelini* A.**, Miyabe Y., Newsted D., Kwan B.H., Kelly R.L., Miyabe C., Jamy M.N., Luster A.D. and K.D. Wittrup (2018). “Directed evolution of broadly crossreactive chemokine-blocking antibodies efficacious in a murine model of arthritis”. *Nature Communications*. 9, 1461

- Kwan B.H., Zhu E.F., Tzeng A., Sugito H.R., Eltahir, A.A., Ma B., Delaney M.K., Murphy P.A., Kauke M.J., **Angelini A.**, Maragh A.M., Hynes R.O., Dranoff G., Cochran, J.R. and K.D. Wittrup (2017). “Integrin-targeted cancer immunotherapy elicits protective adaptive immune responses”. *Journal of Experimental Medicine*. 214, 1679-90
- **Angelini A.**, Chen T.F., De Picciotto S., Yang N.J., Tzeng A., Santos M.S., Van Deventer J.A., Traxlmayr M.W. and K.D. Wittrup (2015). “Protein engineering and selection using yeast surface display”. *Methods in Molecular Biology*. 1319, 3-36
- Pasqual G., **Angelini A.** and G.D. Victora (2015). “Triggering positive selection of germinal centre B cells by antigen targeting to DEC-205”. *Methods in Molecular Biology*. 1291, 125-34
- Zhu E.F., Gai S.A., Opel C.F., Kwan B.H., Surana R., Mihm M.C., Kauke M.J., Moynihan K.D., **Angelini A.**, Williams R.T., Stephan M.T., Kim J.S., Yaffe M.B., Irvine D.J., Weiner L.M., Dranoff G., K.D. Wittrup (2015). “Synergistic innate and adaptive immune response to combination immunotherapy with anti-tumor antigen antibodies and extended serum half-life IL-2”. *Cancer Cell*. 27, 489-501
- Burg J.S., Ingram J.R., Venkatakrisnan A.J., Jude K.M., Dukkipati A., Feinberg E.N., **Angelini A.**, Waghray D., Dror R.O., Ploegh H.L. and K.C. Garcia (2015). “Structural basis for chemokine recognition and activation of a viral G protein-coupled receptor”. *Science*. 347, 1113-7
- Pollaro L., Raghunathan S., Morales-Sanfrutos J., **Angelini A.**, Kontos S. and C. Heinis (2015). “Bicyclic peptides conjugated to an albumin-binding tag diffuse efficiently into solid tumors”. *Molecular Cancer Therapeutics*. 14, 151-61
- Chen S., Bertoldo D., **Angelini A.**, Pojer F. and C. Heinis (2014). “Peptide ligands stabilized by small molecules”. *Angewandte Chemie International Edition*. 53, 1602-6
- Adalsteinsson V., Tahirova N., Tallapragada N., Yao X., Campiom L., **Angelini A.**, Douce T., Huang C., Kwon D., Wittrup K.D. and J.C. Love (2013). “Single cells from human primary colorectal tumors exhibit polyfunctional heterogeneity in secretions of ELR positive CXC chemokines”. *Integrative Biology*. 5, 1272-81
- Rentero Rebollo I., **Angelini A.** and C. Heinis (2013). “Phage display libraries of differently sized bicyclic peptides”. *Medicinal Chemistry Communications*. 4, 145-50
- **Angelini A.**, Morales-Sanfrutos J., Diderich P., Chen S. and C. Heinis (2012). “Bicyclization and tethering to albumin yields long-acting peptide antagonists”. *Journal of Medicinal Chemistry*. 55, 10187-97
- **Angelini A.**, Diderich P., Morales-Sanfrutos J., Thurnheer S., Hacker D., Menin L. and C. Heinis (2012). “Chemical macrocyclization of peptides fused to antibody Fc fragments”. *Bioconjugate Chemistry*. 23, 1856-63
- Salvi N., Buratto A., Bornet A., Ulzega S., Rentero Rebollo I., **Angelini A.**, Heinis C. and G. Bodenhausen (2012). “Boosting the sensitivity of ligand-protein screening by NMR of long-lived states”. *Journal of the American Chemical Society*. 134, 11076-9
- Pollaro L., Diderich P., **Angelini A.**, Bellotto S., Wegner H. and C. Heinis (2012). “Measuring net protease activities in biological samples using selective peptidic inhibitors”. *Analytical Biochemistry*. 427, 18-20
- Chen S., Morales-Sanfrutos J., **Angelini A.**, Cutting B. and C. Heinis (2012). “Structurally diverse cyclisation linkers impose different backbone conformations in bicyclic peptides”. *ChemBioChem*. 13, 1032-8
- **Angelini A.**, Cendron L., Chen S., Touati J., Winter G., Zanotti G. and C. Heinis (2012). “Bicyclic peptide inhibitor reveals large contact interface with a protease target”. *ACS Chemical Biology*. 7, 817-21
- **Angelini A.** and C. Heinis (2011). “Post-translational modification of genetically encoded polypeptide libraries”. *Current Opinion in Chemical Biology*. 15, 355-61

- Touati J., **Angelini A.**, Hinner M.J. and C. Heinis (2011). “Enzymatic cyclisation of peptides with a transglutaminase”. *ChemBioChem*. 12, 38-42
 - **Angelini A.**, Cendron L., Seydel A., Barison N., Battistutta R. and G. Zanotti (2009). “Towards the understanding of molecular aspects of *Helicobacter pylori* cag-PAI”. Book Title: Synchrotron Radiation and Structural Proteomics, *Pan Stanford Series on Nanobiotechnology*. Edited by C. Riekel and E. Pechkova
 - Barison N., Cendron L., Trento A., **Angelini A.** and G. Zanotti (2009). “The structural and mutational analysis of TenA protein (HP1287) from the *Helicobacter pylori* thiamin salvage pathway-evidence of a different substrate specificity”. *FEBS Journal*. 276, 6227-35
 - **Angelini A.**, Tosi T., Mas P., Acajjaoui S., Zanotti G., Terradot L. and D.J. Hart (2009). “Expression of *Helicobacter pylori* CagA domains by library-based construct screening”. *FEBS Journal*. 276, 816-24
 - Cendron L., Couturier M., **Angelini A.**, Barison N., Stein M. and G. Zanotti (2009). “The *Helicobacter pylori* CagD (HP0525, Cag24) protein is essential for CagA translocation and maximal induction of interleukin-8 secretion”. *Journal of Molecular Biology*. 386, 204-17
 - **Angelini A.**, Cendron L., Goncalves S., Zanotti G. and L. Terradot (2008). “Structural and enzymatic characterisation of HP0496, a YbgC thioesterase from *Helicobacter pylori*”. *Proteins*. 72, 1212-21
 - Cendron L., Tasca E., Seraglio T., Seydel A., **Angelini A.**, Battistutta R., Montecucco C. and G. Zanotti (2007). “The crystal structure of CagS from the *Helicobacter pylori* pathogenicity island”. *Proteins*. 69, 440-3
 - Cendron L., Seydel A., **Angelini A.**, Battistutta R. and G. Zanotti (2004). “Crystal structure of CagZ, a protein from the *Helicobacter pylori* pathogenicity island that encodes for a type IV secretion system”. *Journal of Molecular Biology*. 340, 881-9
- * = Corresponding author; IF = Impact Factor; ORCID identifier: 0000-0001-5923-3843.

Patent applications

- “Multiple specificity binders of CXC chemokines and uses thereof”. Inventors: **Angelini A.**, Luster A.D. and K.D. Wittrup. *Publication number*: WO2019036605;
- “Generation of a selective urokinase-type plasminogen activator (uPA) inhibitor based on a bicyclic peptide”. Inventors: **Angelini A.**, Winter G. and C. Heinis. *Application number*: EP20110250671.

Academic activities

- 10/2017 – present: faculty board member of the “*Research Evaluation Panel*” for the Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice;
- 03/2018 – present: faculty board member of the bachelor’s (B.Sc.) and master’s (M.Sc.) degree programs in “*Sustainable Chemistry and Technologies*” at the Ca' Foscari University of Venice;
- 02/2019 – present: faculty board member of the master’s (M.Sc.) degree program in “*Science and Technology of Bio and Nanomaterials*” at the Ca' Foscari University of Venice.

Teaching experience

- 2017 – present: course leader of “*Biochemistry*” (6 CFU) at the Ca' Foscari University of Venice
- 2018 – present: course leader of “*Biomacromolecular Engineering*” (6 CFU) at the Ca' Foscari University of Venice
- 2018 – 2020: course leader of “*Chemical Biology*” (6 CFU) at the Ca' Foscari University of Venice
- 2019 – present: course leader of “*Biotherapeutics and Technologies*” (8 CFU) at the Ca' Foscari University of Venice