CURRICULUM VITAE ET STUDIORUM OF ALICE BIASIN, Dr. MD, PhD

Personal data

Surname, Name: Biasin, Alice

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1) Education

November 2021 – October 2024: PhD in Chemistry at the University of Trieste (Italy), awarded with the *Doctor Europaeus* distinction for meeting European doctoral mobility and evaluation criteria.

Thesis title: "Rheological and Low Field NMR properties of hepatic tissue and polymeric gels in the study of deubiquitinase inhibitors against liver fibrosis". Supervisor: Prof. Mario Grassi (email: mario.grassi@dia.units.it) and co-supervisors: Prof. Gabriele Grassi (email: ggrassi@units.it), Dott. Barbara Toffoli, Dott. Michela Abrami, Prof. Dario Voinovich.

November 2021: Qualified pharmacist, Italian State examination.

March 2021: Master's degree in Pharmaceutical Chemistry and Technology (LM-13) at the University of Trieste (Italy).

Thesis title: "Transcriptional analysis of the genes involved in the inflammatory response following oral intake of a controlled-release formulation containing a lipophilic extract of ginger (Zingiber officinale)". Supervisor: Prof. Dario Voinovich (email: vojnovic@units.it) and co-supervisor: Dott. Roberto Verardo.

Graduation mark: 110/110 cum laude

2) Job experiences

November 2024 – Present: Post-doctoral research fellow at the University of Trieste. Research project focusing on the study of a new therapeutic approach against liver fibrosis. Scientific coordinator: Prof. Gabriele Grassi (email: ggrassi@units.it).

November 2021 – October 2024: Doctoral researcher at the University of Trieste. Research activities in the laboratory of Prof. Gabriele Grassi in Cattinara Hospital (cellular, molecular, and clinical diagnostic biology) and in the laboratory of Prof. Mario Grassi in the Department of Engineering and Architecture (rheological and LF-NMR analysis).

October 2023 – February 2024: Research traineeship abroad, in RWTH Uniklinik Aachen (Germany) with an European doctoral mobility. Project funded by Esarmus+ Program. Project title: "Novel molecular approach to liver fibrosis". Supervisor: Prof. Ralf Weiskirchen (email: rweiskirchen@ukaachen.de).

March 2022 and March 2023: Tutoring activities in didactic laboratory classes of Pharmaceutical Technology at the University of Trieste with Prof. Dario Voinovich.

August 2020 – March 2021: Experimental thesis internship at the University of Trieste with the supervisor Prof. Dario Voinovich and the co-supervisor Dott. Roberto Verardo. Molecular biology experiments regarding the anti-inflammatory properties of ginger.

December 2019 – July 2020: Professionalizing internship in the private pharmacy Biasoletto "All'Orso Nero" in Trieste (Via Roma, 16, 34132 Trieste TS, Italy).

July 2019 – September 2019: Professionalizing internship in the hospital pharmacy of the "Ospedale Santa Maria degli Angeli" in Pordenone (Via Montereale, 24, 33170 Pordenone PN, Italy).

Research Fields:

- Transcriptional analysis of the genes involved in the inflammatory response following oral intake of of ginger (*Zingiber officinale*)
- LF-NMR characterization of cystic fibrosis patients' sputum
- Rheological characterization of healthy and fibrotic hepatic tissue
- Design of hydrogels with rheological characterization and Low Field-NMR analysis, to obtain *in vitro* models for cell culturing
- Cell cultures (liver cell lines) with 2D- and 3D-systems and subsequent molecular characterization
- Study of novel compounds (deubiquitinase inhibitors) for liver fibrosis with different *in vitro* models

The research activity has been done using the following techniques:

Molecular Biology:	RNA extraction from cells and tissues; RT-qPCR; electrophoresys gel; protein extraction and quantification; Western Blot
Cell Biology:	Stabilized cell cultures maintaining; viability tests; staining techniques; principles of 3D cell cultures
Physical chemistry:	Rheological characterization of living tissues and hydrogels; LF-NMR analysis of biological samples and hydrogels

3) Papers

- M. Abrami, M. Maschio, M. Conese, M. Confalonieri, F. Salton, F. Gerin, B. Dapas, R. Farra, A. Adrover, G. Milcovich, C. Fornasier, A. Biasin, G. Grassi, M. Grassi. Effect of chest physiotherapy on cystic fibrosis sputum nanostructure: an experimental and theoretical approach. Drug Deliv Transl Res. 2022 Aug;12(8):1943-1958. doi: 10.1007/s13346-022-01131-8.

- M. Grassi, I. Colombo, D. Manca, A. Biasin, L. Grassi, G. Grassi, M. Abrami. Multiscale mathematical modelling of drug activation by co-grinding. Chemical Engineering Science. 2022 Sep;263(3471):118073. doi: 10.1016/j.ces.2022.118073

- P. Losurdo, N. de Manzini, S. Palmisano, M. Grassi, S. Parisi, F. Rizzolio, D. Tierno, A. Biasin, C. Grassi, N.H. Truong, G. Grassi. Potential Application of Small Interfering RNA in Gastro-Intestinal Tumors. Pharmaceuticals (Basel). 2022 Oct 20;15(10):1295. doi: 10.3390/ph15101295.

- G. Staltari, A. Biasin, L. Grassi, F. Gerin, M. Maschio, M. Confalonieri, G. Grassi, M. Grassi, M. Abrami. Rheological and Low Field NMR Characterisation of Cystic Fibrosis Patient's Sputum. Chemical and Biochemical Engineering Quarterly. 2022 Nov 21;36(4):239-253. doi: 10.15255/CABEQ.2022.2119.

- M. Abrami, F. Bignotti, F. Baldi, G. Spagnoli, A. Biasin, L. Grassi, G. Grassi, M. Grassi. Rheological and Low Field NMR characterization of Hydrophobically-Modified PEG Hydrogels for drug delivery. International Journal of Pharmaceutics. 2023 Mar 21;122882. doi: 10.1016/j.ijpharm.2023.122882.

- T. Jesenko, S.K. Brezar, M. Cemazar, A. Biasin, D. Tierno, B. Scaggiante, M. Grassi, C. Grassi, B. Dapas, N.H. Truong, M. Abrami, F. Zanconati, D. Bonazza, F. Rizzolio, S. Parisi, G. Pastorin, G. Grassi. Targeting Non-Coding RNAs for the Development of Novel Hepatocellular Carcinoma Therapeutic Approaches. Pharmaceutics. 2023;15:1249. doi: 10.3390/pharmaceutics15041249.

- R. Mancino, D. Caccavo, A.A. Barba, G. Lamberti, A. Biasin, A. Cortesi, G. Grassi, M. Grassi, M. Abrami. Agarose Cryogels: Production Process Modeling and Structural Characterization. Gels. 2023 Sep 20;9(9):765. doi: 10.3390/gels9090765.

- M. Abrami, A. Biasin, F. Tescione, D. Tierno, B. Dapas, A. Carbone, G. Grassi, M. Conese, S. Di Gioia, D. Larobina, M. Grassi. Mucus Structure, Viscoelastic Properties, and Composition in Chronic Respiratory Diseases. Int J Mol Sci. 2024 Feb 5;25(3):1933. doi: 10.3390/ijms25031933.

- M. Maddaloni, R. Farra, B. Dapas, F. Felluga, F. Benedetti, F. Berti, S. Drioli, M. Vidali, M. Cemazar, U. Kamensek, C. Brancolini, E. Murano, F. Maremonti, M. Grassi, A. Biasin, F. Rizzolio, E. Cavarzerani, B. Scaggiante, R. Bulla, A. Balduit, G. Ricci, G. Zito, F. Romano, S. Bonin, E. Azzalini, G. Baj, D. Tierno, G. Grassi. In Vitro and In Vivo Evaluation of the Effects of Drug 2c and Derivatives on Ovarian Cancer Cells. Pharmaceutics. 2024 May 15;16(5):664. doi: 10.3390/pharmaceutics16050664.

- A. Biasin, F. Pribac, E. Franceschinis, A. Cortesi, L. Grassi, D. Voinovich, I. Colombo, G. Grassi, G. Milcovich, M. Grassi, M. Abrami. The Key Role of Wettability and Boundary Layer in Dissolution Rate Test. Pharmaceutics. 2024;16(10):1335. doi: 10.3390/pharmaceutics16101335.

- F. Tonon, C. Grassi, D. Tierno, A. Biasin, M. Grassi, G. Grassi, B. Dapas. Non-Coding RNAs as Potential Diagnostic/Prognostic Markers for Hepatocellular Carcinoma. International Journal of Molecular Sciences. 2024; 25(22):12235. doi:10.3390/ijms252212235.

- R. Weiskirchen, S. Weiskirchen, C. Grassi, B. Scaggiante, M. Grassi, D. Tierno, A. Biasin, N.H. Truong, T.D. Minh, M. Cemazar, G. Pastorin, F. Tonon, G. Grassi. Recent advances in optimizing siRNA delivery to hepatocellular carcinoma cells. Expert Opinion on Drug Delivery. 2025; 22(5):729-745. doi: 10.1080/17425247.2025.2484287.

- M. Abrami, A. Biasin, M. Maschio, M. Conese, M. Confalonieri, F. Gerin, F. Salton, P. Confalonieri, B. Ruaro, R. Casalaz, C. Venditti, D. Tierno, G. Grassi, M. Grassi. Indirect evaluation of lung condition by means of LF-NMR following chest physiotherapy or ETI administration in cystic-fibrosis patients. Heart & Lung. 2025; S0147-9563(25)00157-8. doi:10.1016/j.hrtlng.2025.07.008.

4) National or international School/Workshop/Meeting (the presenting author is underlined)

- A. Biasin, L. Maggi, B. Perissutti, D. Hasa, I. Grabnar, R. Verardo, D. Voinovich. Lipophilic ginger extract in controlled-release tablets: pharmacokinetics and immunomodulatory effects; oral presentation, Gdansk 16-18th September 2021, 13th Central European Symposium on Pharmaceutical Technology.

- M. Abrami, M. Maschio, M. Conese, M. Confalonieri, F. Salton, F. Gerin, B. Dapas, R. Farra, A. Adrover, G. Milcovich, C. Fornasier, A. Biasin, G. Grassi, M. Grassi. Effect of cystic fibrosis sputum rheology on lungs drug delivery by inhalation; oral presentation. Seville 26-28th April 2022, 15th Annual European Rheology Conference.

- C. Fornasier, R. Farra, G. Milcovich, A. Biasin, N. Hai Truong, G. Grassi, M. Grassi, M. Abrami. Designing of polymeric gels mimicking the normal and fibrotic liver tissues: Effect of viscoelasticity on cells adhesion and survival; oral presentation. Seville 26-28th April 2022, 15th Annual European Rheology Conference.

- A. Biasin, M. Abrami, B. Toffoli, D. Voinovich, G. Grassi, M. Grassi. Designing of polymeric gels mimicking the normal and fibrotic liver tissues: effect of viscoelasticity on cells adhesion and survival; oral presentation. Trieste 28-30th June 2022, Summer Workshop Joint Doctoral Program in Chemistry University of Trieste and University Ca' Foscari of Venice.

- G. Grassi, M. Abrami, M. Maschio, M. Conese, M. Confalonieri, F. Gerin, A. Biasin, C. Grassi, M. Grassi. Monitoring sputum properties in cystic fibrosis patients by means of Low-Field NMR before after Kaftrio treatment; oral presentation. Genoa 5-7th October 2022, 54th National Congress of SIBIOC – Medicina di laboratorio. e-ISSN 0392-7091.

- A. Biasin, M. Abrami, M. Maschio, M. Conese, M. Confalonieri, F. Salton, F. Gerin, G. Grassi, M. Grassi. CF/COPD sputum structure and drug delivery by inhalation; oral presentation. Genoa 7-9th October 2022, CRS Italy Local Chapter.

- A. Biasin, M. Abrami, S. Palmisano, G. Grassi, M. Grassi. Rheological characterization of human hepatic tissue and polymeric gels in the study of liver fibrosis; oral presentation, 8-9th May 2023, European Young Rheologists Symposium 2023. ISBN 978-88-947444-0-8

- G. Grassi, M. Abrami, G. Morana, P. Ciet, S. Bertolo, M. Ros, M. Maschio, M. Conese, M. Confalonieri, F. Gerin, A. Biasin, D. Tierno, M. Grassi. Relation among cystic fibrosis sputum properties evaluated by low-field NMR with the bacterial load and the local inflammatory marker TNF-alfa; oral presentation, Roma 21-25th May 2023, Worldlab Euromedlab 2023. DOI 10.1515/cclm-2023-7056

- A. Biasin, G. Grassi, B. Toffoli, M. Abrami, D. Voinovich, M. Grassi. Rheological properties of human hepatic tissue and polymeric gels in the study of a novel molecular approach to liver fibrosis; oral presentation, Mestre 10-12th July 2023, Summer Workshop Joint Doctoral Program in Chemistry Università degli Studi di Trieste and Università Ca' Foscari Venezia.

- A. Biasin, F. Pribac, G. Milcovich, E. Franceschinis, D. Hasa, D. Voinovich, G. Grassi, M. Grassi, M. Abrami. Wettability and hydrodynamics key hallmarks on drugs' dissolution rate; poster, Trieste 11-13th September 2023, XXIII Adritelf Symposium.

- A. Biasin, G. Grassi, B. Toffoli, M. Abrami, D. Voinovich, M. Grassi. Rheological properties of hepatic tissue and polymeric gels in the study of a novel molecular approach to liver fibrosis; oral presentation, Trieste 26-28th June 2024, Summer Workshop Joint Doctoral Program in Chemistry Università degli Studi di Trieste and Università Ca' Foscari Venezia.

- A. Biasin, G. Grassi, B. Toffoli, M. Grassi. Deubiquitinase inhibitors as novel molecular approach to liver fibrosis; oral presentation, Trieste 7th July 2024, Diagnosis and Novel Treatments for Liver Fibrosis for the

Prevention of Hepatocellular Carcinoma, Università degli Studi di Trieste, Ministero degli affari esteri e della cooperazione internazionale, Lega Italiana per la Lotta contro i Tumori, Fondazione Italiana Fegato.

- S. Mezzasalma, M. Abrami, A. Biasin, G. Grassi, M. Grassi. Theoretical and experimental characterization of mucus, an important barrier for pulmonary delivery; poster, Bologna 8-12th July 2024, CRS 2024 World Annual Meeting and Expo, Controlled Release Society.

- G. Grassi, M. Abrami, A. Biasin, M. Maschio, M. Conese, M. Confalonieri, F. Gerin, C. Grassi, F. Salton, P. Confalonieri, B. Ruaro, M. Grassi. Indirect evaluation of lung function by means of LF-NMR following chest physiotherapy or kaftrio administration in cystic-fibrosis patients; oral presentation, Bologna 8-10th October 2024, 56st National Congress of SIBIOC – Medicina di Laboratorio.

- M. Abrami, A. Biasin, M. Maschio, M. Conese, M. Confalonieri, F. Gerin, F. Salton, P. Confalonieri, B. Ruaro, G. Grassi, M. Grassi. Indirect evaluation of lung condition by means of Low Field Nuclear Magnetic Resonance following chest physiotherapy or modulator drug administration in cystic fibrosis patients; oral presentation, Milan 4th-7th June 2025, 48th European Cystic Fibrosis Conference.

- A. Biasin, B. Toffoli, M. M. Talozzi, M. Abrami, D. Tierno, R. Weiskirchen, S. Maurer, S. Schroder, M. Grassi, G. Grassi. Investigating the mechanism of action of DUBs inhibitors against liver fibrosis; oral presentation, Ho Chi Minh City (Vietnam) 20th August 2025, Small molecule targeted therapies for liver fibrosis research updates - International Symposium.

5) Thesis

- A. Diana. Relatore: D. Voinovich. Correlatore: A. Biasin. Sistema lipidico innovativo a base di palmitoiletanolamide (PEA): aspetti tecnologici e farmacocinetici. Tesi di laurea sperimentale. Università degli Studi di Trieste, AA. 2020-2021.

- L. Pignatelli. Relatore: G. Grassi. Correlatori: D. Tierno, A. Biasin. Effetto di inibitori delle deubiquitinasi sull'attivazione delle cellule stellate epatiche. Tesi di Laurea Magistrale in Biotecnologie mediche, veterinarie e farmaceutiche. Università degli Studi di Trieste, AA. 2021-2022.

- F. Pribac. Relatore: M. Grassi. Correlatore: A. Biasin. Modellizzazione matematica della dissoluzione di particelle solide polidisperse in una fase liquida. Tesi di Laurea Magistrale in Ingegneria dei Materiali. Università degli Studi di Trieste, AA. 2022-2023.

- L. Silli. Relatore: G. Grassi. Correlatori: D. Tierno, A. Biasin. Evaluation of de-ubiquitinase inhibitors 2C and DUDC3 as anti-fibrotic agents. Tesi di Laurea Magistrale in Biotecnologie mediche, veterinarie e farmaceutiche. Università degli Studi di Trieste, AA. 2022-2023.

6) Organization of meetings/conferences

- Member of the organizing committee of "Organ fibrosis: multidisciplinary approach" meeting, Trieste 27th September 2022, Conference room Lega Navale Italiana (Molo Fratelli Bandiera 9, 34123 Trieste, Italy). Project number: VN21GR01-Italian Ministry of Foreign Affairs and International Cooperation.

- Member of the organizing committee of "Relationship between mucus structure and water magnetic relaxation: a link toward the use of LF-NMR to monitor the clinical conditions of COPD and CF patients" meeting, Trieste 9th June 2025, Cattinara Hospital (Strada di Fiume, 447, 34149 Trieste, Italy).
Project number: CUP J53D23002200006-PRIN Project.

7) Awards

- Scholarship award "Prof. Fulvio Rubessa", September 2024, Department of Chemical and Pharmaceutical Sciences, University of Trieste.

In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.

Place and date *Signature*

Trieste, 29/08/2025