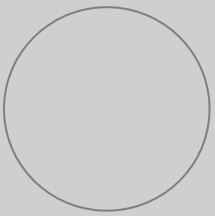
Dr. LUCIA MARRI



LANGUAGES
Italian, English and learning Danish

EDUCATION

29/05/2007
PhD in "Functional Biology of Cellular and Molecular Systems"
PhD School of Biology, Biomedicine and Biotechnology, University of Bologna.
PhD thesis: "*CP12: Instrinsically Unstructured Proteins regulating photosynthetic enzymes through protein-protein interactions*", Supervisor: Prof. P. Trost, Laboratory of Molecular Plant Physiology, University of Bologna.

17/12/2001
Master Degree in Industrial Biotechnology, University of Bologna.
Master thesis: "*cDNA microarray in studing rat cerebellar aging*", supervisor: Prof. A. Contestabile, Laboratory of Neurobiology, University of Bologna.

PROFESSIONAL EXPERIENCE

June 2022-ongoing
Senior Professional Application Scientist, AR Beverages at Novozymes, Copenhagen (DK)
Member of Sensory Panel, Diary and Plant-based Diary

2015-2022
Scientist at Carlsberg Research Laboratory, Copenhagen (DK) in Raw Material and Brewing Science and Technology platform.
Senior Trainee at Carlsberg Sensory Panel

2012-2015
PostDoc at Carlsberg Research Laboratory, Copenhagen, DK, in the group of Carbohydrate Chemistry, Prof. O Hindsgaul.

2012
Awarded of a EMBO short term fellowship for visiting the BIP (Bioenergetique et Ingenierie des Proteines)/CNRS, Marseille, FR, laboratory of prof. B Gontero (Jan-Mar).
- Project title: "*Thiol-based redox modification of Calvin cycle supramolecular complexes in plant and algae*".

2011
PostDoc at Carlsberg Research Laboratory, Copenhagen, DK, in the group of Enzymology, Prof. M Palcic (Sept-Dec).

2011
Qualification for the position of Researcher obtained from an open competition based on qualifications and examination at the CNR (Consiglio Nazionale delle Ricerche), Italy in "Technologies for Nanomedicine".

2007–2010
Research Grant holder at the Department of Biology, University of Bologna.

2009
Awarded of a "Marco Polo Fellowship" from the University of Bologna as a visiting scientist in the Laboratory of Plant Physiology, Dr. ME Salvucci at the USDA - Arid Land Agricultural Research Center (USDA-ARS, ALARC), Maricopa, AZ (USA) (Jan-Apr).

2004-2007
PhD student in the Laboratory of Molecular Plant Physiology, University of Bologna.
- PhD thesis: "*CP12: Instrinsically Unstructured Proteins regulating photosynthetic enzymes through protein-protein interactions*", Supervisor: Prof. P. Trost

2002-2003
Holder of a fellowship of the Italian Ministry of University and Research (MURST), Laboratory of Molecular Plant Physiology, Prof. P Pupillo, Department of Biology, University of Bologna.
- Project title: "*Regulation of gene expression of plant glyceraldehyde-3-phosphate dehydrogenses*".

2001
Master diploma student in the Laboratory of Neurobiology, Prof. A Contestabile, Department of Biology, University of Bologna.

2000
Summer student in the Department of Developmental Biology, Dr. T Bouwmeester's laboratory,

LIST OF PATENTS AND PUBLICATIONS on Peer Reviewed Scientific Journals

MONTI B, MARRI L, CONTESTABILE A (2002) NMDA receptor-dependent CREB activation in survival of cerebellar granule cells during in vivo and in vitro development. *Eur J Neurosci* **16**, 1490-1498

MARRI L, SPARLA F, PUPILLO P, TROST P (2005) Coordinated gene expression of photosynthetic glyceraldehyde-3-phosphate dehydrogenase, phosphoribulokinase and CP12 in Arabidopsis thaliana. *J Exp Bot* **56**, 73-80

MARRI L, TROST P, PUPILLO P, SPARLA F (2005) Reconstitution and properties of the recombinant glyceraldehyde-3-phosphate dehydrogenase/CP12/phosphoribulokinase supramolecular complex of Arabidopsis. *Plant Physiol* **139**, 1433-1443

TROST P, FERMANI S, MARRI L, ZAFFAGNINI M, FALINI G, SCAGLIARINI S, PUPILLO P, SPARLA F (2006) Thioredoxin-dependent regulation of photosynthetic glyceraldehyde-3-phosphate dehydrogenase: autonomous vs. CP12-dependent mechanisms. *Photosynth Res* **89**, 263-275

MARRI L, TROST P, GONNELLI L, PUPILLO P, SPARLA F (2008) Molecular properties of chloroplastic CP12 and its role in the assembling of a supramolecular complex of Calvin cycle enzymes. In *Photosynthesis. Energy from the Sun: 14th International Congress on Photosynthesis* (Allen JF,Gantt E, Golbeck JH & Osmond B, eds) pp. 881–884. © 2008 Springer

MARRI L, TROST P, TRIVELLI X, GONNELLI L, PUPILLO P, SPARLA F (2008). Spontaneous assembly of photosynthetic supramolecular complexes as mediated by the intrinsically unstructured protein CP12. *J Biol Chem* **283**, 1831-1838.

MARRI L, ZAFFAGNINI M, COLLIN V, ISSAKIDIS-BOURGUET E, LEMAIRE SD, PUPILLO P, SPARLA F, MIGINIAC-MASLOW M, TROST P (2009) Prompt and easy activation by specific thioredoxins of Calvin cycle enzymes of Arabidopsis thaliana associated in the GAPDH/CP12/PRK supramolecular complex. *Mol Plant* **2**, 259-269

MARRI L, PESARESI A, VALERIO C, LAMBA D, PUPILLO P, TROST P, SPARLA F (2010) In vitro characterization of Arabidopsis CP12 isoforms reveals common biochemical and molecular properties. *J Plant Physiol* **167**, 939-950

FERMANI S, SPARLA F, MARRI L, THUMIGER A, PUPILLO P, FALINI G, TROST P (2010) Structure of photosynthetic glyceraldehyde-3-phosphate dehydrogenase (isoform A4) from Arabidopsis thaliana in complex with NAD. *Acta Crystallogr Sect F Struct Biol Cryst Commun* **F66**, 621–626

VALERIO C, COSTA A, MARRI L, ISSAKIDIS-BOURGUET E, PUPILLO P, TROST P, SPARLA F (2010) Thioredoxin-regulated β-amylase (BAM1) triggers diurnal starch degradation in guard cells, and in mesophyll cells under osmotic stress. *J Exp Bot* **62**, 545-555

CARMO-SILVA AE, MARRI L, SPARLA F, SALVUCCI ME (2011) Isolation and compositional analysis of a CP12-associated complex of Calvin cycle enzymes from Nicotiana tabacum. *Protein Pept Lett* **18,** 618-24

FERMANI S, TRIVELLI X, SPARLA F, THUMIGER A, CALVARESI M, MARRI L, FALINI G, ZERBETTO F, TROST P (2012) Conformational selection and folding-upon-binding of the intrinsically disordered protein CP12 regulate photosynthetic enzymes assembly. *J Biol Chem* **287**, 21372-21383

CUESTA-SEIJO JA, NIELSEN MM, MARRI L, TANAKA H, BEEREN SR, PALCIC MM (2013) Structure of starch synthase I from barley: insight into regulatory mechanisms of starch synthase activity. *ACTA CRYSTALLOGRAPHICA. SECTION D, BIOLOGICAL CRYSTALLOGRAPHY* **69**, 1013-102

MARRI L, THIEULIN-PARDO G, LEBRUN R, PUPPO R, ZAFFAGNINI M, TROST P, GONTERO B, SPARLA F (2014) CP12-mediated protection of Calvin-Benson cycle enzymes from oxidative stress. *Biochimie* **97**, 228-237

SKRYHAN K, CUESTA-SEIJO JA, NIELSEN MM, MARRI L, MELLOR SB, GLARING MA, JENSEN PE, PALCIC MM, BLENNOW A (2015) The Role of Cysteine Residues in Redox Regulation and Protein Stability of Arabidopsis thaliana Starch Synthase 1. *PLOS ONE* **10**, e0136997

BØJSTRUP M, MARRI L, LOK F, HINDSGAUL O (2015) A Chromogenic Assay Suitable for High-Throughput Determination of Limit Dextrinase Activity in Barley Malt Extracts. *J Agr Food Chem* **63**, 10873-10878

SESTILI F, SPARLA F, BOTTICELLA E, JANNI M, D'OVIDIO R, FALINI G, MARRI L, CUESTA-SEIJO JA, MOSCATELLO S, BATTISTELLI A, TROST P, LAFIANDRA D (2016) The down-regulation of the genes encoding Isoamylase 1 alters the starch composition of the durum wheat grain. *PlantSci* **252**, 230-238

MARRI L, JANSSON AM, CHRISTENSEN CE, HINDSGAUL O (2017) An enzyme-linked immunosorbent assay for the detection of diacetyl (2,3-butanedione). *Anal Biochem* **535**, 12-18

MARRI L, JANSSON AM, CHRISTENSEN CE, HINDSGAUL O (2017) Synthesis of 1,2-phenylenediamine capturing molecule for the detection of diacetyl. *Data Brief* **15**: 483-490

SKADHAUGE B, LOK F, KNUDSEN S, WENDT T, KRUCEWICZ K, MARRI L, OLSEN O (2018) Refined cereal-based beverages. **WO/2018/001882**

BOTTICELLA E, SESTILI F, SPARLA F, MOSCATELLO S, MARRI L, CUESTA-SEIJO JA, FALINI G, BATTISTELLI A, TROST P, LAFIANDRA D (2018) Combining mutations at genes encoding key enzymes involved in starch synthesis affects the amylose content, carbohydrate allocation and hardness in the wheat grain. *Plant Biotechnol J* **16**: 1723-1734

CUESTA-SEIJO JA, DE PORCELLINIS AJ, VALENTE AH, STRIEBECK A, VOSS C, MARRI L, HANSSON A, JANSSON AM, DINESEN MH, FANGEL JU, HARHOLT J, POPOVIC M, THIEME M, HOCHMUTH A, ZEEMAN SC, MIKKELSEN TN, JØRGENSEN RB, ROITSCH TG, MØLLER BL, BRAUMANN I (2019) Amylopectin chain length dynamics and activity signatures of key carbon metabolic enzymes highlight early maturation as culprit for yield reduction of barley endosperm starch after heat stress. *Plant Cell Physiol* **60**: 2692-2706

LOK F, KRUCEWICZ K, MARRI L, SKADHAUGE B, KNUDSEN S, WENDT T, OLSEN O (2019) Method for producing an extract of cereal and method for processing this extract into beverage. **WO/2019/129724**

3 pending patents applications (2019-2020)