

Matteo Marangon (MM) holds a BSc (2002) and a MSc (2004, summa cum laude) in Agricultural Sciences and technologies, both from the University of Padova (Italy). In 2008 MM obtained a PhD in Oenology from the University of Padova, with a thesis entitled "Biochemical and functional characterisation of the proteins of white wines and studies on methods to prevent their instability."

During his PhD, MM spent 7 months (Nov 2006-May 2007) as a "visiting PhD student" at the Australian Wine Research Institute (AWRI) located in Adelaide (South Australia). In 2008 MM returned to the AWRI upon completion of his PhD to work as a Postdoctoral Research Fellow until the end of 2010. In January 2011 MM was promoted to the role of Research Scientist, and to the role of Senior Research Scientist in January 2013. During his period at the AWRI, MM key research responsibilities were to work on projects aimed at elucidating the mechanism of protein haze formation in white wines in order to gather information useful to develop new techniques to achieve wine protein stabilisation. This included the in-depth characterisation of wine colloids, the resolution of grape proteins 3D crystal structures, the study of the interactions of wine proteins with other wine components, the study of novel practices for white wine protein stability (e.g. addition of carrageenan, use of zirconia and proteases). MM was heavily involved also in designing research programs, supervising MSc, PhD students and technical personnel, as well as conducting extension activities as seminars and webinars.

In 2014 MM joined Plumpton College/University of Brighton (UK) to act as Lecturer and Programme leader in a new MSc course in Viticulture & Oenology. In this role MM was responsible for the development of the course curriculum, for lecturing at post-graduate and undergraduate level, for developing research programs and apply for grants, writing peer and non-peer reviewed articles, presenting at conferences, conducting extension work within the local wine industry, mentoring 6 post-graduate and 20 undergraduate students in conducting their research projects.

In September 2016 MM returned to the University of Padova (DAFNAE) to work as Researcher type B, and since September 2019 is an Associate Professor of Food Science and Technology. MM is currently the President of the MSc in "Italian Food and Wine", and currently teaches in three courses entitled "Quality, processing and sensory analysis of Italian wine" (6CFU), and "Quality, processing and sensory analysis of Italian food" (6CFU), and "Technologie Enogastronomiche (3CFU).

His current research focus is on wine chemistry/biochemistry, and include:

- the study of wine macromolecules and how they interact to form colloids
- the study of the structure of grape proteins
- the interactions of wine protein with other wine components
- the elucidation of the mechanism of protein haze formation in wines
- the search of alternative methods (more sustainable than bentonite fining) for protein stabilisation of wine
- the study of novel extraction methods to source value-adding compounds from winemaking by-products as yeast lees, unripe grapes, grape seeds, grape proteins
- the compositional and functional characterisation of extracts from winemaking by-products using chromatographic and spectroscopic techniques

MM has authored over 100 publications, including 44 indexed in Scopus (h index = 18, total citations = 945), is regularly acting as reviewer for over 15 journals in the field of food science and technology, is Associate Editor for an international peer-reviewed journal named Beverages, and has been invited as keynote speaker in several international conferences.

### **Funded Projects**

Matteo has participated in regional, national, and international research projects.

#### *INTERNATIONAL*

- Project AWR 06/01-2.2. Novel winemaking processes to stabilise and package wine and deliver it to the consumer in optimum condition whilst maintaining or improving quality, value and sustainability (2006-2013). Role: PI.

- Co-PI in the International Science Linkages (ISL) – FAST project in collaboration between the AWRI and INRA-SUPAGRO Montpellier (2009-2010).
- Project AWR 13-18/ 3.1.4. Factors affecting wine texture, taste, clarity, stability and production efficiency (2013). Role: PI.
- Life+ ADVICLIM (High resolution study of viticultural adaptation and mitigation scenarios; <http://www.adviclim.eu/>). Responsible for the research activities of Action C2 for the UK partner of the project (2015-2016).

#### *NATIONAL*

- Project PRIN No 20157RN44Y. Title: The diversity of tannins in Italian red wines. Study of biochemical aspects, chemical reactivity and sensory characteristics for developing precision and sustainable enological models from vineyard to consumer Role: part of the UNIPD research Unit (2015-2018)
- Project PRIN No 2017RXFFRR. Title: The aroma diversity of Italian white wines. Study of chemical and biochemical pathways underlying sensory characteristics and perception mechanisms for developing models of precision and sustainable Enology. Role: Leader UNIPD research Unit (2019-2022)

#### *REGIONAL*

- POR/FESR 2018. VIT-VIVE, a project focused on the sustainability of the winery in terms of energy savings. Part of the UNIPD research Unit (2017-2020).
- FSE Project No 1695-0016-1463-2019. Fortification of baked products with grape skin powder: study on the technological, sensory and nutritional effects (2021). Role: PI of UNIPD unit.

Matteo is/has been responsible for several research collaborations with private companies, for the development of specific research activities in the field of food science and technology.

#### **Undergraduate and Post graduate students' project supervision**

Supervision of BSc and MSc students for their final thesis (over 50 projects)

Member of the teaching committee of the PhD School in Land, Environment, Resources and Health ([LERH](#))

PhD student supervisor for:

- 2019-current: Ms Carla Snyman. PhD in Wine Biotechnology, University of Stellenbosch (South Africa). Thesis title: Unravelling the impact of yeast-derived mannoproteins on wine components and protein stability.
- 2017-2020: PhD Program Land, Environment, Resources and Health (LERH), Dott. Alberto De Iseppi (XXXII cycle). Thesis title:  $\beta$ -Glucans and mannoproteins from wine lees: Extraction and characterization for food and oenological applications.

**Post-Doctoral students' supervisor for:**

- 2021-current: Brearley-Smith Edward, project PRIN 2017RXFFRR entitled "The aroma diversity of Italian white wines. Study of chemical and biochemical pathways underlying sensory characteristics and perception mechanisms for developing models of precision and sustainable enology".
- 2020-2021: Dr De Iseppi Alberto, FSE project 1695-0016-1463-2019 entitled "Collection, pulverization and characterization of grape marc as a distillery by-product".

MM has acted as external examiner for MSc and PhD thesis for several Universities including, Lincoln University (New Zealand), Auckland University (New Zealand), Stellenbosch University (South Africa), Pontificia Universidad Catolica de Valparaiso (Chile), Adelaide University (Australia), Padua University (Italy), Leeds University (UK), Lund University (Sweden).

## **Awards**

- 2019 - Finalist of the International OENOPPIA AWARD 2019.
- 2017 –Australian Society of Viticulture and Oenology - best oenology paper 2017
- 2015 - Finalist of the International OENOPPIA AWARD 2015.
- 2013 - Poster Prize at the 15<sup>th</sup> Australian Wine Industry Technical Conference, Sydney
- Poster title: Proctase - a viable alternative to bentonite for protein stabilisation of white wines
- 2011 - Recipient of the Viticulture and Oenology Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry.
- 2009 - Poster Prize at the 6<sup>th</sup> Symposium In Vino Analytica Scientia, Angers (France). Poster title: Crystallization and preliminary X-ray diffraction studies of four thaumatin-like protein isoforms from *Vitis vinifera* grape juice