PERSONAL INFORMATION

Magni, Fulvio
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Date of birth: Nationality: Italian

Prof. Fulvio Magni is one of the leading **experts on mass spectrometry and its applications to biomedical research,** not only in Italy but also in the EU and international MS communities, especially in the field of MS-Imaging clinical applications. He has expertise on *Clinical Chemistry* (Development of Definitive and Reference Method); on *Metabolism* (Studies of metabolic pathways with stable isotopes in humans) and on *Proteomics*. He is **responsible for the Proteomic Unit of the University of Milano-Bicocca**. **He had grants accumulating to more than 5.000.000€** and he is a PI of the Clinical Proteomics and Metabolomics Unit of the University of Milano-Bicocca. Thanks to this expertise, **he was a member of the "Strategic Network for Italian Biotech Advancement (Presidenza del Consiglio dei Ministri)" and PI of one of the "Italian Human Proteome Net" units**.

- **EDUCATION**

1991 PhD in Pharmacology and Toxicology, Faculty of Pharmacy, University of Milan, Italy

1984 Master in Chemistry and Pharmaceutical Technology, Faculty of Pharmacy, University of Milan, Italy

- **CURRENT POSITION(S)**

2016-Present Full Professor on Biochemistry (BIO/10), Depart. of Medicine and Surgery, University of Milano-Bicocca, Italy

- **PREVIOUS POSITIONS**

2002-2016 Associate Professor (BIO/10), Depart. of Medicine and Surgery, University of Milano-Bicocca, Italy

1988-2002 Senior Researcher, Mass Spectrometry Laboratory of the IRCCS S. Raffaele of Milan, Italy

- **FELLOWSHIPS AND AWARDS**

1984-1985 Fellowship, Institute of Pharmacology & Pharmacognosy, Faculty of Pharmacy, University of Milan

1985-1986 "Research fellow" in Biochemistry at the University of Illinois at Chicago, Chicago, Illinois, USA.

- **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

2001-2016 *Number of Post-Docs = 2 / *PhD = 12 / *Master Students = 40; Department of Medicine and Surgery, University of Milano-Bicocca, Italy. *All of them have a permanent position in public/private companies thanks to their expertise on Mass Spectrometry acquired in my lab.

- **TEACHING ACTIVITIES**

2002-Present Teacher of "Clinical proteomics" at the annual "Mass Spectrometry Course for PhD students", Pontignano (SI), Italy, "Macromolecules of biological interest", "Technical Sciences of Medicine and Laboratory", "Chemistry and Propedeutical Biochemistry", "Proteomics", "Proteomics and Metabolomics", School of Medical Biotechnology and at School of Medicine and Surgery, University of Milano-Bicocca, Italy

2008-Present Full Professor, teaching "New approaches: Proteomics and Metabolomics" at a Master of II level on "Research and Development of pre-clinical and clinical drugs", University of Milano-Bicocca, Italy

2013-Present Teacher at the PhD program in "Translational and Molecular Medicine", University of Milano-Bicocca, Italy

2015-Present Full Professor, teaching "Proteomics" at an International Master of II level on Nephropathology, University of Milano-Bicocca, Italy.

- **ORGANISATION OF SCIENTIFIC MEETINGS (most relevant in the last 10 years)**

2009 Member of Scientific Committee of Congress "ItPA" 4th Annual National Conference, Italy

2011 Member of Scientific Committee of Congress: "La spettrometria di Massa in Lombardia", Italy

2014-Present Member of Scientific Committee of the biannual MS-Pharmaday, MS-Envy day, MS-Wine day, MS-Peptide day, MS-Food day Congress, Italy

2014-Present Member of Scientific Committee of the Annual National Congress of the Italian Mass Spectrometry Society (Società Chimica Italiana)

2018 Member of Scientific Committee of the *International Mass Spectrometry Congress*, Florence, Italy

2020-2022 President of the Mass Spectrometry Italian Division (Divisione Spettrometria di Massa – Società Chimica Italiana)

- **INSTITUTIONAL RESPONSIBILITIES**

2006-2012 Member of Committee for postdoctoral Fellowship, University of Milano-Bicocca, Italy

2015-… Member of "Strategic Network for Italian Biotech Advancement (Presidenza del Consiglio dei Ministri)" as expert in Proteomics

2015 Member of the committee of the Research Commission, as Responsible, School of Medicine and Surgery, University of Milano-Bicocca, Italy

- **COMMISSIONS OF TRUST**

2009 Expert referee for the evaluation of research proposals area.1.2 "Detection, Diagnosis and Monitoring" under the call FP7-HEALTH-2009-two-stage.

2012-2013 Expert referee for the evaluation of research; FIRB, PRIN, Futuro in Ricerca, Ministero Istruzione Università Ricerca (MIUR), Italy

2010-… Expert referee for the evaluation for ANVUR - VQR. Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca - Valutazione della Qualità della Ricerca, Ministero Istruzione Università Ricerca (MIUR), Italy

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2000-Present Member of the Committee of the Italian Mass Spectrometry Division, Italy

2000-Present Member of the Società Italiana di Biochimica e biologia molecolare Clinica, Italy

2006-Present Member of the "Italian Proteomics Association - ItPA".

2012-Present Member of the Società Italiana di Biochimica e Biologia Molecolare, Italy

Ten-year track record

I am a **Member of the "Pool of experts in Proteomics"** of the **President of the Council of Ministers** of the Italian Republic and in the last years I was a **Member of the "Management Committee"** of the following Cost Actions (BIOMEDICINE AND MOLECULAR BIOSCIENCES):

BM0702: European kidney and urine proteomics (www.eurokup.org)
BM1104: Mass Spectrometry Imaging: New Tools for Healthcare Research.
and currently of the: **CA16113 CliniMARK**: 'good biomarker practice' to increase the number of clinically validated biomarkers

I have three cooperation agreements with Universidad Nacional de Cordoba (Argentina); with Universidade do Estao do Rio Do Janeir (Brasil), and with University of Leeds (UK).

PI of one unit of the project: FP7-PEOPLE-2013-ITN; Initial Training Networks (ITN); Title: Clinical and system –omics for the identification of the MOlecular DEterminants of established Chronic Kidney Disease.

Research grant as PI or coordinator in the last 10 years

Principali Finanziamenti negli ultimi 10 anni

Progetti finanziati grazie alla strumentazione della piattaforma di proteomica

2009-2013 **FIRB** - Fondo per gli Investimenti della Ricerca di Base (Decreto Direttoriale 1 dicembre 2006 prot. n. 2689/Ric./2006) *Titolo progetto: Rete Nazionale per lo studio della Proteomica Umana (*RBRN07BMCT_011)

2009-2012 ***Istituto Italiano di Tecnologia (IIT) piano strategico 2009-2011***. *Progetti SEED:"*Isoelectric focusing chip-array for protein profiling of biological samples with MALDI detection".

2013-2017 **Call: FP7-PEOPLE-2013-ITN;** Funding scheme: Initial Training Networks (ITN); Title: Clinical and system –omics for the identification of the MOlecular DEterminants of established Chronic Kidney Disease.

2017-2019 **AIRC**: Application of a proteomic-based thyroid lesions classifier in cytopathology by MALDI-imaging.

2019-20 **Fellowship Gilead:** area di interesse Patologie oncoematologiche e per il settore tematico Linfoma diffuso a grandi cellule B, linfoma primitivo del mediastino e linfoma mantellare: biologia, epidemiologia, diagnostica e modelli di gestione clinica dei pazienti. Titolo: MALDI-MS molecular imaging in diffuse large B-cell lymphoma (DLBCL).

2019-2022 ***Regione Lombardia POR FESR 2014-2020. Call HUB Ricerca ed Innovazione:*** Sviluppo di nuove molecole di seconda generazione per immunoterapia oncologica (***ImmunHUB.***)

Maggio 2020-ottobre 2020 POR 2014-2020 FESR. Misura RICERCA COVID19. Linea 2: Caratterizzazione della risposta immunitaria protettiva in pazienti affetti da COVID-19 e realizzazione di un saggio immuno-diagnostico (CO-iMMUNITY).

2021-.. Ricerca Finalizzata Ministero della Salute 2018-2019: Combined genomic and characterization of follicular thyroid lesions: a project to "save thyroid". *Grant:*

Associate Editor of "Journal of Integrated OMICS: a methodological journal" and of "Journal of Analytical, Bioanalytical and Separation Techniques".

Referees for several International Scientific Journals. Among them: Proteomics, Proteomics J.– Clinical Application, Expert Review in Proteomics, Clinical biochemistry, Cancer Research, Molecular Biosystem, PlosOne, Journal of Cancer Research and Clinical Oncology, FEBS, J of Proteomics Research.

Publications (last two years).

2019

1. Chinello C, Stella M, Piga I, Smith AJ, Bovo G, Varallo M, Ivanova M, Denti V, Grasso M, Grasso A, Del Puppo M, Zaravinos A, Magni F. Proteomics of liquid biopsies: Depicting RCC infiltration into the renal vein by MS analysis of urine and plasma. J Proteomics. 2019 Jan 16;191:29-37. doi: 10.1016/j.jprot.2018.04.029. Epub 2018 Apr 22.

2. Stella M, Chinello C, Cazzaniga A, Smith A, Galli M, Piga I, Grasso A, Grasso M, Del Puppo M, Varallo M, Bovo G, Magni F. Histology-guided proteomic analysis to investigate the molecular profiles of clear cell Renal Cell Carcinoma grades. J Proteomics. 2019 Jan 16;191:38-47. doi: 10.1016/j.jprot.2018.04.028. Epub 2018 Apr 23.

3. L'Imperio V, Smith A, Ajello E, Piga I, Stella M, Denti V, Tettamanti S, Sinico RA, Pieruzzi F, Garozzo M, Vischini G, Nebuloni M, Pagni F, Magni F. MALDI-MSI Pilot Study Highlights Glomerular Deposits of Macrophage Migration Inhibitory Factor (MIF) as a Possible Indicator of Response to Therapy in Membranous Nephropathy. Pr Proteomics Clin Appl. 2019 May;13(3):e1800019. doi: 10.1002/prca.201800019. Epub 2018 Nov 22201800019.

4. Smith A, Galli M, Piga I, Denti V, Stella M, Chinello C, Fusco N, Leni D, Manzoni M, Roversi G, Garancini M, Pincelli AI, Cimino V, Capitoli G, Magni F, Pagni F. Molecular

signatures of medullary thyroid carcinoma by matrix-assisted laser desorption/ionisation mass spectrometry imaging. J Proteomics. 2019 Jan 16;191:114-123. doi: 10.1016/j.jprot.2018.03.021. Epub 2018 Mar 24...

5. Piga I, Capitoli G, Tettamanti S, Denti V, Smith A, Chinello C, Stella M, Leni D, Garancini M, Galimberti S, Magni F, Pagni F. Feasibility Study for the MALDI-MSI Analysis of Thyroid Fine Needle Aspiration Biopsies: Evaluating the Morphological and Proteomic Stability Over Time. Proteomics Clin Appl. 2019 Jan;13(1):e1700170. doi: 10.1002/prca.201700170. Epub 2018 Nov 20.

6. Smith A, L'Imperio V, Denti V, Mazza M, Ivanova M, Stella M, Piga I, Chinello C, Ajello E, Pieruzzi F, Pagni F, Magni F. High Spatial Resolution MALDI-MS Imaging in the Study of Membranous Nephropathy. Proteomics Clin Appl. 2019 Jan;13(1):e1800016. doi: 10.1002/prca.201800016. Epub 2018 Dec 19.

7. Jaconi M, Magni F, Raimondo F, Ponzoni M, Chinello C, Smith A, Piga I, Fusco N, Di Bella C, Pagni F. TdT expression in germ cell tumours: a possible immunohistochemical cross-reaction and diagnostic pitfall. J Clin Pathol. 2019 May 4. pii: jclinpath-2019-205713. doi: 10.1136/jclinpath-2019-205713. [Epub ahead of print]

8. Re F, Sartore L, Moulisova V, Cantini M, Almici C, Bianchetti A, Chinello C, Dey K, Agnelli S, Manferdini C, Bernardi S, Lopomo NF, Sardini E, Borsani E, Rodella LF, Savoldi F, Paganelli C, Guizzi P, Lisignoli G, Magni F, Salmeron-Sanchez M, Russo D 3D gelatin-chitosan hybrid hydrogels combined with human platelet lysate highly support human mesenchymal stem cell proliferation and osteogenic differentiation. J Tissue Eng. 2019 May 2;10:2041731419845852. doi: 10.1177/2041731419845852. eCollection 2019 Jan-Dec.

9. Piga I, Capitoli G, Denti V, Tettamanti S, Smith A, Stella M, Chinello C, Leni D, Garancini M, Galimberti S, Magni F, Pagni F. The management of haemoglobin interference for the MALDI-MSI proteomics analysis of thyroid fine needle aspiration biopsies. Anal Bioanal Chem. 2019 Aug;411(20):5007-5012. doi: 10.1007/s00216-019-01908-w. Epub 2019 May 30.

10. Capitoli G, Piga I, Galimberti S, Leni D, Pincelli AI, Garancini M, Clerici F, Mahajneh A, Brambilla V, Smith A, Magni F, Pagni F. MALDI-MSI as a Complementary Diagnostic Tool in Cytopathology: A Pilot Study for the Characterization of Thyroid Nodules. Cancers (Basel). 2019 Sep 16;11(9). pii: E1377. doi: 10.3390/cancers11091377.

11. L'Imperio V, Smith A, Pisani A, D'Armiento M, Scollo V, Casano S, Sinico RA, Nebuloni M, Tosoni A, Pieruzzi F, Magni F, Pagni F. MALDI imaging in Fabry nephropathy: a multicenter study. J Nephrol. 2019 Jul 10. doi: 10.1007/s40620-019-00627-w. [Epub ahead of print]

2020

12. Ivanova M, Dyadyk O, Ivanov D, Clerici F, Smith A, Magni F. Matrix-assisted laser desorption/ionization mass spectrometry imaging to uncover protein alterations associated with the progression of IgA nephropathy. Virchows Arch. 2020 Jun;476(6):903-914. doi: 10.1007/s00428-019-02705-7. Epub 2019 Dec 14.PMID:31838587

13. Smith A, Iablokov V, Mazza M, Guarnerio S, Denti V, Ivanova M, Stella M, Piga I, Chinello C, Heijs B, van Veelen PA, Benediktsson H, Muruve DA, Magni F. Detecting Proteomic Indicators to Distinguish Diabetic Nephropathy from Hypertensive Nephrosclerosis by Integrating Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry Imaging with High-Mass Accuracy Mass Spectrometry. Kidney Blood Press Res. 2020;45(2):233-248.

14. Santorelli L, Capitoli G, Chinello C, Piga I, Clerici F, Denti V, Smith A, Grasso A, Raimondo F, Grasso M, Magni F. In-Depth Mapping of the Urinary N-Glycoproteome: Distinct Signatures of ccRCC-related Progression. Cancers (Basel). 2020 Jan 18;12(1):239. doi: 10.3390/cancers12010239

15. Denti, V., Piga, I., Guarnerio, S., Clerici, F., Ivanova, M., Chinello, C., et al. (2020). Antigen Retrieval and Its Effect on the MALDI-MSI of Lipids in Formalin-Fixed Paraffin-Embedded Tissue. JOURNAL OF THE AMERICAN SOCIETY FOR MASS SPECTROMETRY, 31(8), 1619-1624.

16. Bosisio FM, Antoranz A, van Herck Y, Bolognesi MM, Marcelis L, Chinello C, Wouters J, Magni F, Alexopoulos L, Stas M, Boecxstaens V, Bechter O, Cattoretti G, van den Oord. Functional heterogeneity of lymphocytic patterns in primary melanoma dissected through single-cell multiplexing. J.Elife. 2020 Feb 14;9:e53008. doi: 10.7554/eLife.53008.

17. Raimondo F, Chinello C, Porcaro L, Magni F, Pitto M Urinary Extracellular Vesicles and Salt-Losing Tubulopathies: A Proteomic Approach. .Proteomes. 2020 May 9;8(2):9. doi: 10.3390/proteomes8020009.

18. Capitoli G, Piga I, Clerici F, Brambilla V, Mahajneh A, Leni D, Garancini M, Pincelli AI, L'Imperio V, Galimberti S, Magni F, Pagni F.Biochim Analysis of Hashimoto's thyroiditis on fine needle aspiration samples by MALDI-Imaging. Biophys Acta Proteins Proteom. 2020 Nov;1868(11):140481. doi: 10.1016/j.bbapap.2020.140481. Epub 2020 Jul 6.

19. Denti V, Piga I, Guarnerio S, Clerici F, Ivanova M, Chinello C, Paglia G, Magni F, Smith A. Antigen Retrieval and Its Effect on the MALDI-MSI of Lipids in Formalin-Fixed Paraffin-Embedded Tissue. J Am Soc Mass Spectrom. 2020 Jul 22. doi: 10.1021/jasms.0c00208. Online ahead of print.

20. Piga I, Capitoli G, Clerici F, Brambilla V, Leni D, Scardilli M, Canini V, Cipriani N, Bono F, Valsecchi MG, Galimberti S, Magni F, Pagni. Molecular trait of follicular-patterned thyroid neoplasms defined by MALDI-imaging. F.Biochim Biophys Acta Proteins Proteom. 2020 Nov;1868(11):140511. doi: 10.1016/j.bbapap.2020.140511. Epub 2020 Aug 1.

21. Fontana D, Mauri M, Renso R, Docci M, Crespiatico I, Røst LM, Jang M, Niro A, D'Aliberti D, Massimino L, Bertagna M, Zambrotta G, Bossi M, Citterio S, Crescenzi B, Fanelli F, Cassina V, Corti R, Salerno D, Nardo L, Chinello C, Mantegazza F, Mecucci C, Magni F, Cavaletti G, Bruheim P, Rea D, Larsen S, Gambacorti-Passerini C, Piazza R ETNK1 mutations induce a mutator phenotype that can be reverted with phosphoethanolamine. .Nat Commun. 2020 Nov 23;11(1):5938. doi: 10.1038/s41467-020-19721-w.