

Short Curriculum Vitae of Luca Bini

1988: Degree in Biology at the University of Siena.
1995: Ph.D. in Biotechnology at the University of Siena.
2002-2007: Researcher in Biochemistry at the University of Siena, faculty of Science.
2008-2018: Associate Professor of Biochemistry at the University of Siena, faculty of Science.
2018- : Full Professor of Biochemistry (SSD BIO-10) at the University of Siena.
2002- : Professor of Biochemistry and Proteome Science at the master degree of Biological Sciences, University of Siena.
1990-2010: Spent some periods as visiting researcher at the Institute Pasteur in Paris (France) and at the Geneva University Hospital, Geneva, Switzerland.
1994-2014: Organizer with D. Hochstrasser and J.-C. Sanchez (University of Geneva) and V. Pallini (University of Siena) of all the 10 editions of the biennial international meeting “From Genome To Proteome”.
2011: Organizer with D. Hochstrasser and J.-C. Sanchez (University of Geneva) of the 10th Word Congress of the Human Proteome Organization (Geneva 4-7 Sept., 2011).
1994-2018: Invited speaker in 60 national and international congress and seminars.
1998- : Author of the SIENA-2DPAGE database (<http://www.bio-mol.unisi.it/>).
1998- : responsible of the Functional Proteomics Laboratory at the University of Siena.
2000- : Member of the Italian Biochemistry and Molecular Biology Society.
2001-2013: Member of the editorial board of the international journal PROTEOMICS (Wiley InterScience).
2003-2007: Member of the editorial board of the international journal AMINO ACIDS, the Forum for Amino Acid and Protein Research (Springer).
2005-2011: Member of the Congress and Communication Committee of the EuPA (European Proteome Association).
2006-2013: Member of the editorial board of the international journal PROTEOMICS: Clinical Applications (Wiley InterScience).
2006-2013: Member of the tutorial board of the international journal PROTEOMICS: Practical Proteomics (Wiley InterScience).
2012- : Associate Editor of the international journal EuPA OPEN PROTEOMICS (Elsevier).
2003-2006: Vice president of the Italian Human Proteome Organization (IHUPO, <http://www.hupo.it/>).
2010-2015: Vice president of the Italian Proteomics Association (ItPA).
2011-2018: President of the Biological Science Degree Course of the University of Siena.
2012-2014: Member of the Executive Committee of the European Proteomic Association (EuPA) and Head of the Conference and Communication Committee.
2018- : Director of the Department of Life Sciences of the University of Siena.

Since 28 years, Prof. Luca Bini is active in the global approach to the study of proteins. He is internationally well known as contributors to the establishment of the concept of “proteome science”.

The main research activities were focused on proteome analysis of clinical specimens such as cells, biopsies and body fluids in different patho-physiological conditions (breast, stomach and lung cancer, lung fibrosis, acute phase, cellular differentiation and signalling, apoptosis, etc.) to

identify multivariate prognostic/diagnostic markers. Prof. Bini is one of the major expert on 2D-immunoblotting coupled with high sensitivity chemiluminescent detection system to study sets of proteins sharing post-translational modifications (phosphorylation, oxidation), to study the immunoproteome of infectious disease using patient sera and to study antigenic proteins to be used for vaccine production. The research group is involved in the study of the immuneresponse in autoantigenic neurodegenerative pathologies, such as Multiple Sclerosis. The group headed by Prof. Bini is also active in the proteomic characterization of different myopathies, fibrotic and oncologic diseases and in the molecular characterization of some genetic diseases such as Cornelia de Lange, Osteogenesis imperfecta and Cystic Fibrosis. The scientific activity is well documented by more than 400 articles (175 in-extenso, H-index: 34), focused on proteomics applications to the study of biomedicine, model organisms, plants and bacteria.

MAIN PUBLICATIONS

1. **Bini L.**, Magi B., Cellesi C., Rossolini A. and Pallini V.: "Two-dimensional electrophoresis analysis of human serum proteins during the acute-phase response", *Electrophoresis* 1992, *13*, 743-746.
2. Comanducci M., Manetti R., **Bini L.**, Santucci A., Pallini V., Cevenini R., Sueur J.-M., Orfila J. and Ratti G., "Humoral Immune response to plasmid protein ppg3 in patients with *Chlamydia trachomatis* infection", *Infect. Immun.* 1994, *62*, 5491-5497.
3. Garcia-Gil M., Bottai D., Romano A., Fineschi L., **Bini L.**, Pallini V. and Brunelli M., "Repetitive treatment with serotonin modifies protein synthesis and protein phosphorylation in the central nervous system of *Hirudo Medicinalis*", *Electrophoresis* 1995, *16*, 1251-1254.
4. Magi B., Marzocchi B., **Bini L.**, Cellesi C., Rossolini A. and Pallini V.: "Two-dimensional electrophoresis of human serum proteins modified by ampicillin during therapeutic treatment", *Electrophoresis* 1995, *16*, 1190-1192.
5. Marzocchi B., Magi B., **Bini L.**, Cellesi C., Rossolini A., Massidda O. and Pallini V.: "Two-dimensional gel electrophoresis and immunoblotting of human serum albumin modified by reaction with penicillins", *Electrophoresis* 1995, *16*, 851-853.
6. Ranieri A., Castagna A., **Bini L.** and Soldatini G.F.: "Two-dimensional electrophoresis of thylakoid protein patterns in two wheat cultivars with different sensitivity to sulfur dioxide", *Electrophoresis* 1995, *16*, 1301-1304.
7. Galeazzi M., Morozzi G., Veronesi M., Ronconi S., Magi B., **Bini L.**, Marcolongo F.R.: "Utilità del dosaggio della PCR e di altre proteine della fase acuta nell'artrite reumatoide", *Recenti Prog Med.*, *86*, 456-621.
8. Morozzi G., Galeazzi M., **Bini L.**, Magi B., Pallini V., Marcolongo F.R.: "Is two dimensional polyacrilamide gel electrophoresis a useful technique for the study of serum protein profiles in rheumatoid arthritis", *Clin. Exp. Rheumatol.* 1995, *13/S-12*, 547.
9. **Bini L.**, Magi B., Marzocchi B., Cellesi C., Berti B., Raggiaschi R., Rossolini A., Pallini V.: "Two-dimensional electrophoresis patterns of acute phase human serum proteins in the course of bacterial and viral diseases", *Electrophoresis* 1996, *17*, 612-616.
10. **Bini L.**, Sanchez-Campillo M., Santucci A., Magi B., Marzocchi B., Comanducci M., Christiansen G., Birkelund S., Cevenini R., Vretou E., Ratti G., Pallini V.: "Mapping of *Chlamydia trachomatis* proteins by immobilized-polyacrylamide two-dimensional electrophoresis: spot identification by N-terminal sequencing and immunoblotting", *Electrophoresis* 1996, *17*, 185-190.
11. Meucci D., Messina M., Garzi A., Di Maggio G., Nocentini S., **Bini L.**, Magi B.: "Acute phase response of appendicitis in children". *Pediatr Med Chir.* 1996, *18*, 601-606.
12. Scapol L., **Bini L.**, Bruno C., Pallini V., and Viscomi G.C.: "Analysis of leukocyte interferon alpha by two-dimensional electrophoresis and immunoblotting". *Eur. Cytokine Netw.* 1996, *7*, 644.
13. Tripodi S.A., **Bini L.**, Cintonino M., Pallini V., and Tosi P.: "Morphometric analysis of 2D-polyacrilamide gel electrophoresis maps in normal and neoplastic breast tissue". *Cytometry* 1996, *58*, 105.
14. **Bini L.**, Magi B., Marzocchi B., Arcuri F., Tripodi S., Cintonino M., Sanchez J.-C., Frutiger S., Hughes G., Pallini V., Hochstrasser D.F. and Tosi P.: "Protein expression profiles in human breast ductal carcinoma and histologically normal tissue", *Electrophoresis* 1997, *18*, 2832-2841.
15. **Bini L.**, Heid H., Liberatori S., Geier G., Pallini V. and Zwilling R.: "Two dimensional gel electrophoresis of *Caenorhabditis elegans* homogenate and identification of protein spots by microsequencing", *Electrophoresis* 1997, *18*, 557- 562.
16. Birkelund S., **Bini L.**, Pallini V., Sanchez-Campillo M., Liberatori S., Clausen J.D., Østergaard S., Holm A. and Christiansen G.: "Characterization of *Chlamydia trachomatis* L2-induced tyrosine-phosphorylated HeLa cell proteins by two-dimensional gel electrophoresis", *Electrophoresis* 1997, *18*, 563-567.
17. Liberatori S., **Bini L.**, De Felice C., Magi B., Marzocchi B., Raggiaschi R., Frutiger S., Sanchez J.-C., Wilkins M.R., Hughes G., Hochstrasser D.F., Bracci R. and Pallini V.: "A Two-dimensional protein map of human amniotic fluid at 17 weeks' gestation", *Electrophoresis* 1997, *18*, 2816-2822.
18. Liberatori S., **Bini L.**, De Felice C., Magi B., Marzocchi B., Raggiaschi R., Pallini V. and Bracci R.: "Acute phase proteins in perinatal human plasma", *Electrophoresis* 1997, *18*, 520-526.

19. Giannikopoulou P., **Bini L.**, Simitsek P. D., Pallini V. and Vretou E.: "Two-dimensional electrophoretic analysis of the protein family at 90 kDa of abortifacient *Chlamydia psittaci*", *Electrophoresis* 1997, *18*, 2104-2108.
20. Buonocore G., Liberatori S., **Bini L.**, Pallini V., Zanelli S, and Bracci R.: "Cortical brain synaptosome protein map by high-resolution two-dimensional polyacrylamide gel electrophoresis (2-D PAGE)", *Pediatr. Res.* 1997, *41*, 215A.
21. Buonocore G., Liberatori S., **Bini L.**, Pallini V., Zanelli S, Mishra O.P., Delivoria-Papadopoulos M., and Bracci R.: "Hypoxia-induced changes and identification of Na⁺, K⁺-ATPase subunits by immunoblotting in 2-D protein map of synaptosomes", *Pediatr. Res.* 1997, *41*, 42A.
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23. De Felice C., Liberatori S., **Bini L.**, Raggiaschi R., Magi B., Marzocchi B., Centini G., Pallini V., and Bracci R.: "2-D PAGE protein map of amniotic fluid", *Pediatr. Res.* 1997, *42*, 397.
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27. Ruffini Castiglione M., **Bini L.**, Pelosi P., Marrocco R., Santucci A., Ruberti F., Maggini F., and Avanzi S.: "Ribosomal RNA genes of *Phaseolus coccineus* V. Relationship between rDNA phenotype and somatic differentiation", *Protoplasma* 1998, *203*, 75-83.
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32. Sanchez-Campillo M., **Bini L.**, Comanducci M., Raggiaschi R., Marzocchi B., Pallini V. and Ratti G., "Identification of immunoreactive proteins of *Chlamydia trachomatis* by western blot analysis of a two-dimensional electrophoretic map with patient sera". *Electrophoresis* 1999, *20*, 2269-2279.
33. Bigliardi E., Riparbelli M. G., Selmi M. G., **Bini L.**, Liberatori S., Pallini V., Bernuzzi A., Gatti S., Scaglia M., Sacchi L.: "Evidence of actin in the cytoskeleton of microsporidia". *J. Eukaryot. Microbiol.* 1999, *46*, 410-415.
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35. Magi B., Rottoli P., Perari M.G., **Bini L.**, Vagliassindi M. and Pallini V. "Computerized 2-D electrophoresis of BAL proteins: a new approach for the study of lung diseases". *Eur. Respir. J.* 1999, *14*, 111S.
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40. Magi B., Perari M.G., **Bini L.**, Pallini V., Rottoli P.: "2D electrophoretic maps of BAL proteins in fibrosing lung diseases". *Eur. Respir. J.* 2000, *16*, 379S.
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42. Modesti A., **Bini L.**, Carraresi L., Magherini F., Liberatori S., Pallini V., Manao G., Pinna L., Raugei G., Ramponi G.: "Expression of the small tyrosine phosphatase (Stp1) in *Saccharomyces cerevisiae*: a study on protein tyrosine phosphorylation". *Electrophoresis* 2001, *22*, 576-585.
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44. Zucchi I.*, **Bini L.***, Albani D., Valaperta R., Liberatori S., Raggiaschi R., Montagna C., Susani L., Barbieri O., Pallini V., Vezzoni P., Dulbecco R.: "Dome formation in cell cultures as expression of an early stage of lactogenic differentiation of the mammary gland". *Proc. Natl. Acad. Sci. U S A* 2002, *99*, 8660-8665.
45. Magi B, **Bini L**, Perari MG, Fossi A, Sanchez JC, Hochstrasser D, Paesano S, Raggiaschi R, Santucci A, Pallini V, Rottoli P.: "Bronchoalveolar lavage fluid protein composition in patients with sarcoidosis and idiopathic pulmonary fibrosis: a two-dimensional electrophoretic study". *Electrophoresis* 2002, *23*, 3434-3444.
46. Roncada P, Gaviraghi A, Liberatori S, Canas B, **Bini L**, Greppi GF.: "Identification of caseins in goat milk". *Proteomics* 2002, *2*, 723-726.
47. Magi B, Ietta F, Romagnoli R, Liberatori S, Pallini V, **Bini L**, Tripodi SA, Cintorino M, Chellini F, Arcuri F, De Felice C, Paulesu L.: "Presence of macrophage migration inhibitory factor in human milk: evidence in the aqueous phase and milk fat globules". *Pediatr Res* 2002, *51*,619-624.
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53. **Bini L.**, Liberatori S., Bianchi L., Mastrangelo E., Tani C., Pallini V.: "Proteomics in cancer research". *Amino Acids* 2003, *25*, 179.
54. Poliseno L, Bianchi L, Citti L, Liberatori S, Mariani L, Salvetti A, Evangelista M, **Bini L**, Pallini V, Rainaldi G.: "Bcl2 low-expressing MCF7 cells undergo necrosis rather than apoptosis upon staurosporine treatment". *Biochem. J.* 2004, *379*, 823-832.
55. Magi B, Ettore A, Liberatori S, **Bini L**, Andreassi M, Frosali S, Neri P, Pallini V, Di Stefano A.: "Selectivity of protein carbonylation in the apoptotic response to oxidative stress associated with photodynamic therapy: a cell biochemical and proteomic investigation". *Cell Death Differ.* 2004, *11*, 842-852.
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58. Rottoli P., Magi B., Perari M.G., Liberatori S., Nikiforakis N., Bargagli E., Cianti R., **Bini L.**, Pallini V.: "Cytokine profile and proteome analysis in bronchoalveolar lavage of patients with sarcoidosis, pulmonary fibrosis associated with systemic sclerosis and idiopathic pulmonary fibrosis". *Proteomics* 2005, 5, 1423-1430.
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65. **Bini L.**, Magi B., Cianti R., Perari M.G., Bianchi L., Tani C., Perini D., Mattoni S., Rottoli P., Pallini V.: "Proteomic approach to define multivariate protein markers in lung diseases". *Mol. Cell. Proteomics* 2005, 4 (8, sup.1), S3.
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