

Curriculum vitae et studiorum

Alessandro Provenzani

Present Address

CiBIO – Centro di Biologia Integrata
University of Trento

Positions:

01/01/2016 to now	Associate Professor of Applied Biology at the University of Trento
Since 2012 to 31/12/2015	Adjunct Professor of Applied Biology at the University of Trento
02/12/2008 to 31/12/2015	Assistant and Adjunct Professor of Applied Biology at the University of Trento
01/01/2008 to now	Group leader, Laboratory of Genomic Screening at CiBIO (Centre of Integrative Biology, University of Trento)
23/07/2007 - 01/12/2008	Post Doc fellowship at the University of Trento. Three years grant funded by PAT (provincia autonoma di Trento).
23/01/2007 - 22/07/2007	Post Doc position at the University of Trento
01/05/2003 - 06/10/2006	Senior Scientist at the Fioren Foundation
08/01/2001 - 30/03/2001	Visiting fellow at the University of British Columbia (Vancouver, Canada), Microbiology Department, laboratory of prof. Eltis Lindsay.
01/07/1999 - 27/03/2000	Fellow at the Center of magnetic resonance. Project title: "NMR studies on bacterial metabolism of aromatic compounds"

Academic activities:

Since 2016	Member of Executive Committee for the International PhD Program in Biomolecular Sciences" University of Trento
Since 2010	Responsible of internships for the course of "Scienze e Tecnologie Biomolecolari" University of Trento
Since 2009	Member of Committee for the International PhD Program in Biomolecular Sciences" University of Trento

Teaching:

Since 2010/2011	Teaching Responsible for the course in "Cellular Biotechnology", for the course of "Scienze e Tecnologie Biomolecolari", University of Trento, SSD BIO/13.
Since 2011/2012	Teaching Responsible for the course in "Translational Control in diseases", for the course of "Scienze e Tecnologie Biomolecolari" University of Trento. SSD BIO/13.
Since 2010	Teaching Responsible for the course in "Laboratory Safety Course", International PhD Program in Biomolecular Sciences" University of Trento. SSD BIO/13.
2011/12 & 2012/13	Teaching Responsible for the course in "Fundaments in Clinical Trials", for the course of "Scienze e Tecnologie Biomolecolari", University of Trento. SSD BIO/13.

2009/2010

Teaching Responsible for the course in "Biology", University of Trento.
SSD BIO/13.

Education:

01/04/2000-05/05/2003 **Ph.D. in Chemistry**, at the Centre of magnetic resonance, University of Florence, Florence, Italy.

*Focus on
"NMR studies on calmodulin mutants"*

01/11/1993-29/06/1999 **Degree in Chemistry and Pharmaceutical technologies (C.T.F.)**, Faculty of Pharmacy, University of Florence, Florence, Italy. Vote: 110/110 summa cum laude

01/07/99-31/09/99: **Socrates-Erasmus** European mobility program: attended a three months practical course in organic chemistry at the Chemistry Department of University of Crete, Greece (supervisor prof. Katerinopolous).

Awarded Competitive grants:

2019-2024 Financing Agency: AIRC. Bando Full Grant:

Principal Investigator, " Tanshinone-mimics, a new class of bioavailable HuR disruptors as potent in vivo antitumoral agents".

2019-2021 Financing Agency: Arisla foundation

Coordinator and Principal Investigator: Targeting RAN translation in ALS

2018-2022 Financing Agency: European Community H2020 European Training Networks:

Responsible of research unit: "INTEGRATA: Integrating chemical and biological approaches to target cancer metabolism" Coordinator prof. Alessio Nencioni.

2015-2018 Financing Agency: AIRC. Bando MFAG:

Principal Investigator, "Development and characterization of new HuR inhibitors".

2015-2017 Financing Agency: CARIPLO Foundation. "Ricerca biomedica sulle malattie legate all'invecchiamento"

Operative Responsible Research Unit: "RAN-translation of normal and expanded nucleotide repeat containing transcripts to neurotoxic polypeptides in neurodegenerative diseases." Coordinator Dr Angelo Poletti

2010-2015 Financing agency: European Community FP7 program: Translational research on cancers with poor prognosis

Responsible of research unit: "PANACREAS: Integrating chemical approaches to treat pancreatic cancer: making new leads for a cure ". Coordinator Dr. Georg Feldmann

2010-2013 Financing agency: Italian Ministry of Health: Young research program

Responsible of research unit: "Preclinical evaluation of the NAMPT inhibitor FK866 for the treatment of autoimmunity and lymphoblastic leukemia". Coordinator Dr A.Nencioni

2007-2010: Financing agency Marie Curie post-doc programme by Provincia Autonoma Trento: post doc grant, project acronym "PROTRA: Translational profiles in cancer cell lines"

Number of International, Peer-Reviewed, ISI Indexed Articles: 41

Number of International, Peer-Reviewed, ISI Indexed Research Articles: 39

1. Generation and characterization of a human iPSC line from an ALS patient carrying the Q66K-MATR3 mutation. Pollini D, Loffredo R, Cardano M, Conti L, Lattante S, Notarangelo A, Sabatelli M, **Provenzani A**. *Stem Cell Res.* 2018 Oct 6;33:146-150. doi: 10.1016/j.scr.2018.10.011. **Corresponding author**
2. Exploration of ligand binding modes towards the identification of compounds targeting HuR: a combined STD-NMR and Molecular Modelling approach. Vasile F, Della Volpe S, Ambrosio FA, Costa G, Unver MY, Zucal C, Rossi D, Martino E, **Provenzani A**, Hirsch AKH, Alcaro S, Potenza D, Collina S. *Sci Rep.* 2018 Sep 13;8(1):13780. doi: 10.1038/s41598-018-32084-z
3. Cancer cells metabolic plasticity allows resistance to NAMPT inhibition but invariably induces dependence on LDHA. Thongon N, Zucal C, D'Agostino VG, Tebaldi T, Ravera S, Zamporlini F, Piacente F, Moschoi R, Raffaelli N, Quattrone A, Nencioni A, Peyron JF, **Provenzani A**. *Cancer Metab.* 2018 Mar 8;6:1. doi: 10.1186/s40170-018-0174-7. **Corresponding author**
4. Interfering with HuR-RNA Interaction: Design, Synthesis and Biological Characterization of Tanshinone Mimics as Novel, Effective HuR Inhibitors. Manzoni L, Zucal C, Maio DD, D'Agostino VG, Thongon N, Bonomo I, Lal P, Miceli M, Baj V, Brambilla M, Cerofolini L, Elezgarai S, Biasini E, Luchinat C, Novellino E, Fragai M, Marinelli L, **Provenzani A**, Seneci P. *J Med Chem.* 2018 Feb 22;61(4):1483-1498. doi: 10.1021/acs.jmedchem.7b01176. Epub 2018 Jan 31. **Co- Corresponding author**
5. Autophagy stimulus promotes early HuR protein activation and p62/SQSTM1 protein synthesis in ARPE-19 cells by triggering Erk1/2, p38MAPK and JNK kinase pathways. Marchesi N, Thongon N, Pascale A, Provenzani A, Koskela A, Korhonen E, Smedowski A, Govoni S, Kauppinen A, Kaarniranta K, Amadio ML. *Oxidative Medicine and Cellular Longevity* **In press**
6. The Natural Carotenoid Crocetin and the Synthetic Tellurium Compound AS101 Protect the Ovary against Cyclophosphamide by Modulating SIRT1 and Mitochondrial Markers. Di Emidio G, Rossi G, Bonomo I, Alonso GL, Sferra R, Vetuschi A, Artini PG, **Provenzani A**, Falone S, Carta G, D'Alessandro AM, Amicarelli F, Tatone C. *Oxidative Medicine and Cellular Longevity*, vol. 2017, **2017**. doi:10.1155/2017/8928604.
7. Regulation of HuR structure and function by Dihydrotanshinone-I. Lal P, Cerofolini L, D'Agostino VG, Zucal C, Fuccio C, Bonomo I, Dessi E, Giuntini S, Di Maio D, Vishwakarma V, Preet R, William SN, Fairlamb MS, Munk R, Lehrmann E, Abdelmohsen K, Elezgarai SR, Luchinat C, Novellino E, Quattrone A, Biasini E, Manzoni L, Gorospe M, Dixon DA, Seneci P, Marinelli L, Fragai M, Provenzani A. *Nucleic acid Resarch*, **2017** Sep 19;45(16):9514-9527. doi: 10.1093/nar/gkx623 **Co-corresponding author**
8. Different BCR/Abl protein suppression patterns as a converging trait of chronic myeloid leukemia cell adaptation to energy restriction. Bono S, Lulli M, D'Agostino VG, Di Gesualdo F, Loffredo R, Cipolleschi MG, **Provenzani A**, Rovida E, Dello Sbarba P. *Oncotarget.* 2016 Dec 20;7(51):84810-84825. doi: 10.18632/oncotarget.13319..
9. JNK1 ablation in mice confers long-term metabolic protection from diet-induced obesity at the cost of moderate skin oxidative damage. Becattini B, Zani F, Breasson L, Sardi C, D'Agostino VG, Choo MK, **Provenzani A**, Park JM, Solinas G. *FASEB J.* 2016 May 26. pii: fj.201600393R.
10. The Ribonucleic Complex HuR-MALAT1 Represses CD133 Expression and Suppresses Epithelial-Mesenchymal Transition in Breast Cancer. Latorre E, Carelli S, Raimondi I, D'Agostino V, Castiglioni I, Zucal C, Moro G, Luciani A, Ghilardi G, Monti E, Inga A, Di Giulio AM, Gorio A, Provenzani A **Corresponding author**. *Cancer Res.* 2016 May 1;76(9):2626-36. doi: 10.1158/0008-5472.CAN-15-2018. Epub 2016 Apr 20
11. The GSK3 β inhibitor BIS I reverts YAP-dependent EMT signature in PDAC cell lines by decreasing SMADs expression level. Thongon N, Castiglioni I, Zucal C, Latorre E, D'Agostino V, Bauer I, Pancher M, Ballestrero A, Feldmann G, Nencioni A, **Provenzani A**. **Corresponding author**, *Oncotarget.*, **2016** Mar 28. doi: 10.18632/oncotarget.8437.
12. Transcriptional induction of the heat shock protein B8 mediates the clearance of misfolded proteins responsible for motor neuron diseases. Crippa V, D'Agostino V, Cristofani R, Rusmini P, Cicardi M, Messi E, Loffredo R, Pancher M, Piccolella M, Galbiati M, Meroni M, Cereda C, Carra S, **Provenzani A**, Poletti A. **Co-last author**, *Sci Rep* **2016** Mar 10;6:22827. doi: 10.1038/srep22827.
13. Human antigen R binding and regulation of SOX2 mRNA in human mesenchymal stem cells. Carelli S, Latorre E, Caremoli F, Giallongo T, Colli M, Canazza A, **Provenzani A**, Di Giulio AM, Gorio A. *Mol Pharmacol.* **2015** Dec 16. mol.115.100701.
14. The CDKN2A/p16INK 4a 5'UTR sequence and translational regulation: impact of novel variants predisposing to melanoma. Andreotti V, Bisio A, Bressac-de Paillerets B, Harland M, Cabaret O, Newton-Bishop J, Pastorino L, Bruno W, Bertorelli R, De Sanctis V, **Provenzani A**, Menin C, Fronza G, Queirolo P, Spitale RC, Bianchi-Scarrà G, Inga A, Ghiorzo P. *Pigment Cell Melanoma Res.* **2015** Nov 18. doi: 10.1111/pcmr.12444.

15. Dihydrotanshinone-I interferes with the RNA-binding activity of HuR affecting its post-transcriptional function. D'Agostino VG, Lal P, Mantelli B, Tiedje C, Zucal C, Thongon N, Gaestel M, Latorre E, Marinelli L, Seneci P, Amadio M, **Provenzani A. corresponding author** *Sci Rep.* 2015 Nov 10;5:16478. doi: 10.1038/srep16478.
16. EIF2A-dependent translational arrest protects leukemia cells from the energetic stress induced by NAMPT inhibition. Zucal C, D'Agostino VG, Casini A, Mantelli B, Thongon N, Soncini D, Caffa I, Ballestrero A, Quattrone A, Indraccolo S, Nencioni A, **Provenzani A. corresponding author**. *BMC Cancer.* 2015 Nov 5;15(1):855. doi: 10.1186/s12885-015-1845-1.
17. The 5'-untranslated region of p16INK4a melanoma tumor suppressor acts as a cellular IRES, controls mRNA translation during hypoxic stress, and is a target of YBX1. Bisio A, Latorre E, Andreotti V, Bressac-de Paillerets B, Harland M, Bianchi Scarra G, Ghiorzo P, Spitale RC, **Provenzani A**, Inga A. *Oncotarget* 2015 Nov 24;6(37):39980-94. doi: 10.18632/oncotarget.5387.
18. APO866 increases anti-tumor activity of cyclosporin-A by inducing mitochondrial and endoplasmic reticulum stress in leukemia cells. Cagnetta A, Soncini D, Caffa I, Acharya C, Acharya P, Adamia S, Pierri I, Bergamaschi M, Garuti A, Frernali-Orcioni G, **Provenzani A**, Mastracci L, Zucal C, Damonte G, Salis A, Patrone F, Ballestrero A, Gobbi M, Montecucco F, Bruzzone S, Nencioni A, Cea M. *Clin Cancer Res.* 2015 May 11. pii: clincanres.3023.2014.
19. Fasting potentiates the anticancer activity of tyrosine kinase inhibitors by strengthening MAPK signaling inhibition. Caffa I, D'Agostino V, Damonte P, Soncini D, Cea M, Monacelli F, Odetti P, Ballestrero A, **Provenzani A**, Longo VD, Nencioni A. *Oncotarget.* 2015 May 20;6(14):11820-32.
20. Soncini D, Caffa I, Zoppoli G, Cea M, Cagnetta A, Passalacqua M, Mastracci L, Boero S, Montecucco F, Sociali G, Lasigliè D, Damonte P, Grozio A, Mannino E, Poggi A, D'Agostino VG, Monacelli F, **Provenzani A**, Odetti P, Ballestrero A, Bruzzone S, Nencioni A. Nicotinamide phosphoribosyltransferase promotes epithelial-to-mesenchymal transition as a soluble factor independent of its enzymatic activity. *J Biol Chem.* 2014 Dec 5;289(49):34189-204. doi: 10.1074/jbc.M114.594721. Epub 2014 Oct 20.
21. Latorre E, Castiglioni I, Gatto P, Carelli S, Quattrone A, **Provenzani A**. Loss of PKCδ/HuR interaction is necessary to doxorubicin resistance in breast cancer cell lines. *J Pharmacol Exp Ther.* 2014 Apr;349(1):99-106. doi: 10.1124/jpet.113.211839. Epub 2014 Feb 3. **Corresponding author**
22. Zani F, Breasson L, Becattini B, Vukolic A, Montani JP, Albrecht U, **Provenzani A**, Ripperger JA, Solinas G. PER2 promotes glucose storage to liver glycogen during feeding and acute fasting by inducing Gys2 PTG and G L expression. *Mol Metab.* 2013 Jul 1;2(3):292-305. doi: 10.1016/j.molmet.2013.06.006. eCollection 2013.
23. D'Agostino VG, Adami V, **Provenzani A**. A Novel High Throughput Biochemical Assay to Evaluate the HuR Protein-RNA Complex Formation. *PLoS One.* 2013 Aug 12;8(8):e72426. doi: 10.1371/journal.pone.0072426. **Corresponding author**
24. Viiri J, Amadio M, Marchesi N, Hyttinen JM, Kivinen N, Sironen R, Rilla K, Akhtar S, **Provenzani A**, D'Agostino VG, Govoni S, Pascale A, Agostini H, Petrovski G, Salminen A, Kaarniranta K. Autophagy Activation Clears ELAVL1/HuR-Mediated Accumulation of SQSTM1/p62 during Proteasomal Inhibition in Human Retinal Pigment Epithelial Cells. *PLoS One.* 2013 Jul 29;8(7):e69563. doi: 10.1371/journal.pone.0069563. Print 2013.
25. Tenzer S, Moro A, Kuharev J, Francis AC, Vidalino L, **Provenzani A**, Macchi P. Proteome-Wide Characterization of the RNA-Binding Protein RALY-Interactome Using the in Vivo-Biotinylation-Pulldown-Quant (iBioPQ) Approach. *J Proteome Res.* 2013 May 6.
26. Dassi E, Zuccotti P, Leo S, **Provenzani A**, Assfalg M, D'Onofrio M, Riva P, Quattrone A. Hyper conserved elements in vertebrate mRNA 3'-UTRs reveal a translational network of RNA-binding proteins controlled by HuR. *Nucleic Acids Res.* 2013 Mar 1;41(5):3201-16. doi: 10.1093/nar/gkt017. Epub 2013 Feb 1.
27. Latorre E, Tebaldi T, Viero G, Spartà AM, Quattrone A, **Provenzani A**. Downregulation of HuR as a new mechanism of doxorubicin resistance in breast cancer cells. *Mol Cancer.* 2012 Mar 21;11:13. doi: 10.1186/1476-4598-11-13. **Corresponding author**
28. Bisio A, Nasti S, Jordan JJ, Gargiulo S, Pastorino L, **Provenzani A**, Quattrone A, Queirolo P, Bianchi-Scarrà G, Ghiorzo P, Inga A. Functional analysis of CDKN2A/p16INK4a 5'-UTR variants predisposing to melanoma. *Hum Mol Genet.* 2010 Apr 15;19(8):1479-91. doi: 10.1093/hmg/ddq022. Epub 2010 Jan 21.
29. **Provenzani A**, Fronza R, Loreni F, Pascale A, Amadio M, Quattrone A. Global alterations in mRNA polysomal recruitment in a cell model of colorectal cancer progression to metastasis. *Carcinogenesis.* 2006 Jul;27(7):1323-33. Epub 2006 Mar 10. **First Author**

30. Pascale A, Amadio M, Scapagnini G, Lanni C, Racchi M, **Provenzani A**, Govoni S, Alkon DL, Quattrone A. Neuronal ELAV proteins enhance mRNA stability by a PKCalpha-dependent pathway. *Proc Natl Acad Sci U S A.* 2005 Aug 23;102(34):12065-70. Epub 2005 Aug 11.
31. Cini G, Neri B, Pacini A, Cesati V, Sassoli C, Quattrone S, D'Apolito M, Fazio A, Scapagnini G, **Provenzani A**, Quattrone A. Antiproliferative activity of melatonin by transcriptional inhibition of cyclin D1 expression: a molecular basis for melatonin-induced oncostatic effects. *J Pineal Res.* 2005 Aug;39(1):12-20.
32. Bertini I, Del Bianco C, Gelis I, Katsaros N, Luchinat C, Parigi G, Peana M, **Provenzani A**, Zoroddu MA. Experimentally exploring the conformational space sampled by domain reorientation in calmodulin. *Proc Natl Acad Sci U S A.* 2004 May 4;101(18):6841-6. Epub 2004 Apr 20. **First author**
33. Hinse C, Richter C, **Provenzani A**, Stöckigt J. In vivo monitoring of alkaloid metabolism in hybrid plant cell cultures by 2D cryo-NMR without labelling. *Bioorg Med Chem.* 2003 Sep 1;11(18):3913-9.
34. Bertini I, Gelis I, Katsaros N, Luchinat C, **Provenzani A**. Tuning the affinity for lanthanides of calcium binding proteins. *Biochemistry.* 2003 Jul 8;42(26):8011-21. **First author**
35. Bertini I, Luchinat C, **Provenzani A**, Rosato A, Vasos PR. Browsing gene banks for Fe2S2 ferredoxins and structural modeling of 88 plant-type sequences: an analysis of fold and function. *Proteins.* 2002 Jan 1;46(1):110-27. **Co-First author**
36. Hinse C, Unger M, **Provenzani A**, Stöckigt J. Glucosylation of isatin-3-oxime followed by 2D in situ NMR in plant cells at highest magnetic field without labelling. *Nat Prod Lett.* 2001;15(2):119-24.
37. Hinse C, Sheludko YV, **Provenzani A**, Stöckigt JH. In vivo NMR at 800 MHz to monitor alkaloid metabolism in plant cell cultures without tracer labeling. *J Am Chem Soc.* 2001 May 30;123(21):5118-9.
38. Bertini I, Pieper D, **Provenzani A**, Viezzoli MS, Timmis KN. NMR spectroscopy as a tool to investigate the degradation of aromatic compounds by a *Pseudomonas putida* strain. *Magn. Res. Chem.* 41, 615-621. 2004. **First author**
39. G.Capozzi, S.Menichetti, C.Nativi, and **A.Provenzani**. α -Oxosulfines. IV. Intramolecular Hetero Diels-Alder Reaction of α,α' -Dioxosulfines. A New Access to [3.3.1] Bicyclic Skeleton. *Eur. J. Org. Chem.* 2000, 3721-3725.

Number of International Peer-Reviewed Reviews: 2

- Denti MA, Viero G, **Provenzani A**, Quattrone A, Macchi P. mRNA fate: Life and death of the mRNA in the cytoplasm. *RNA Biol.* 2013 Mar 1;10(3).
- Targeting the Multifaceted HuR Protein, Benefits and Caveats. Zucal C, D'Agostino V, Loffredo R, Mantelli B, Thongon N, Lal P, Latorre E, **Provenzani A**. *Curr Drug Targets.* 2015;16(5):499-515. **Corresponding author**

International Peer-Reviewed Book Chapter: 1

- 'Iron Storage and Transport' in "Handbook on Metalloproteins", F.Arnesano and **A.Provenzani**, I.Bertini, A.Sigel, and H.Sigel, eds.,M. Dekker, New York, 2001.

National, Peer-Reviewed, ISI Indexed Research Articles: 1

- Immuknow and long term kidney graft. Andreotti C, Zortea M, **Provenzani A**, Gentilini M, Bucella N. *G Ital Nefrol.* 2015 Mar-Apr;32(2). pii: gin/32.2.28.

Technology Transfer:

Financing agent: IMPATT consortium

Competitive funding. Operative reference STEMSCREEN project "Utilizzo di cellule staminali pluripotenti come modello cellulare per screening farmacologico" dal 01-02-2010 al 31-01-2011

Patent:

"Nuovi derivati aza-tanshinonici, procedimento per la loro preparazione e loro uso in terapia" **Italian patent No 102016000061247**, 14-06-2016; **PCT extension: NEW AZA-TANSHINONE DERIVATIVES, PROCESS FOR THEIR PREPARATION AND THEIR USE IN THERAPY**, PCT/IB2017/053519, 14-06-2017

"Metodo per l'isolamento di vescicole extracellulari da materiale biologico" **Italian Patent 102017000146281**, 19-12-2017

Oral Communications:**Seminars:**

"Downregulation of HuR as a new mechanism of doxorubicin resistance in breast cancer cells":

Seminar at "Dipartimento di Biotecnologie dell'Università di Verona", December, 2011

Seminar at "Hannover Medical School", January, 2012

Seminar at "University of Padoa", December 2012

National Congresses Selected Speaker:

"Identification of mRNA species loaded on polysomes by Elavl1 under doxorubicin stimulus" National Congress of Associazione Italiana Biologia e Genetica Generale e Molecolare, 8-10 October 2009 Palermo, Italy

"Identification of inhibitors of HuR-RNA complex formation by a novel high throughput biochemical assay", National Congress of Associazione Italiana Biologia e Genetica Generale e Molecolare, Arcavacata di Rende (CS), 27-28 settembre 2013

"Nampt inhibition in leukemia cells, via FK866 treatment, induces a translation driven, cell response program" National Congress of Associazione Italiana Biologia e Genetica Generale e Molecolare, 26-27 September 2014 Napoli, Italy

International Congresses Selected Speaker:

"Identification and characterization of new HuR inhibitors", "EACR 2017, The Challenges of Optimising Immuno and Targeted Therapies" Florence, June 2017

"Nampt inhibition in leukemia cells, via FK866 treatment, induces a translation driven, cell response program" 17th International Symposium on Molecular Medicine, Athens, October 2014

"HuR and doxorubicin: how an RNA binding protein is involved in drug resistance" 2nd world congress on "Cancer Science & Therapy", San Antonio, 10-12 September 2012

"RNA 2-day: The RNA world: from basic science to applied research". 10-11 June 2004, University "La Sapienza", Roma. Italy

Organization of scientific congresses

Co-organizer: "mRNA fate 2012: Life and death of mRNA in the cytoplasm". 23-26 May 2012, Riva del Garda (Trento). Italy.

Co-organizer: "XII Congresso AIBG" Trento, 8-9 ottobre 2010

Co-organizer: "1st International Meeting on: Genome Based Drug Discovery", Florence, March 22-27, 2004

Memberships

Associazione Italiana Biologia e Genetica Generale e Molecolare (AIBG)

European Association for Cancer Research (EACR)

Science Communication activity

Seminar for the "Genetica, biologia e salute" course organized by the Museo Tridentino di Scienze Naturali, Trento (Ottobre-Novembre 2010) for High School Teachers.

Consultant activity for Museo Tridentino di Scienze Naturali for the set-up fo the "Nuovo Museo della Scienza, MUSE", section "Welcome to DNA world"

Activity as reviewer and editor:

Peer review activity for: Cancer Research, Molecular Cancer, Plos One, FEBS Journal, Journal of Experimental and Clinical Cancer Research, Expert Opinion on Therapeutic Targets, American Journal of Pathology, Oncotarget, Tumor Biology, Journal of Vascular Research,

Evaluator of research project for the Polish "National Science Centre".

Associate Editor of Scientific Reports (Nature Publishing groups) and BMC Cancer.

INFORMAZIONI PERSONALI

EMILIANO BIASINI

324

RESEARCH EXPERIENCE

- Current Associate Professor (Assistant Professor from 10/2015 to 09/2018)
Dulbecco Telethon Laboratory of Prions & Amyloids, Center for Integrative Biology
(CIBIO), University of Trento, ITALY
- 2017 - to date Co-founder & Scientific Advisor
Sibylla Biotech SRL (www.sibyllabiotech.it)
- 2013 - 2015 Principal Investigator
Italian National Institute of Health, Rome, ITALY c/o Department of Neuroscience,
Mario Negri Institute for Pharmacological Research, Milan, ITALY
- 2010 - 2014 Adjunct Instructor
Department of Biochemistry, Boston University School of Medicine, USA
- 2008 - 2009 Research Associate
Mario Negri Institute for Pharmacological Research, Milan, ITALY
- 2005 - 2007 Postdoctoral Fellow
Department of Cell Biology and Physiology, Washington University in St Louis, USA

EDUCATION

- 2018 Professorship Habilitation (05/E1 - Biochemistry, Full Professor)
Italian Ministry of University and Research (MIUR)
- 2015 Specialization in Applied Genetics (70/70 cum laude)
University of La Sapienza, Rome, ITALY
- 2014 Specialization in Pharmacological Research
Mario Negri Institute for Pharmacological Research, Milan, ITALY
- 2018 Master Degree in Biological Sciences (110/110 cum laude)
University of RomaTre, Rome, ITALY

TEACHING ACTIVITY

- 2016 - 2018 Biochemistry (Master in Quantitative & Computational Biology
0521H, Course 145551)
Applied Biochemistry (Bachelor in Biomolecular Sciences 0516G,
Course 145608)
University of Trento, ITALY
- 2011 - 2013 Techniques in Biochemistry, Cell, and Molecular Biology (BI777 A1-
2012)
Boston University School of Medicine, Boston, MA, USA

GRANTS & AWARDS

- 2016 MS Society Pilot Grant
Multiple Sclerosis Society (USA)
- 2015 CJD Research Grants
CJD Foundation (USA)
- 2015 - 2020 Career Developing Award (TCP14009)
Telethon Foundation (ITALY)
- 2013 - 2016 Young Investigator Grant (GR-2010-2312769)
Italian Ministry of Health, Rome (ITALY)
- 2013 Life Science Award
Boston University Technology Office (USA)
- 2013 BioEconomy Award
CNCCS (ITALY)
- 2012 The Carlton Maddrey Wilson Research Grant
CJD Foundation (USA)
- 2005 - 2007 Telethon Research Grant (GFP0400)
Telethon Foundation (ITALY)

SELECTED CONFERENCE PRESENTATIONS

- 2018 Invited Speaker, Trento-Nagasaki Symposium on
Neurodegenerative Diseases
University of Nagasaki, JAPAN
- 2017 Invited Speaker, Summer School on Prion and Prion-like
Neurodegenerative Disorders
Desenzano del Garda, ITALY
- 2017 Invited Speaker, Telethon Convention
Riva del Garda, ITALY
- 2016 Keynote Speaker, XXIV National Meeting of Medicinal Chemistry
Perugia, ITALY
- 2016 Invited Speaker, Diffrazioni Festival
Florence, ITALY
- 2015 Invited Speaker, 13th CJD Foundation Family Conference,
Washington DC, USA
- 2013 Invited Speaker, Summit of Molecular Interaction and Parallel
Analysis by XPR Technology, Chinese
Academy of Biotechnology, Yichun City, Heilongjiang Pr., CHINA
- 2013 Video Speaker, Bio Rad SPR Webinar Series, USA
www.youtube.com/watch?v=EbTe3DEtlwk

PEER-REVIEWED
PUBLICATIONS

- As first (*) or corresponding (#) author*
- 2018 Barreca ML*, Iraci N, Biggi S, Cecchetti V and **Biasini E[#]**. Pharmacological agents targeting the cellular prion protein. *Pathogens*. 2018 Mar 7;7(1).
- 2018 T Islam AM, Adlard PA, Finkelstein DI, Lewis V, Biggi S, **Biasini E[#]**, Collins SJ[#]. Acute Neurotoxicity Models of Prion Disease. *ACS Chem Neurosci*. 2018 Feb 14.
- 2017 Stincardini C, Massignan T, Biggi S, Elezgarai SR, Sangiovanni V, Vanni I, Pancher M, Adamo V, Moreno J, Stravalaci M, Maietta G, Gobbi M, Negro A, Requena JR, Castilla J, Nonno R, **Biasini E[#]**. An antipsychotic drug exerts anti-prion effects by altering the localization of the cellular prion protein. *PLoS One*. 2017 Aug 7;12(8):e0182589.
- 2017 Massignan T, Sangiovanni V, Biggi S, Stincardini C, Elezgarai SR, Maietta G, Andreev IA, Ratmanova NK, Belov DS, Lukyanenko ER, Belov GM, Barreca ML, Altieri A, Kurkin AV, **Biasini E[#]**. A Small-Molecule Inhibitor of Prion Replication and Mutant Prion Protein Toxicity. *ChemMedChem*. 2017 Aug 22;12(16):1286-1292.
- 2016 Nyeste A, Stincardini C, Bencsura P, Cerovic M, **Biasini E[#]**, Welker E[#]. The prion protein family member Shadoo induces spontaneous ionic currents in cultured cells. *Sci Rep*. 2016 Nov 7;6:36441.
- 2016 Elezgarai SR[#], **Biasini E[#]**. Common therapeutic strategies for prion and Alzheimer's diseases. *Biol Chem*. 2016 Nov 1;397(11):1115-1124.
- 2016 Massignan T, Cimini S, Stincardini C, Cerovic M, Vanni I, Elezgarai SR, Moreno J, Stravalaci M, Negro A, Sangiovanni V, Restelli E, Riccardi G, Gobbi M, Castilla J, Borsello T, Nonno R, **Biasini E**. A cationic tetrapyrrole inhibits toxic activities of the cellular prion protein. *Sci Rep*. 2016 Mar 15;6:23180.
- 2015 Iraci N, Stincardini C, Barreca ML, **Biasini E**. Decoding the function of the N-terminal tail of the cellular prion protein to inspire novel therapeutic avenues for neurodegenerative diseases. *Virus Res*. 2015 Sep 2;207:62-8.
- 2013 **Biasini E**, Unterberger U^{*}, Solomon IH, Massignan T, Senatore A, Bian H, Voigtlaender T, Bowman FP, Bonetto V, Chiesa R, Luebke J, Toselli P and Harris DA[#]. A mutant prion protein sensitizes neurons to glutamate-induced excitotoxicity. *J Neurosci*. 2013 Feb 6;33(6):2408-18.
- 2013 Fluharty BR^{*}, **Biasini E**, Stravalaci M, Sclip A, Diomede L, Balducci C, La Vita P, Messa M, Colombo L, Forloni G, Borsello T, Gobbi M, Harris DA. An N-terminal fragment of the prion protein binds to amyloid-β oligomers and inhibits their neurotoxicity in vivo. *J Biol Chem*. 2013 Mar 15;288(11):7857-66
- 2012 **Biasini E[#]** and Harris DA[#]. Targeting the cellular prion protein to treat neurodegeneration. *Future Med Chem*. 2012 Sep;4(13):1655-8.
- 2012 **Biasini E[#]**, Turnbaugh JA^{*}, Massignan T, Veglianese P, Forloni G, Bonetto V, Chiesa R and Harris DA[#]. The toxicity of a mutant prion protein is cell-autonomous, and can be suppressed by wild-type prion protein on adjacent cells. *PLoS One* 2012. 2012;7(3):e33472.
- 2012 **Biasini E**, Turnbaugh JA^{*}, Unterberger U, Harris DA. Prion protein at the crossroads of physiology and disease. *Trends Neurosci*. 2012 Feb;35(2):92-103.
- 2010 **Biasini E**, Tapella L, Restelli L, Pozzoli M, Massignan T, and Chiesa R[#]. The hydrophobic core region governs mutant prion protein aggregation and intracellular retention. *Biochem J*. 2010 Aug 27;430(3):477-86.
- 2009 **Biasini E**, Tapella L, Mantovani S, Stravalaci M, Gobbi M, Harris DA and Chiesa R[#]. Immunopurification of pathological prion protein aggregates. *PLoS One* 2009 Nov 12;4(11):e7816.
- 2008 **Biasini E**, Seegulam MS, Patti BN, Solforosi L, Medrano AZ, Christensen HM, Senatore S, Chiesa R., Williamson AR., and Harris DA[#]. Non-infectious aggregates of the prion protein react with several PrP^{Sc}-directed antibodies. *J Neurochem*. 2008 Jun; 105(6): 2190-2204
- 2008 **Biasini E^{*}**, Medrano A, Thellung S, Chiesa R, Harris DA[#]. Multiple biochemical similarities between infectious and non-infectious aggregates of a prion protein carrying an octapeptide insertion. *J Neurochem*. 2008 Mar;104(5):1293-308.
- 2006 **Biasini E**, Massignan T, Fioriti L, Rossi V, Dossena S, Salmona M, Forloni G, Bonetto V, Chiesa R[#]. Analysis of the cerebellar proteome in a transgenic mouse model of inherited prion disease reveals preclinical alteration of calcineurin activity. *Proteomics*. 2006 May;6(9):2823-34.
- 2004 **Biasini E**, Fioriti L, Ceglia I, Invernizzi R, Bertoli A, Chiesa R, Forloni G. Proteasome inhibition and aggregation in Parkinson's disease: a comparative study in untransfected and transfected cells. *J Neurochem*. 2004 Feb;88(3):545-53.

As co-author

- 2018 Manzoni L, Zucal C, Maio DD, D'Agostino VG, Thongon N, Bonomo I, Lal P, Miceli M, Baj V, Brambilla M, Cerofolini L, Elezgarai S, **Biasini E**, Luchinat C, Novellino E, Fragai M, Marinelli L, Provenzani A, Seneci P. Interfering with HuR-RNA Interaction: Design, Synthesis and Biological Characterization of Tanshinone Mimics as Novel, Effective HuR Inhibitors. *J Med Chem.* 2018 Feb 22;61(4):1483-1498.
- 2017 Lal P, Cerofolini L, D'Agostino VG, Zucal C, Fuccio C, Bonomo I, Dassi E, Giuntini S, Di Maio D, Vishwakarma V, Preet R, Williams SN, Fairlamb MS, Munk R, Lehrmann E, Abdelmohsen K, Elezgarai SR, Luchinat C, Novellino E, Quattrone A, **Biasini E**, Manzoni L, Gorospe M, Dixon DA, Seneci P, Marinelli L, Fragai M, Provenzani A. Regulation of HuR structure and function by dihydrotanshinone-I. *Nucleic Acids Res.* 2017 Sep 19;45(16):9514-9527.
- 2016 Stravalaci M, Tapella L, Beeg M, Rossi A, Joshi P, Pizzi E, Mazzanti M, Balducci C, Forloni G, **Biasini E**, Salmona M, Diomede L, Chiesa R, Gobbi M. The Anti-Prion Antibody 15B3 Detects Toxic Amyloid- β Oligomers. *J Alzheimers Dis.* 2016 Jul 6;53(4):1485-97.
- 2016 Sempou E, **Biasini E**, Pinzón-Olejua A, Harris DA, Málaga-Trillo E. Activation of zebrafish Src family kinases by the prion protein is an amyloid- β -sensitive signal that prevents the endocytosis and degradation of E-cadherin/ β -catenin complexes in vivo. *Mol Neurodegener.* 2016 Feb 9;11:18.
- 2015 Vercelli A, Biggi S, Sclip A, Repetto IE, Cimini S, Falleroni F, Tomasi S, Monti R, Tonna N, Morelli F, Grande V, Stravalaci M, **Biasini E**, Marin O, Bianco F, di Marino D, Borsello T. Exploring the role of MKK7 in excitotoxicity and cerebral ischemia: a novel pharmacological strategy against brain injury. *Cell Death Dis.* 2015 Aug 13;6:e1854.
- 2014 Botto L, Cunati D, Coco S, Sesana S, Bulbarelli A, **Biasini E**, Colombo L, Negro A, Chiesa R, Masserini M and Palestini P. Role of lipid rafts and GM1 in the segregation and processing of Prion Protein . *PLoS One.* 2014 May 23;9(5):e98344.
- 2013 Tapella L, Stravalaci M, Bastone A, **Biasini E**, Gobbi M and Chiesa R. Epitope scanning indicates structural differences in brain-derived, monomeric and aggregated mutant prion proteins related to genetic prion diseases. *Biochem J.* 2013 Sep 15;454(3):417-25.
- 2012 Tumbaugh JA, Unterberger U, Saa P, Massignan T, Fluharty B, Bowman R, Miller M, Supattapone S, **Biasini E** and David Harris. The N-terminal, polybasic region of PrPC dictates the efficiency of prion propagation by binding to PrPSc. *J Neurosci.* 2012 Jun 27;32(26):8817-30.
- 2012 Solomon IH, **Biasini E**, and Harris DA. Ion channels induced by the prion protein: mediators of neurotoxicity. *Prion.* 2012 Jan-Mar;6(1):40-5.
- 2011 Tumbaugh JA, Westergard L, Unterberger U, **Biasini E**, Harris DA. The N-terminal, polybasic region is critical for prion protein neuroprotective activity. *PLoS One.* 2011;6(9):e25675.
- 2011 Solomon IH, Khatri N, **Biasini E**, Massignan T, Huettnar JE, Harris DA. An N-terminal polybasic domain and cell surface localization are required for mutant prion protein toxicity. *J Biol Chem.* 2011 Apr 22;286(16):14724-36.
- 2011 Massignan T, **Biasini E**, Harris DA. A Drug-Based Cellular Assay (DBCA) for studying cytotoxic and cytoprotective activities of the prion protein: A practical guide. *Methods.* 2011 Mar; 53(3):214
- 2010 Balducci C, Beeg M, Stravalaci M, Bastone M, Sclip A, **Biasini E**, Tapella L, Colombo L, Manzoni C, Borsello T, Chiesa R, Gobbi M, Salmona M and Forloni G. $\text{A}\beta$ oligomers impair memory independently of cellular prion protein. *Proc Natl Acad Sci U S A.* 2010 Feb 2; 107(5):2295-300.
- 2010 Massignan T, **Biasini E**, Veglianese P, Harris DA, Salmona M, Chiesa R, and Bonetto V. Mutant prion protein expression is associated with an alteration of the Rab GDP dissociation inhibitor alpha (GDI)/Rab11 pathway. *Mol Cell Proteomics.* 2010 Apr;9(4):611-22.
- 2010 Massignan T, Stewart RS, **Biasini E**, Solomon IH, Bonetto V, Chiesa R, Harris DA. A novel, drug-based, cellular assay for the activity of neurotoxic mutants of the prion protein. *J Biol Chem.* 2010 Mar 5;285(10):7752.
- 2008 Chiesa R, Piccardo P, **Biasini E**, Ghetti B, and Harris DA. Aggregated, wild-type prion protein causes neurological dysfunction and synaptic abnormalities. *J Neurosci.* 2008 Dec 3(49):13258-67.
- 2008 Medrano AZ, Barmada SJ, **Biasini E**, and Harris DA. GFP-tagged mutant prion protein forms intra-axonal aggregates in transgenic mice. *Neurobiol Dis.* 2008 Jul;31(1):20-32.

- 2007 Yin S, Pham N, Yu S, Li C, Wong P, Chang B, Kang S, **Biasini E**, Harris DA, Sy MS. Human prion proteins with pathogenic mutations share common conformational changes resulting in enhanced binding to glycosaminoglycans. *Proc Natl Acad Sci U S A*. 2007 May 1;104(18):46-51.
- 2007 Massignan T, Casoni F, Basso M, Stefanazzi P, **Biasini E**, Tortarolo M, Salmona M, Gianazza E, Bendotti C, Bonetto V. Proteomic analysis of spinal cord of symptomatic amyotrophic lateral sclerosis G93A SOD1 mouse. *Biochem Biophys Res Commun*. 2007 Feb 16;353(3):719-25.
- 2006 Ghezzi P, Casagrande S, Massignan T, Bellacchio E, Eberini I, Gianazza E, **Biasini E**, Mollica L, Fratelli M, Salmona M, Sherry B, Bonetto V. Glutathionylation of cyclophilin A in T lymphocytes: Influence on structure and function. *Proteomics*. 2006 Feb;6(3):817-25.
- 2003 Drisaldi B, Stewart R, Adles A, Stewart L, Quaglio E, **Biasini E**, Fioriti L, Chiesa R, and Harris DA. Mutant PrP is delayed in its exit from the endoplasmic reticulum, but neither wild-type nor mutant PrP undergoes retrotranslocation prior to proteasomal degradation. *J Biol Chem*. 2003 Jun 13;278(24):21732-43.

BOOK CHAPTERS

-
- 2012 **Biasini E** and Harris DA. Infectious and pathogenic forms of PrP. Chapter in *Prions and Prion Diseases*, Springer Science 2012 (ISBN 978-1-4614-5305-5)

PATENTS

-
- 2018 Faccioli P and **Biasini E**. PPI-FIT. Application No. 102018000007535
Filing Date: 25/07/2018
- 2014 **Biasini E**, Harris DA, Beeler A, Fluharty B, Barreca ML, Iraci N, Ingham O. Prion protein ligands as therapeutic agents for neurodegenerative disorders. International Application No. PCT/US2013/053796; Pub. No.: WO/2014/025785; Publication Date: 13/02/2014

INFORMAZIONI PERSONALI



Romina Belli



ESPERIENZA PROFESSIONALE

2013-presente	Staff scientist Presso CIBIO, UniTn Posizione Manager della Piattaforma di Spettrometria di massa e Proteomica. Gestione della facility, compreso il budget (con firma del direttore), dei sistemi cromatografia liquida e spettrometri di massa, compresa manutenzione ordinaria, e gestione dell'utenza.
1997-2008	Tecnico responsabile di laboratorio Presso Dipartimento di Meccanica Strutturale (1997-2001) e Fisica (2001-2008) , UniTn. Posizione Responsabile del laboratorio di Microscopia Elettronica a Scansione e spettroscopia a dispersione di energia
1992-1997	Senior Tecnico Presso Dipartimento di Meccanica Strutturale, UniTn Posizione Tecnico nel laboratorio di Microscopia Elettronica a Scansione e spettroscopia a dispersione di energia
1989-1992	Tecnico Presso Dipartimento di Meccanica Strutturale, UniTn Posizione Tecnico nel laboratorio di Controllo qualità di rivestimenti creati con il plasma

ISTRUZIONE

2008-2013	Ph.D. in Environmental Science Università di Newcastle (NSW, Australia) ▪ Specializzazione: Analisi paleoclimatica e geoanalitica con l'uso di tecniche spettrometriche e metodi innovativi <i>Nota: il periodo comprende congedo per maternità e congedo parentale (2010)</i>
2002-2005	B.Sc. cum laude in Scienze dei Beni Archeologici Università di Trento (Trento, Italia) ▪ Specializzazione: Studio archeometrico di reperti archeologici con implicazioni paleoclimatiche
1984-1989	Diploma in Chimica Industriale Istituto tecnico Industriale Statale (Trento , Italia) ▪ Specializzazione: Chimica inorganica

CORSI di FORMAZIONE specifici

- 2018 Targeted Proteomics: Experimental Design and Data Analysis (5 days)
▪ Presso: CRG Barcellona (Spagna)
▪ Organizzato da: EMBO
ERASMUS+ (10 days)
▪ Presso: Max Delbrück Center for Molecular Medicine -Berlin, Cell Signaling and Mass Spectrometry, Prof. Selbach
- 2017 Advanced Orbitrap Fusion Mass Spectrometers (3 days)
▪ Presso: Nostra sede
▪ Organizzato da: Thermo Scientific
Lipid Analysis on an Orbitrap Fusion Tribid Mass Spectrometer (3 days)
▪ Presso: Nostra sede
▪ Organizzato da: Thermo Scientific
- 2016 Orbitrap Fusion Mass Spectrometers (3 days)
▪ Presso: Nostra sede
▪ Organizzato da: Thermo Scientific
ERASMUS+ (10 days)
▪ Presso: Max Delbrück Center for Molecular Medicine -Berlin, Cell Signaling and Mass Spectrometry, Prof. Selbach
- 2014 Proteomic and Mass Spectrometry Course
▪ Presso: Max Delbrück Center for Molecular Medicine -Berlin, Prof. G. Dittmar
▪ Organizzato da: Prof. G. Dittmar , Mass Spectrometry Core Facility
ERASMUS+ (5 days)
▪ Presso: Max Delbrück Center for Molecular Medicine -Berlin, Cell Signaling and Mass Spectrometry, Prof. Selbach
- 2013 7th European Summer School in Advanced Proteomics (6 days)
▪ Presso: Kloster Neustift (Bressanone, Italia)
▪ Organizzato da: University of Göttingen, University of München, Medizinisches Proteom Center
- 2011 Quaternary Techniques Short Course (2 days)
▪ Presso: GNS Science (Wellington, NZ)
▪ Organizzato da: GNS Science
- 2008 2nd Cheiron School in Synchrotron Radiation (10 days)
▪ Presso: Japanese Synchrotron Radiation Spring-8 (Hyogo, Japan)
▪ Organizzato da: Japanese Synchrotron Radiation Spring-8
- 1997 Qualitative X-Ray Microanalysis of Bulk specimens and Particles Advanced Course (5 days)
▪ Presso: Lehigh University of Bethlehem (PA, USA)
▪ Organizzato da: Lehigh University of Bethlehem
- 1994 Spring School in Electron Microscopy (5 days)
▪ Presso: Royal Microscopical Society (Oxford, UK)
▪ Organizzato da: Royal Microscopical Society