PERSONAL INFORMATION Irene Lepori

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RESEARCH EXPERIENCE

(1/11/2015 – to date) PhD in Molecular Medicine – University of Siena

Research activity:

Chemical engineering of attenuated *Listeria monocytogenes* cell wall by metabolic labelling and bioorthogonal "click-reactions" to enhance its anticancer activity.

Development of an aptamer against mesothelin protein by whole cell-SELEX approach.

Dr. Laura Poliseno
Oncogenomics Unit, Core Research Laboratory (CRL), Istituto per lo Studio, la Prevenzione e la Rete Oncologica (ISPRO) and Institute of Clicnical Physiology (IFC), National Research Council (CNR), Pisa, Italy

Dr. Lorena Tedeschi
Institute of Clicnical Physiology (IFC), National Research Council (CNR), Pisa, Italy

Prof. Federica Gemignani
Genetic unit, Department of Biology, University of Pisa, Italy

Prof. Stefano Landi
Genetic unit, Department of Biology, University of Pisa, Italy

(6/9/2017 – 6/3/2018) Research Abroad

Research activity:

Chemical engineering of attenuated *Listeria monocytogenes* cell wall with different peptidoglycan-targeting probes and bioorthogonal "click-reactions".

Prof. Sloan Siegrist,
Department of Microbiology, University of Massachusetts (UMass) - Amherst, Massachusetts, USA

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(1/9/2014 – 1/6/2015) Intership undergraduate

Research activity:

***In vitro* kinetic characterization of a hammerhead ribozyme designed against BIRC5 mRNA onto the FAS mRNA: evaluation of the off-target activity of a ribozyme-RNA target mismatch.**

Dr. Lorena Tedeschi
Institute of Clicnical Physiology (IFC), National Research Council (CNR), Pisa, Italy

TEACHING EXPERIENCE

(1/10/2014 - 1/11/2014) Lab assistant in Analytical Organic Chemistry - European Pharmacopeial Drugs Analysis

Master Degree in Pharmacy, Department of Pharmacy, University of Pisa, Pisa, Italy

(1/10/2014 - 1/11/2014) Auxiliary teacher in Basic Chemistry

Master Degree in Pharmaceutical Chemistry, Department of Pharmacy, University of Pisa, Pisa, Italy

EDUCATION AND TRAINING

12/06/2015 Master degree in Pharmaceutical Chemistry and Technology (110/110 cum laude)

Department of Pharmacy, University of Pisa, Pisa, Italy

Principal skills acquired:

- Strong competences in pharmacological biotechnology
- Strong competences in quantitative and qualitative chemical analysis of both inorganic and organic compounds, particularly drugs.
- Good competences in drug development, analysis, and management (drug design, synthesis, formulation, pharmacology, and legislation)
- Good knowledge in genetic, molecular biology, biochemistry, human physiology and anatomy.

06/2006 Chemical-Biological Graduation (100/100)

Istituto Tecnico Industriale (ITI) "G. Galilei", Livorno, Italy

Principal skills acquired:

- Basis of quantitative and qualitative chemical analysis of both organic and inorganic compounds and instrumental chemical analysis (Atomic Absorption Spectroscopy, UV-visible spectroscopy, Conductometry, Gas-Chromatography)
- Microbiological analysis of potable water. Identification of Enterobacteriaceae in biological samples.

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PERSONAL SKILLS

Mother tongue: Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Professional Competences

Molecular Biology: molecular cloning, nucleic acids and protein extraction and analysis (HPLC, UV-visible spectrophotometers), electrophoresis, western blot, PCR (RT-PCR, Asymmetric-PCR),

Cellular Biology: analysis of cell proliferation (growth curve), colony formation, migration, matrix invasion, cell cycle (FACS analysis). Gene knock-out through CRISPR/Cas9 system by using lentiviral vectors.

Microbiology: *Listeria monocytogenes (attenuated XFL-7 strain, wild type EGDe and 10403S strains)*: episomal DNA manipulation, analysis of viability, proliferation, mammalian cell infection and killing; cell wall modification and labelling through peptidoglycan-targeting probes (modified amino acids or sugars), analysis of the fluorescence population by FACS.

Chemistry: bioorthogonal "click-reactions" (CuAAC, SPAAC). Chemical conjugation between drugs and biological compounds through commercial cross-linkers. Quantitative and qualitative chemical analysis of both inorganic and organic compounds, particularly drugs.

Computer skills

- Good knowledge of Microsoft Office.
- Good knowledge of scientific informatics tools and software for data analysis (GraphPad Prism), sequences alignment (BLAST, Chromas), primer design (Oligos), plasmid design and management (SnapGene), scientific images analysis (imageJ), chemical structure drawing and analysis (ChemDraw, VIDA), etc.

(Full standard ECDL certificate)

Social skills

- Wide experience in developing collaboration between different research groups working in different scientific fields.
- Consolidated teaching skills gained through my multiannual experience in scientific private or public teaching sessions and youth education.
- Consolidated attitude to leadership and teamwork gained through the experience in charity events organization.
- Strong attitude in simplify complex concepts to meake easier comunication
- Strong attitude in team-building activities and generation of harmonic workplace

Organisational skills

- Consolidated capabilities in long- and short-term work planning.

Driving licence

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Publications

June 2017

Occupational and environmental medicine

Mesothelin promoter variants are associated with increased soluble mesothelin-related peptidelevels in asbestos-exposed individuals.

- De Santi C, Pucci P, Bonotti A, Melaiu O, Cipollini M, Silvestri R, Vymetalkova V, Barone E, Paolicchi E, Corrado A, **Lepori I**, Dell'Anno I, Pellè L, Vodicka P, Mutti L, Foddis R, Cristaudo A, Gemignani F, Landi S.

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Conferences

Pioneer Valley Microbiology Symposium *(PVMS)*
January 2018
University of Massachusetts (UMass) – Amherst, Massachusetts, USA

Development of an anticancer Immunotherapy tool: chemical conjugation between Listeria-based vaccine and anticancer drugs

Irene Lepori, Marianna Vitiello, Laura Poliseno, Stefano Landi, M. Sloan Siegrist

[Poster session]

XV Federazione Italiana Scienze della Vita (FISV) congress 2018
September 2018
Sapienza University of Rome, Italy

Use of three CRISPR/Cas9-based gene editing systems to study specifc alleles within LGALS3 gene

Alda Corrado, R. Silvestri, **I. Lepori**, R. Aceto, B. Ricci, I. Dell'Anno, S. Miglietta, E. Chisci, R. Giovannoni, M. Evangelista, M. Vitiello L. Poliseno, F. Gemignani, S. Landi

[Co-author]

25th Biennial Congress of the European Association for Cancer Research (EACR)
June 2018
Amsterdam, The Netherlands.

Ran, a novel and promising gene for malignant pleural mesothelioma

Dell'Anno I. Barone E, **Lepori I**, Migliore L, Agostini S, Melaiu O, Poliseno L, Gemignani F, Landi S.

[Co-author]

14th International Conference of the International Mesothelioma Interest Group (iMig) 2018
May 2018
Ottawa, Ontario, Canada.

Evaluation of RAN gene using siRNA and CRISPR/Cas9 in malignant pleural mesothelioma

Irene Dell'Anno , Elisa Barone , **Irene Lepori** , Alda Corrado, Enrica Pellegrino, Loredana Migliore, Silvia Agostini, Monica Cipollini, Ombretta Melaiu, Monica Evangelista, Laura Poliseno, Federica Gemignani, Stefano Landi

[Co-author]

American Association for Cancer Research (AACR) Annual Meeting 2016
April 2016
New Orleans, Louisiana, USA

Two different strategies of delivery CRISPR/Cas9 system to gene edit rs4644 SNP in LGALS3 gene

Alda Corrado, **Irene Lepori**, Simona Miglietta, Simone Batoni, Marianna Vitiello, Monica Evangelista, Elisa Chisci, Roberto Giovannoni, Laura Poliseno, Federica Gemignani, Stefano Landi.

[Co-author]

Memberships

European Association for Cancer Research (EACR)

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Scientific dissemination

BRIGHT 2018
September 2018
National Research Council (CNR), Pisa, Italy

DNA molecule: why is important and how to know the nucleotide sequence.

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