

## CURRICULUM VITAE

<b>RANK</b>	<b>Laura Calzà</b>
<b>DATE AND PLACE OF BIRTH</b>	16-08-1956, Arco (Trento)
<b>SEX AND NATIONALITY</b>	Female, Italian
<b>MARITAL STATUS</b>	single
<b>BUSINESS TELEPHONE</b>	+39 051 798776
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<b>BUSINESS ADDRESS</b>	FaBit and CIRI-SDV, Università di Bologna, Via Tolara si Sopra 41/E, 40064 Ozzano Emilia (Bologna) Italy
<b>WORKING ADDRESS</b>	Fondazione IRET Laboratories, Via Tolara si Sopra 41/E, 40064 Ozzano Emilia (Bologna) Italy
<b>PRESENT POSITION</b>	<ul style="list-style-type: none"> <li>- Full Professor of Embryology, Regenerative Medicine and Cognitive Sciences at University of Bologna</li> <li>- Scientific Director of IRET Foundation-ONLUS</li> <li>- Founder of TransMed Research srl, test facility GLP-approved</li> <li>- Scientific Director of the Montecatone Rehabilitation Institute for severe spinal cord and brain injuries</li> </ul>
<b>WEB</b>	<a href="https://www.unibo.it/sitoweb/laura.calza/en">https://www.unibo.it/sitoweb/laura.calza/en</a> <a href="http://www.iret-foundation.org/en/">http://www.iret-foundation.org/en/</a> <a href="http://www.transmed-research.com/">http://www.transmed-research.com/</a>

### EDUCATION

<b>DATES</b>	<b>INSTITUTION</b>	<b>DEGREE</b>
1980	University of Modena	Medical degree
1983	University of Modena	Endocrinology Specialist Training

### Universities attended and position obtained:

<b>DATES</b>	<b>INSTITUTION</b>	<b>DEGREE</b>
1983	Dpt of Pain Pathophysiology and Therapy, University of Milano	Assistant (funzionario tecnico VIII livello)
1986	University of Torino	Visiting Professor
1987-1999	Medical School, University of Cagliari	Associate Professor of Human Physiology
1999-2013	Veterinary Faculty, University of Bologna	Associate Professor of Veterinary Anatomy
2013-now	Full Professor, University of Bologna	
2006-2009	Collegio Superiore Alma Mater Studiorum Università di Bologna	Vice-Director
2010-2016	Health Sciences and Technologies - Interdepartmental Center for Industrial Research (HST-ICIR), University of Bologna	Director
2011-2018	High Technology Network Emilia Romagna, Life Science District	Chief Scientist
2018-now	Clust-ER association for Life Science, Emilia Romagna	Vice-President

| Region |

**Present Teaching:**

DATES	INSTITUTION	COURSE
2004-now	University of Bologna, Veterinary Faculty, Biotechnology Course	Stem cells and regenerative Medicine
2010-now	University of Bologna, Arts and Humanities Faculty, Italian Studies, European Literary Cultures, Linguistics	Cognitive Sciences
2011-now	University of Bologna, Science Faculty, Biotechnology Course	Cellular biotechnologies, Regenerative Medicine, Cognitive Neuroscience

**SIGNIFICANT EXTRAMURAL COMMITTEES, CONSULTANTSHIPS, EDITORSHIPS, ETC**

Positions (main):

- Swedish Research Council, Stockholm (senior research position, Associate Professor level, pre-full Professorship)
- Medizinische Universität Innsbruck, habilitation for a *venia docendi*
- Dottorati CARIPARO, Università di Padova
- ASN, Italian professorship
- Ricercatore, CNR, Bologna

Research evaluation committees

- Research into Aging, London
- Federazione Italiana Sclerosi Multipla, Genova
- Medical Research Council, London
- Agency for Science, Technology and Research's (A\*STAR) Biomedical Research Council (BMRC), Singapore
- Swiss National Science Foundation
- EU, ERA-NET
- Neuron Croatian Science Foundation
- ANVUR, MIUR
- National Institute of Health-Carlos III Spain
- ARSEP, Francia
- MS Research Australia (MSRA)
- ISS

paper reviewer:

Bioelectromagnetics, BMC Neuroscience, Brain Research, Brain Research Bulletin, Cytokines, Developmental Brain Research, European J of Pain, FASEB J, Frontiers in Bioscience, Hippocampus, Histochemistry Journal, Histology and Histopathology, J. Cell Physiology, J. Comparative, Rheumatology, Laser in Medical Science, Life Science, Microscopy Research and Technique, Molecular Psychiatry, Neurobiology of Disease, Neuroendocrinology, Neuropharmacology, Neuropathology and Applied Neurobiology, Neuropeptides, Neuroscience, Nitric Oxide, Neuroreport, Neuroscience Letters, PLOSOne, PNAS, Psychoneuroendocrinology, Psychopharmacology, Neurology, J. Endocrinology, J. Mol Endocrinology, J. Neurochemistry, J. Neuroendocrinology, J. Neuroinflammation, J. Neuroscience, J. Neuroscience Methods, J. Neuroscience research, J. Pharmacy and Pharmacology

**MAJOR RESEARCH INTERESTS:**

Main focus of research activity is the study of reactive and repair mechanisms of the nervous system following experimental and spontaneous lesions, using in vivo and in vitro models, according to the bench-to bedside and bed-to-benchside approach of the translational medicine. The lab Investigates self-repair properties of different tissues and organs based on the resident stem cells, and develops the entire pipeline of the preclinical testing of new drugs, advanced therapies, biomaterials, biomedical devices also according to GLP and ISO guidelines.

The lab Belongs to the high-technology network of Emilia Romagna, and is a Technopole of the Emilia Romagna Region.

The main active research areas are the following:

1. **Brain and spinal cord self-repair:**
  - a. Neural stem cells reaction to injuries and chronic neurodegenerative diseases
  - b. Remyelination
  - c. Physical therapies (magnetic and electric field) to improve self repair
  - d. Biomaterials for targeted drug release
2. **Chemical neuroanatomy of lesioned brain and spinal cord:**
  - a. regulation of neural and glial phenotype by thyroid hormones in the adult CNS
  - b. hormonal (thyroid hormone and retinoic acid) influence on lesion-induced neuronal plasticity in the adult CNS
  - c. synaptic regulation of neurotransmitters, neuropeptides and growth factors expression
  - d. regulation of chemical phenotype in primary sensory neurons and spinal cord in experimental models of acute and chronic pain, and spinal cord injury (in behaviorally characterized animals)
3. **Transgenic animals for disease modelling:**
  - a. transgenic animals for rare diseases (phenotype characterization)
  - b. transgenic Alzheimer mice (basic and preclinical studies)
  - c. Down syndrome mice (basic and preclinical studies)
  - d. Dbdb diabetic mice (basic and preclinical studies)
4. **Animal models of lesions and diseases:**
  - a. Multiple sclerosis (EAE)
  - b. Spinal cord injury
  - c. Immunolesions
  - d. Diabetic and pressure ulcers
  - e. Vascular injury of the neonatal and adult brain
5. **In vitro models for neurodegenerative diseases and acute lesions**
  - a. cell lines (neural, epithelial, fibroblast, etc);
  - b. primary neurons and glial cells
  - c. stem cells (embryonic, neural mesenchymal)
6. **Clinical studies:** the lab is licensed to be partners in EMA/FDA controlled studies, for biomarkers analysis using multiparametric techniques.

**Techniques available in the lab:**

- Breeding of rat and mice (also including transgenic mice)
- Microsurgery (stereotaxic microsurgery for icv and brain acute and chronic infusion, also using osmotic minipumps; chemical and immunological lesions of transmitter-identified pathways; pain models – axotomy, Bennett's, carrageenan-; neuroflogosis models –EAE, LPS-)
- Behavioral studies (Morris water maze, fear conditioning test, object recognition tests, motor learning and coordination by Rotarod, spontaneous locomotor activity, pain threshold after thermal and mechanical stimulation, paw edema evaluation, quantitative allodynia, force grasping), SMART-Pan Lab and AnyMaze Stoelting tracking analysis softwares
- Histochemical and immunocytochemical techniques (IF, ABC, PAP), colocalization, TSA
- Molecular biology: in situ hybridization, semiquantitative PCR, RT-PCR, genotyping
- Proteomic: Western blot, Luminex xMAP technology
- In vitro: primary cultures; cell lines; embryonic and adult stem cells; cell transfection
- Laser capture microdissection
- Image analysis and quantification: morphometry, densitometry and microdensitometry (AIS Imaging, Image ProPlus, Cell^P image analysis softwares, IMARIS),
- Dynamic imaging by confocal laser scan microscopy, FRET

## CURRICULUM VITAE

L. Calzà

### PROJECT DIRECTION

Peer reviewed (*last 10 years, main*): MIUR/MUR, smart cities, OPLON, responsabile scientifico nazionale  
- MIUR/MUR, cluster tecnologici nazionali, IRMI, responsabile scientifico nazionale  
- Regione Emilia Romagna, POR-FESR, Step-by-Step, PI  
- Regione Emilia Romagna, POR-FESR, Mat2Rep, PI  
- MIUR/MUR, FIRB e PRIN, PI e resp. UO  
- Fondazione Telethon, resp. UO  
- FISM, PI e resp. UO  
- EU-Marie Curie, nEUROinflammation, ass. partner

Industrial research (*last 5 years, main*):  
- Chiesi  
- Chiesi-Rare  
- Fremslife  
- Biofer  
- Igea

### PROFESSIONAL SOCIETIES:

Ordine dei Medici, Trento District

### HONORARY SOCIETIES:

ITALIAN NEUROSCIENCE SOCIETY  
SOCIETY FOR NEUROSCIENCE, USA

### SCHOLARSHIPS, FELLOWSHIPS, ACADEMIC HONORS:

1995 Fondazione Steven Newburgh, nominated by Rita Levi-Montalcini  
1997 Beaumont-Bonelli Foundation Fellowship, Stockholm  
1998 Nobel Foundation Fellowship, Stockholm  
2004 Profilo Donna, Comune e Provincia dei Modena, Regione Emilia Romagna, Croce Rossa Italiana  
2011 Opening lecture, Collegio Superiore, University of Bologna

### SPEECHES AT THE INVITATION OVER THE LAST 5 YEARS

MORE THAN 30

### PATENTS AWARDED

- Nicergoline and its metabolites in the treatment of neurogenerative disorders of the retina and optic nerve, D001069, 2002, co-inventor  
- AlgoDelta, RMG, 2004, co-inventor  
- CHF5074 in Down syndrome, 2014, co-inventor  
- Electrospun fibers for the local release of an anti-inflammatory and a promyelinating drug, inventor, pending  
- CHF6467 in diabetic ulcer, WO02020058217, co-inventor  
([https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2020058217&\\_cid=P21-K9SA1F-91436-1](https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2020058217&_cid=P21-K9SA1F-91436-1))

### Scientific publication rank:

- **more than 220 papers in peer-reviewed journals**
- **50 chapters in international books**
- **more than 250 abstracts to international meetings**
- **H-index: 45 (Scopus)**

### PROGRAMS FOR THE FUTURE

## CURRICULUM VITAE

*L. Calzà*

The Fondazione IRET laboratory will be enlarged with additional 200mq (work completion date: March 2020), also thank to a support by the Regione Emilia Romagna, where a new cell culture facility will be allocated. In addition, a 3D bioprinting lab will be started.

The lab will concentrated on two main research areas: OPC biology and remyelination in MS and traumatic brain and spinal cord injury; presymptomatic Alzheimer disease and related animal and in vitro models.

**OZZANO EMILIA, JUNE 30, 2022**