

EUROPASS
CURRICULUM VITAE



PERSONAL INFORMATION

Name and surname **FRANCESCA CIARPELLA**

WORK EXPERIENCE

- Date (from – to) November 2015 – Ongoing
- Name and address of employer University of Ferrara, Department of Biomedical and Specialty Surgical Sciences and Center for Translational Neurophysiology (*Fondazione Istituto Italiano di Tecnologia*)
- Position held **PhD Student in Biomedical Sciences and Biotechnology**
- Main activities and responsibilities Study of long-term biocompatibility of nanostructured microelectrodes.
Development of “biohybrid” electrodes to improve chronic implants.
In vivo/in vitro study of distribution/internalization and axonal transport of barium titanate nanoparticles
- Date (from – to) September 2017 – November 2017
- Name and address of employer Albert Ludwigs Universitat Freiburg, Section for Neuroelectronic Systems at the Department of Neurosurgery of the Medical Center - University of Freiburg (Germany)
- Position held **Visiting PhD Student**
- Main activities and responsibilities Involvement in Cluster of Excellence's CAPRI project - Characterization of probe interactions with brain tissue
- Date (from – to) July 2015 – October 2015
- Name and address of employer University of Ferrara, Department of Biomedical and Specialty Surgical Sciences
- Position held **Research student assistant**
- Main activities and responsibilities Study of molecular mechanism undergoing osteogenic and chondrogenic differentiation of human mesenchymal stem cells (hMSCs), regulation of mitochondrial DNA expression by nuclear transcription factors (TFs) related to hMSCs osteogenic differentiation.
- Date (from – to) September 2014 – July 2015
- Name and address of employer University of Ferrara, Department of Biomedical and Specialty Surgical Sciences
- Position held **Internship student**
- Main activities and responsibilities Study of molecular mechanism undergoing osteogenic and chondrogenic differentiation of human mesenchymal stem cells (hMSCs).
- Date (from – to) May 2013 – September 2013
- Name and address of employer University of Ferrara, Department of Biomedical and Specialty Surgical Sciences
- Position held **Internship student**
- Main activities and responsibilities Enzymatic studies of 6PGDH in *T.brucei* and liver sheep

EDUCATION AND TRAINING

- Date July 2015
- Title of qualification awarded **Master's degree in Biomolecular and Cellular Sciences**
- Thesis title Validation of investigation methods for transcriptional factors localization in human mesenchymal stem cells mitochondria
- Name and type of organisation providing education and training University of Ferrara, Department of Biomedical and Specialty Surgical Sciences
- Mark 110/110 cum laude
- Date October 2013

- Title of qualification awarded
 - Thesis title
- Name and type of organisation providing education and training
 - Mark
 - Date
- Title of qualification awarded

Bachelor's degree in Biological Sciences

Comparison between the 6-phosphogluconate dehydrogenases of sheep liver and *Trypanosoma brucei*

University of Ferrara, Department of Biomedical and Specialty Surgical Sciences

108/110

July 2010

High school leaving qualification in Scientific studies

PERSONAL SKILLS

MOTHER TONGUE

ITALIAN

OTHER LANGUAGE

ENGLISH

- Understanding
- Speaking
- Writing

GOOD

GOOD

GOOD

PERSONAL PROFILE

AVAILABILITY TO TRAVEL AND MEET NEW PEOPLE; GOOD ENTREPRENEURIAL SPIRIT AND INITIATIVE, GOOD TEAM-WORKING SKILLS AND ABILITY TO PLAN AND ORGANIZE. OPEN TO NEW WORKING EXPERIENCES AND PROFESSIONAL IMPROVEMENT.

TECHNICAL COMPETENCE

- ISOLATION AND IN VITRO CULTURE OF FIBROBLAST CELLS FROM RAT TAIL AND ENDOTHELIAL CELLS FROM RAT AORTA, CELLS SEEDING ON ELECTRODES DEVICES, CELL VIABILITY USING PI/FDA ASSAY;
- RAT INTRACORTICAL AND EPICORTICAL MICROELECTRODES IMPLANTS AND SIGNAL RECORDING AND ANALYSIS;
- ANIMALS (RATS) PERFUSION;
- PROTOCOL FOR ANIMAL TISSUE SAMPLE PREPARATION FOR ICP ANALYSIS;
- RAT BRAIN EXTRACTION, FIXATION AND SLICING USING MICROTOME; IMMUNOFLUORESCENCE PROTOCOL ON FREELY FLOATING FIXED TISSUE SECTIONS; THIONIN STAINING;
- ISOLATION AND IN VITRO MAINTENANCE OF MOUSE CEREBELLAR GRANULE NEURONS IN COMPARTMENTED CULTURES (CAMPENOT CHAMBERS);
- PROCEDURE OF ISOLATION AND IN VITRO CULTURE OF RAT BRAIN MICROVASCULAR ENDOTHELIAL CELLS;
- ISOLATION AND IN VITRO CULTURE OF HUMAN PRIMARY CELLS, PARTICULARLY OSTEOBLASTS, CHONDROCYTES AND MESENCHYMAL STEM CELLS (MSCs) FROM WHARTON'S JELLY OF UMBILICAL CORD;
- IN VITRO CULTURE AND MAINTENANCE OF ESTABLISHED CELL LINE LIKE HAPI RAT MICROGLIAL CELLS;
- PROCEDURES FOR OSTEOGENIC AND CHONDROGENIC DIFFERENTIATION AND FOLLOWING ANALYSES: GENE EXPRESSION BY CLASSIC PCR AND QUANTITATIVE REAL TIME-PCR, ALKALINE PHOSPHATASE ACTIVITY ANALYSIS, ALIZARIN RED STAINING, ALCIAN BLUE STAINING;
- PROCEDURES FOR MOLECULES/PROTEINS IDENTIFICATION: IMMUNOCYTOCHEMISTRY, IMMUNOHISTOCHEMISTRY, WESTERN BLOT, IMMUNOFLUORESCENCE, ELISA (ENZYME-LINKED IMMUNOSORBENT ASSAY);
- ANALYSIS OF CELL VIABILITY AND PROLIFERATION: LIVE/DEAD ASSAY; FLUORESCENCE ACTIVATED CELL SORTING (FACS);
- TRANSIENT TRANSFECTION OF SYNTHETIC OLIGONUCLEOTIDES (SIRNAS, ANTAGOMIRs AND MIR-MIMICS);
- PROTOCOLS FOR MITOCHONDRIAL ISOLATION FROM MDA AND MSCs: ULTRACENTRIFUGATION PROCEDURES, PROTEINASE K ASSAY, PROTEINS SUBCELLULAR LOCALIZATION BY WESTERN BLOT ANALYSIS;
- CHROMATIN IMMUNOPRECIPITATION ASSAY (CHIP);
- DEVELOPMENT OF THREE-DIMENSIONAL (3D) DYNAMIC CELL CULTURE MODEL FOR IN VITRO STUDIES BY USING ROTARY CELL CULTURE SYSTEM (SYNTHICON) EQUIPPED WITH HIGH ASPECT RATIO VESSELS (HARV);
- ENZYMIC ACTIVITY STUDIES: ION EXCHANGE AND AFFINITY CHROMATOGRAPHY; ISOTHERMAL TITRATION CALORIMETRY (ITC); SUCROSE GRADIENT ULTRACENTRIFUGATION; QUANTITATIVE ANALYSIS BY SPECTROPHOTOMETRY; SDS-PAGE.

COMPUTER SKILLS

PCs RUNNING MICROSOFT WINDOWS, WORD FOR WINDOWS, EXCEL FOR WINDOWS, POWER POINT FOR WINDOWS, ADOBE ACROBAT WRITER, ADOBE PHOTOSHOP, IMAGEJ, MATLAB, NEUROLUCIDA, OFFLINE SORTER, NEURO EXPLORER.

DRIVING LICENSE

B driving license

**ADDITIONAL INFORMATION:
COMMUNICATION FOR
SCIENTIFIC CONFERENCE
AND PAPERS**

1. "NADPH reduces oligomerization rate of pre-existing dimer-tetramer equilibrium in *Trypanosoma brucei* 6-phosphogluconate dehydrogenase". Hanau S, Proietti d'Empaire L, Capone I, **Ciarpella F**, Barbini C, Montioli R, Dallochio F. Poster exhibit during the 57th National Meeting of the Italian Society of Biochemistry and Molecular Biology (SIB) - Ferrara 18-20 September **2013**
2. "Finding peculiar patterns of kinetoplastida enzymes to be exploited in drug design". Hanau S, Almagadam SH, Bellini T, Contini C, Maritati M, Valente N, Rugna G, Trentini A, Proietti D'Empaire L, Capone I, **Ciarpella F**, Barbini C, Fongaro E, Dardonville C, Barrett MP, Gilbert IH, Dallochio F. Abstract exhibit during the Theoretical and Practical Course "Molecular Biology of Leishmania" – ICGEB - Trieste 22-24 October **2014**
3. "Osteogenic differentiation of human MSCs: specific occupancy of the mitochondrial DNA by NFATc1 transcription factor". Angelozzi M, **Ciarpella F**, Penolazzi L, Lambertini E, Lolli A, Lisignoli G, Pinton P, Piva R. Poster exhibit during the 6th Meeting of the Italian Society of Stem Cell Research (SCR) – Bari 10-12 June **2015**
4. "Establishment of a 3D-dynamic osteoblasts-osteoclasts co-culture model to simulate the jawbone microenvironment in vitro". Penolazzi L, Lolli A, Sardelli L, Angelozzi M, **Ciarpella F**, Vecchiatini R, Lambertini E, Piva R. Poster exhibit during the 6th Meeting of the Italian Society of Stem Cell Research (SCR) – Bari 10-12 June **2015**
5. "Establishment of a 3D-dynamic osteoblasts-osteoclasts co-culture model to simulate the jawbone microenvironment in vitro". Penolazzi L, Lolli A, Sardelli L, Angelozzi M, Lambertini E, Trombelli L, **Ciarpella F**, Vecchiatini R, Piva R. *Life Sciences*, 152 (**2016**)
6. "pHEMA encapsulated PEDOT-PSS-CNT microsphere microelectrodes for recording single unit activity in the brain". Castagnola E, Maggiolini E, Ceseracciu L, **Ciarpella F**, Zucchini E, De Faveri S, Fadiga L, Ricci D. *Frontiers in Neuroscience* 10-331 (**2016**)
7. "Glassy Carbon based microelectrode array technology for use in long-term neural recording and stimulation with superior electrical and electrochemical properties". Vomero M, Goshi N, Dryg I, Maxfield T, Castagnola E, Maggiolini E, **Ciarpella F**, Ordonez J, Gueli C, Cea C, Richner T, Bjanec D, Perlmutter S and Kassegne S; poster in *NeuroFuture 2016* - San Diego
8. "Highly stable glassy carbon interfaces for long-term neural stimulation and low-noise recording of brain activity". Vomero M, Castagnola E, **Ciarpella F**, Maggiolini E, Goshi N, Zucchini E, Carli S, Fadiga L, Kassegne S, Ricci D; *Sci Rep.* **2017** Jan 13; 7:40332. <https://doi.org/10.1038/srep40332>
9. "A direct comparison of Glassy Carbon and PEDOT-PSS for high charge injection and low impedance neural interfaces". Vomero M, Castagnola E, Maggiolini E, **Ciarpella F**, Rembado I, Goshi N, Fadiga L, Kassegne S, Ricci D; *Advances in Science and Technology*, Vol. 102, pp. 68-76, **2017** <https://doi.org/10.4028/www.scientific.net/AST.102.68>
10. "Incorporation of Silicon Carbide and Diamond-Like Carbon as Adhesion Promoters Improves In Vitro and In Vivo Stability of Thin-Film Glassy Carbon ECoG Arrays". Vomero M, Castagnola E, Ordonez J S, Carli S, Zucchini E, Maggiolini E, Gueli C, Goshi N, **Ciarpella F**, Cea C, Fadiga L, Ricci D, Kassegne S, Stieglitz T (**2017**) *Adv. Biosys.* DOI: 10.1002/adbi.201700081
11. "Poly(3,4-ethylenedioxythiophene)-Single Walled Carbon Nanohorns Composite Coatings for Neural Sensing and Stimulation". Carli S, Lambertini L, Zucchini E, **Ciarpella F**, Scarpellini A, Prato M, Castagnola E, Fadiga L, Ricci D. *Applied Nanotechnology and Nanoscience International Conference 2017* – Rome, October 18-20, **2017**
12. "Single Walled Carbon Nanohorns Composite for Neural Sensing and Stimulation". Carli S, Lambertini L, Zucchini E, **Ciarpella F**, Scarpellini A, Prato M, Castagnola E, Fadiga L, Ricci D; *Sensors and Actuators B: Chemical* Volume 271, 15 October **2018**, Pages 280-288 <https://doi.org/10.1016/j.snb.2018.05.083>

13. "A New Drug Delivery System Based on Tauroursodeoxycholic Acid and PEDOT". Carli S, Fioravanti G, Armirotti A, **Ciarpella F**, Prato M, Ottonello G, Salerno M, 2590 Scarpellini A, Perrone D, Marchesi E, Ricci D, Fadiga L. (2018) Chemistry - A European Journal, DOI: 10.1002/chem.201805285

Autorizzo il trattamento dei miei dati personali ai sensi dell'art 13, del D.lgs 30 giugno 2003, n 196.

Ferrara, 16 Gennaio 2019

Francesca Ciarpella