

Serena Becchi

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Anagraphics

Born in Reggio nell' Emilia, Italy

May 3rd, 1982

Actual position

PHD STUDENT IN MULTIMODAL IMAGING IN BIOMEDICINE, UNIVERSITY OF VERONA, VERONA, ITALY.

c/o Anatomy and Histology section of Department of the Morphological and Biomedical Sciences.

JANUARY 1ST, 2009-DECEMBER 31ST, 2011

PhD topic:

Organ distribution of Quantum Dots after intravenous administration, with special reference to area-specific distribution and effect in the brain.

(Tutors: Dr. Paolo Francesco Fabene, Prof. Francesco Osculati)

Principal activities

Investigation of biodistribution and behavioural (Novel Object Recognition, PhenoTyper[®] cages, Rotarod and softwares Ethovision[®] and Observer[®] by Noldus, Netherlands) impairments after acute exposure to Quantum Dots 800 nanoparticles in rodents. Study of the effect of Quantum Dots on neuronal electrical activity (EEG) in physiological condition. Interpretation of electron microscopy images of nanoparticles distribution acquired with the help of specialised technician.

Other activities in the lab

- Development of pharmacological animal models of epilepsy
- Study of the role of neuroinflammation in epilepsy.
- Setting of behavioural tests: Novel object recognition test, Morris Water Maze, CatWalk[®] (Noldus, Netherlands), PhenoTyper[®] cages (Noldus, Netherlands).

VISITING STUDENT, UNIVERSITY OF ROCHESTER, ROCHESTER, NY, US

c/o Environmental Medicine Department, School of Medicine and Dentistry, University of Rochester, Rochester, NY.

FEBRUARY 1ST, 2009 - JULY 31ST, 2009

Six months secondment period as PhD visiting student at prof. Gunter Oberdorster laboratory. Prof. Oberdorster lab is one of the leader in lung toxicology and nanotoxicology research. During the period I learned several techniques for nanoparticle inhalation in rodents and I followed a toxicological study on size-dependant effect of crystalline silica in the lung with both *in vivo* and *in vitro* approaches.

FELLOWSHIP, EUROPEAN CENTRE FOR SUSTAINABLE IMPACT OF NANOTECHNOLOGY (ECSIN)

c/o University of Verona.

DECEMBER 1ST, 2008 - DECEMBER 31ST, 2009

Fellowship on "Study of impact of nanoparticles on human health" at ECSIN, Rovigo, Italy c/o Anatomy and Histology section of Department of the Morphological and Biomedical Sciences.

Principal activities:

Investigation of the effects of nanoparticle exposures in rodents. Biodistribution studies by the use of fluorescent techniques in collaboration with Optical Imaging lab and electron microscopy expert

Acquired techniques:

- Transmission Electron Microscopy
- Behavioural techniques (Novel Object Recognition test, Morris Water Maze, Catwalk, Rotarod, Phenotyper cages) and softwares (Ethovision and Observer by Noldus)

ASSOCIATED SCIENTIST, GLAXOSMITHKLINE, VERONA, ITALY

MAY 7TH, 2007 - NOVEMBER 6TH, 2007

Temporary contract in Pre Clinical Development - Behavioural and Biochemistry Department directed by dr. Christian Heibrader in the Laboratory of Biochemistry and biomarkers (head dr. Laura Mangiarini)

Acquired techniques:

- ELISA and RIA tests
- Luminex technology
- Proteomics (2D page)

Scientific works

PAPERS

- *Early-life stress and antidepressants modulate peripheral biomarkers in a gene- environment rat model of depression*
Carboni L., **Becchi S.**, Piubelli C., Mathè A.A., Domenici E. *Progress in Neuro-Psychopharmacology & Biological Psychiatry* (2010) 16;34(6):1037-48.
- *Regulation of energy, cytoskeleton machinery, neurogenesis and metabolic pathways in a gene-environment model of depression revealed by proteomic analysis*
Piubelli C., Carboni L., **Becchi S.**, Mathè A.A., Domenici E. *Neuroscience* (2010). Article in Press.

POSTERS & CONGRESSES

- *Brain proteomic analysis in a rat model of early-life stress with gene environment interaction.* **Becchi S.**, Vighini M., Piubelli C., El Khoury A., Andersson W., Gruber S., Mathè A.A., Domenici E., Carboni L.
ItPA (Italian Proteomic Association) Congress, July 2nd-4th 2006, Pisa, Italy.
- *Proteomic analysis in hypothalamus, hippocampus and pre-frontal/frontal cortex after PACAP administration in rat brain.* Gasperini L., Piubelli C., **Becchi S.**, Carboni L.
Molecular Mechanisms in Neuroscience Congress, June 19th-20th 2008, Milan, Italy.
- *Proteome changes in rat hippocampus and pre-frontal/frontal cortex in Flinders rats after Escitalopram treatment.* Piubelli C., **Becchi S.**, El Khoury A., Andersson W., Gruber S., Mathè A.A., Domenici E., Carboni L.
ECNP meeting, August 30th – September 3rd 2008, Barcelona, Spain.
- *Variazioni nel proteoma di ippocampo e corteccia prefrontale/frontale in un modello di depressione maggiore, il ratto Flinders, dopo trattamento con nortriptilina.* Gasperini L., **Becchi S.**, Piubelli C., De Luca M., Gruber S., Andersson W., El Khoury A., Mathe' A.A., Domenici E., Carboni L.
XVI Congress SINPF, June 24th - 26th 2008, Milan, Italy.
- *Quantum Dots biodistribution: ultrastructural analysis of tissues.* Vecchio L., **Becchi S.**, Boschi F., Calderan L., Sbarbati A., Osculati F.
Società Italiana di Anatomia ed Istologia (SIAI) 62° National Congress, September 14th -16th 2008, Verona, Italy.
- *Behavioural and electroencephalographic modifications elicited by Quantum Dots administration in mice.* Fabene P., **Becchi S.**, Vecchio L., Calderan L., Osculati F.
6th International Key Symposium Nanomedicine, September 9th-11th 2009, Stockholm, Sweden.

Instruction

IIInd MASTER DEGREE IN INDUSTRIAL BIOTECHNOLOGY

University of Modena and Reggio Emilia, Modena, Italy

(2005-2006)

Thesis title: "Differential proteomic analysis in animal model of major depression based on the interaction of genetic background and environmental factors in the brain and in the serum of rats." performed in GlaxoSmithKline, Verona; Behavioural and Biochemistry department (head by dr. Christian Heidbrader), Biochemistry and biomarkers lab directed by dr. Laura Mangiarini.

Score 110/110 cum laude

IIInd MASTER DEGREE IN BIOTECHNOLOGY

University of Modena and Reggio Emilia, Modena, Italy

(2003-2004)

Thesis title: "Effect of serum deprivation on dermic fibroblasts in vitro. A proteomic approach" performed in General Pathology Department, University of Modena and Reggio Emilia; proteomic laboratory directed by Prof. Ivonne Pasquali Ronchetti and prof. Daniela Quaglino.

Score 110/110

SCIENTIFIC FIRST DEGREE

Liceo Scientifico Aldo Moro, Reggio Emilia - Italy

(2000-2001)

Score 78/100

Hobbies

Tennis, photography, bees

Reference

dr. Paolo Fabene, University of Verona, Verona Italy

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