Cécile EXERTIER

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Nationality : French

Work Experience

Post doctoral fellowship

February 2019 - January 2020

Employer : La Sapienza, University of Rome (Rome, Italy)
Institution : Dept of Biochemical Sciences "A.R. Fanelli", La Sapienza, University of Rome (Rome, Italy)
Type of contract : Research fellowship "SAPIEXCELLENCE" from Sapienza University of Rome
Project : Time-resolved studies of heme proteins structural dynamics
Main assignments and responsabilities : Protein expression, purification, crystallization, crystallography, time-resolved X-ray techniques, binding studies

Post doctoral fellowship

August 2018 - February 2019

Employer : Instituto Pasteur Fundazione Cenci Bolognetti (Rome, Italy)
Institution : Dept of Biochemical Sciences "A.R. Fanelli", La Sapienza, University of Rome (Rome, Italy)
Type of contract : Research fellowship
Project : Time-resolved studies of heme proteins structural dynamics
Main assignments and responsabilities : Protein expression, purification, crystallization, crystallography, time-resolved studies, binding studies

PhD student

July 2015 - July 2018

Employer : La Sapienza, University of Rome (Rome, Italy)
Institution : Dept of Biochemical Sciences "A.R. Fanelli", La Sapienza, University of Rome (Rome, Italy)
Type of contract : Research fellowship Marie-Sklodowska Curie ITN-ETN (Horizon2020) X-probe project
Project : Time-resolved studies of heme proteins structural dynamics
Main assignments and responsabilities : Protein expression, purification, crystallization, crystallography, time-resolved studies, binding studies

CNRS intern (master thesis)

January 2014 - June 2014
May - June 2013

Employer : CNRS (Centre National de la Recherche Scientifique)
Place : Institute of Structural Biology (IBS, Grenoble, France)
Type of contract : Intern fellowship
Project : Structural basis of the antigenicity of the peptid-MHC complexes
Main assignments and responsabilities : Protein expression, purification, crystallization, crystallography, Surface Plasmon Resonance

Education and Trainings

PhD in Biochemistry
July 2015 - December 2017
Institution : La Sapienza, University of Rome (Rome, Italy)
Main subjects and qualifications to be achieved : Protein expression in E. coli, purification, crystallization, X-ray crystallography, Small and Wide Angle X-ray Scattering, Rapid mixing

Master in Biochemistry and Structural Biology
September 2013 - June 2014
Institution : University Joseph Fourier (Grenoble, France)
Main subjects and qualifications to be achieved : Knowledge of the main techniques of structural biology and biochemistry (X-ray crystallography, SAXS, NMR, high throughput biology, enzymology, biophysic techniques, macromolecules dynamics)

“Maitrise” in Molecular and Cellular Biology
September 2012 - June 2013
Institution : University Joseph Fourier (Grenoble, France)
Main subjects and qualifications to be achieved : Knowledge of the main techniques of molecular biology, cellular biology, biochemistry and structural biology

Bachelor in Chemistry and Biology
September 2009 - June 2012
Institution : University Joseph Fourier (Grenoble, France)
Main subjects and qualifications to be achieved : Knowledge of cellular and molecular biology, biochemistry, organic and inorganic chemistry

Languages

French - Mother tongue
English - Professional skills
Italian - Elementary skills
Spanish - Elementary skills

Informatics skills

Microsoft office Word/Excel/Powerpoint
BiaCore Software (Surface Plasmon Resonance Suite)
XDS and CCP4 Softwares (crystallography data analysis)
Basic knowledge of Python (scientific programming language)

Scientific trainings

- **28 August - 18 September 2018** : Serial femtosecond crystallography : nanocrystallization optimization and data collection at XFEL radiation sources under the supervision of Dr. Dominik Oberthuer at CFEL and European XFEL (Hamburg Germany) and at LCLS (Menlo Park, California, USA)

- **July 2016** : Expression and purification techniques for soluble nano-cage protein under the supervision of Matilde Trabuco at MoLiRom (Rome, Italy)
- **24 October - 20 November 2016** : Static and time-resolved scattering data collection and data analysis at synchrotrons under the supervision of Dr. Matteo Levantino at ESRF (Grenoble, France)
- **2 - 10 November 2015** : Static and time-resolved scattering data analysis under the supervision of Dr. Matteo Levantino (University of Palermo, Palermo, Italy)

Scientific Schools, workshops, seminars

- **11 October 2018** : X-probe meeting "Time resolved crystallography using synchrotrons and XFELs" - oral presentation "Murine neuroglobin strutural dynamics" (Gothenburg, Sweden)
- **25 - 28 June 2018** : "3rd joint AIC-SILS conference" – poster session "Structural determinants of murie neuroglobin dynamics by static and time-resolved X-ray methods" (CNR, Rome, Italy)
- **4 - 8 December 2017** : X-probe meeting "Novel methods for biomolecular structure determination" (Paul Scherrer Institute, Villigen, Switzerland)
- **17 - 22 September 2017** : X-probe meeting "Science and society : the role of science in society, public outreach, career development and gender issues" and "Drug discovery from a structure and biophysics perspectuve at AstraZeneca" (Gothenburg and Lund, Sweden)
- **June - July 2017** : Enzymology course (La Sapienza, University of Rome, Rome, Italy)
- **2-11 June 2017** : "50th school of crystallography : integrative structural biology" - Rising star oral presentation "Structural and ligand binding studies of a CD loop of murine neuroglobin" (Erice, Italy)
- **April - May 2017** : "Di di Venere" serminars for the biochemistry PhD school (Rome, Italy)
- **5-6 December 2016** : X-probe meeting "Serial crystallography in synchrotrons and XFELs" (Hamburg, Germany)
- **19 September 2016** : Conference on structural biology "Dottorato di ricerca Honoris Causa a Wayne A. Hendrickson" (Rome, Italy)
- **June-July 2016** : Bioinformatics course (La Sapienza University of Rome, Rome, Italy)
- **30 May - 2 June 2016** : X-probe meeting "Protein structural dynamics", "Commercialisation of Science", "Project management and transferable skills" (Rome, Italy)
- **April - May 2016** : "Di di Venere" seminars for the biochemistry PhD school (Rome, Italy)
- **15-18 December 2015** : X-probe meeting "Syncrotron and free electron laser generated radiation souces and their applications" (ESRF, Grenoble, France)
- **30 November 2015** : 6th BEMM Symposium (Biology and Molecular Medicine PhD schools, Rome, Italy)
- **2 October 2015** : Workshop "Biotecnologie e normativa" (Roma, Italy)

Awards

- **7 June 2017** : Rising star award during the 50th international school of crystallography in Erice (Italy) for the oral presentation "Structural and ligand binding studies of a CD loop of murine neuroglobin".

Extracurricular activities

- Member of the Italian Association of Crystallography (AIC)

Publications

- Parisi G., Montemiglio L.C., Giuffrè A., Macone A., Scaglione A., Cerutti G., **Exertier C.**, Savino., Vallone B. *Substrate induced conformational change in cytochrome P450 OleP* (2018) FASEB J.
- **Exertier C.**, Milazzo L., Freda I., Montemiglio L.C., Scaglione A., Cerutti G., Parisi G., Anselmi M., Smulevich G., Savino C., Vallone B. *Proximal and distal control for ligand binding in neuroglobin : role of the CD loop and evidence for His64 gating* (Submitted to Scientific Reports)
- Ardiccioni C., Arcovito A., Della Longa S., van der Linden P., Bourgeois D., Weik M., Montemiglio L.C., Savino C., Avella G., **Exertier C.**, Carpentier P., Prangé T., Brunori M., Colloc'h N. and Vallone B. *Ligand pathways in neuroglobin revealed by carbon monoxide and dioxigen docking and from in crystallo low temperature photodissociation experiments.* (Submitted to IUCr J.)
- **Exertier C.**, Abbruzzetti S., Viappiani C., Cammarata M., Vallone B., Levantino M. Neuroglobin heme sliding motion observed in solution with wide angle X-ray scattering (in preparation)
- Trabuco M., **Exertier C.**, Benni I., Calisti L., Bonamore A., Vallone B., Cammarata M., Boffi A., Levantino M. *Cation-linked assembly properties of an engineered ferritin nanocage for drug delivery* (in preparation)