

# Natacha OLIERIC- CV

## Professional address:

Paul Scherrer Institute  
OFLC/111  
5232 Villigen  
Phone: +41 56 310 4465  
[natacha.olieric@psi.ch](mailto:natacha.olieric@psi.ch)  
<https://www.psi.ch/lbr/olieric-natacha>

## Personal address:

Trottenweg 37  
5304 Endingen  
Switzerland  
Phone: +41 56 242 1090

## Biography

Born 07/05/1978 (age: 39, female), France

## Education and qualifications

From March 2011: **Project Leader/Lab Manager** at Paul Scherrer Institute (Villigen, Switzerland)

Laboratory of Biomolecular Research, Group of Prof. Michel Steinmetz

March 2007 - February 2011: **Postdoctoral Research Fellow** at the Paul Scherrer Institute (Villigen, Switzerland)

Laboratory of Biomolecular Research, Group of Michel O. Steinmetz  
High-throughput Molecular Biology and Biochemistry

September 2002 - December 2005: PhD at the IGBMC (Strasbourg, France)

PhD awarded on the 16th of December 2005

Structural Biology Group, Laboratory of Prof. Jean Cavarelli  
Structural Characterization of *Aquifex aeolicus* Leucyl-tRNA Synthetase

## Research Grant

Novartis FreeNovation 2017 (Principal Investigator)

## Workshops

August 2016: Cryo-EM Workshop, use of IMAGIC software (PSI-Villigen, Switzerland)

March 2012: Production and Characterization of Macromolecular Complexes (Illkirch, France)

November 2009: Spine2 Workshop - New Strategies for Cloning and Expression of Protein Complexes in *E. coli* and insect cells (Rehovot, Israel)

September 2008: International Conference on Structural Genomics ISGO 2008 (Oxford, UK)

July 2003: International School of Structural Biology and Magnetic Resonance - 6th Course: Structure, Dynamics and Function of Biological Macromolecules and Assemblies (Erice, Italy)

## Teaching and mentoring experience

Since March 2017: supervision of 2 Master Students for 6 months Internship - Molecular Biology, Biochemistry and Structural Biology of Centrosomal and Basal Body Proteins

Since 2011: teaching and supervision in the Laboratory of all new Group Members (3 PhD Students and 3 Postdocs)

## Publication List

### 2017

18. Weinert T., **Olieric N.** *et al.* Serial millisecond crystallography for routine room-temperature structure determination at synchrotrons. **Nature Communications**.
17. Aeschimann W., Staats S., Kammer S., **Olieric N.**, Jeckelmann J.M., Fotiadis D., Netscher T., Rimbach G., Cascella M., Stocker A. Self-assembled tocopherol Transfer Protein Nanoparticles Promote Vitamin E Delivery Across an Endothelial Barrier, **Scientific Reports**.
16. Hamel V.<sup>\*</sup>, Guichard P.<sup>\*</sup>, Steib E., Hamelin R., Armand F., Flückiger I., Busso C., **Olieric N.**, Borgers S., Steinmetz M.O. and Gönczy P. Identification of Chlamydomonas centriolar central core proteins reveals a role for human WDR90 in ciliogenesis, **Current Biology**.
15. Sharma A., Saez-Calvo G., **Olieric N.**, Diaz J.F. and Steinmetz M.O. Quinolin-6-yloxyacetamides are a novel class of microtubule destabilizing agents that bind to the colchicine site of tubulin, **International Journal of Molecular Sciences**.
14. Saez-Calvo G., Sharma A., de Asis Balaguer F., Barasoain I., Rodriguez-Salarichs J., **Olieric N.**, Munoz-Hernandez H., Alvaro Berbis H., Wendeborn S., Angel Penalva N., Matesanz R., Canales A., Protá A., Jimenez-Barbero J, Andreu JM, Lamberth C., Steinmetz M.O. and Diaz J.F. Triazolopyrimidines are Microtubule-Stabilizing Agents that bind the Vinca Inhibitor Site of Tubulin, **Cell Chemical Biology**.

### 2016

13. Wieczorek M, Tcherkezian J, Bernier C, Protá AE, Chaaban S, Rolland Y, Godbout C, Hancock MA, Arezzo JC, Ocal O, Rocha C, **Olieric N.**, Hall A, Ding H, Bramoullé A, Annis MG, Zogopoulos G, Harran PG, Wilkie TM, Brekken RA, Siegel PM, Steinmetz MO, Shore GC, Brouhard GJ, Roulston A. The synthetic diazonamide DZ-2384 has distinct effects on microtubule curvature and dynamics without neurotoxicity, **Science Translational Medicine**
12. Bianchi S., van Riel W.E., Kraatz S.H.W., **Olieric N.**, Fey D., Katrukha E.A., Jaussi R., Missimer J., Grogoriev I., Olieric V., Benoit R.M., Steinmetz M.O., Akhmanova A., Kammerer R. Structural basis for misregulation of Kinesin KIF21A autoinhibition by CFEOM1 disease mutation, **Scientific Reports**
11. Kraatz S., Guichard P., Obineni J.M., **Olieric N.**, Hatzopoulos G.N., Hilbert M., Sen I., Missimer J., Gönczy P., Steinmetz M.O. The human centriolar protein Cep135 contains a two-stranded coiled-coil domain critical for microtubule binding, **Structure**
10. Kevenaar J.T.<sup>\*</sup>, Bianchi S.<sup>\*</sup>, van Spronsen M.<sup>\*</sup>, **Olieric N.**, Lipka J., Frias C., Mikhaylova M., Harterink M., Keijzer N., Wulf P.S., Hilbert M., Kapitein L.C., de Graaff E., Akhmanova A., Steinmetz M.O., Hoogenraad, C.C. Kinesin-Binding Protein Controls Microtubule Dynamics and Cargo Trafficking by regulating Kinesin Motor Activity, **Current Biology**
9. Olieric V.<sup>\*</sup>, Weinert T.<sup>\*</sup>, Finke A:D., Anders C., Li D., **Olieric N.**, Borca C.N., Steinmetz M.O., Caffrey M., Jinek M., Wang M. Data-collection strategy for challenging native SAD phasing, **Acta Cryst D**

### 2013

8. Van der Vaart B., E. van Riel W., Doodhi H., Kevenaar J., Katrukha E., Gumy L., Bouchet B.P., Grigoriev I., Spangler S., Lou Yu K., Wulf P.S., Wu J., Lansbergen G., van Battum E., Pasterkamp R.J., Mimori-Kiyosue Y., Demmers J., **Olieric N.**, Maly I:M., Hoogenraad C.C., Akhmanova A. CFEOM1-Associated Kinesin KIF21A is a Cortical Microtubule Growth Inhibitor, **Developmental Cell**

7. Guichard P., Hachet V., Majubu N., Neves A., Demurtas D, **Olieric N.**, Flückiger I., Yamada A., Kihara K., Nishida Y., Moriya S., Steinmetz MO., Hongoh Y., Gönczy P. Native architecture of the Centriole Proximal region reveals features underlying its 9-fold radial symmetry, **Current Biology**

#### **2005 - 2011**

6. Kitagawa D.\*, Vakonakis I.\*, **Olieric N.\***, Hilbert M.\*, Keller D., Olieric V., Bortfeld M., Erat M., Flückiger I., Gönczy P., Steinmetz MO. (2011) Structural Basis of the 9-fold Symmetry of Centrioles, **Cell**
5. **Olieric N.**, Kuchen M., Wagen S., Sauter M., Crone S., Edmonson S., Frey D., Ostermeier C., Steinmetz MO., Jaussi R. (2010) Automated seamless DNA co-transformation cloning with direct expression vectors applying positive or negative insert selection, **BMC Biotechnology**
4. Nie Y., Bieniossek C., Frey D., **Olieric N.**, Schaffitzel C., Steinmetz M.O. and Berger I. (2009) ACEMBLing multigene expression vectors by recombineering, **Nature Protocols**
3. Bieniossek C., Nie Y., Frey D., **Olieric N.**, Schaffitzel C., Collinson I, Romier C., Berger P., Richmond T.J., Steinmetz M.O. and Berger I. (2009) Automated Unrestricted Multigene Recombineering for Multiprotein Complex Production, **Nature Methods**
2. **Olieric N.**, Bey G., Nierengarten H., Wang E.D., Moras D., Eriani G., Cavarelli J. (2006) Expression, purification and characterization of a new heterotetramer structure of leucyl-tRNA synthetase from *Aquifex aeolicus* in *Escherichia coli*, **Protein Expr Purif.**
1. Cura V., **Olieric N.**, Guichard A., Wang E.D., Moras D., Eriani G., Cavarelli J. (2005) Crystallization and preliminary X-ray crystallographic study of the wild type and two mutants of the CP1 hydrolytic domain of *Aquifex aeolicus* leucyl-tRNA synthetase, **Acta Crystallography Sec F Struct Biol Cryst Commun**