

Natalia Guschinskaya (Angers, France)

Age: 35, female

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1. University degrees and qualifications:

Master's Degree in Biology and Chemistry (Belarusian State University, Minsk, Bélarus)	2009
Master's Degree in Molecular Biology (Belarusian State University, Minsk, Bélarus)	2010
PhD Thesis in Molecular Microbiology and Biochemistry (University Lyon 1, France)	2014
Qualification in Biochemistry and Molecular Biology	2018

2. Position and professional training :

Current position: Assistant Professor (Maître de Conférences), University of Angers, France

2018 – 2019: Research and teaching associate (ATER), University Lyon 1 (Lyon, France)

Research topic: Cuticular proteins

2016 – 2018: Post-doctoral fellow in the Microbiology, Adaptation and Pathogenesis Lab with Dr. Yvan Rahbé, (UMR5240, INSA of Lyon) and in the MassOmics Lab of Dr P. Bulet, BioPark of Archamps

Research topic: Transcriptomics and proteomics of retort glands of pea aphid *Acyrtosiphon pisum*

2014 – 2016 Post-doctoral fellow in Horigene Lab of Dr. Xavier Charpentier (CNRS, CIRI) and in M2E team of Dr. P. Oger (CNRS, ENS of Lyon, France)

Research topic: Natural transformation in hyperthermophilic archaeon *Pyrococcus furiosus*

2013 – 2014 Research engineer in UMR5240, CNRS (Lyon, France)

2010 – 2013 PhD researcher, University Lyon 1 (Lyon, France)

Research topic: Molecular characterization of secretion signals of proteins secreted by the type II secretion system of the phytopathogenic bacterium *Dickeya dadantii*

<https://www.theses.fr/2014LYO10085>

3. list of publications (last 10 years)

1. **Guschinskaya N**, Ressenkoff D, Arafah K, Voisin S, Bulet P, Uzest M, Rahbé Y. (2020) Insect Mouthpart Transcriptome Unveils Extension of Cuticular Protein Repertoire and Complex Organization. *iScience*, Volume 23, Issue 2, <https://doi.org/10.1016/j.isci.2020.100828>.

2. Pineau C, **Guschinskaya N**, Gonçalves IR, Ruaudel F, Robert X, Gouet P, Ballut L, Shevchik VE. Structure-function analysis of pectate lyase Pel3 reveals essential facets of protein recognition by the bacterial type 2 secretion system. *J Biol Chem.* (2021) Jan-Jun; 296:100305. doi: 10.1016/j.jbc.2021.100305. Epub 2021 Jan 16. PMID: 33465378; PMCID: PMC7949064.
3. Deshoux M, Masson V, Arafah K, Voisin S, **Guschinskya N**, van Munster M, Cayrol B, Webster CG, Rahbé Y, Blanc S, Bulet P, Uzest M. (2020) Cuticular structure proteomics in the pea aphid *Acyrtosiphon pisum* reveals new plant virus receptor candidates at the tip of maxillary stylets. *J Proteome Res.* 2020 Jan 28. doi: 10.1021/acs.jproteome.9b00851.
4. **Guschinskaya N**, Brunel R, Tourte M, Lipscomb GL, Adams MW, Oger P, Charpentier X. (2016) Random mutagenesis of the hyperthermophilic archaeon *Pyrococcus furiosus* using *in vitro* mariner transposition and natural transformation. *Sci Rep.* Nov 8 (6):36711. doi: 10.1038/srep36711.
5. Pineau C, **Guschinskaya N**, Robert X, Gouet P, Ballut L, Shevchik VE (2014) Substrate recognition by the bacterial type II secretion system: more than a simple interaction. *Mol Microbiol.* 94(1):126-40. doi: 10.1111/mmi.12744.
6. Lallemand M, Login FH, **Guschinskaya N**, Pineau C, Effantin G, Robert X, Shevchik VE (2013) Dynamic interplay between the periplasmic and transmembrane domains of GspL and GspM in the type II secretion system. *PLoS One.* 8(11):e79562. doi: 10.1371/journal.pone.0079562.
7. Wang X, Pineau C, Gu S, **Guschinskaya N**, Pickersgill RW, Shevchik VE. (2012) Cysteine scanning mutagenesis and disulfide mapping analysis of arrangement of GspC and GspD protomers within the type 2 secretion system. *J Biol Chem.* 287(23):19082-93. doi: 10.1074/jbc.M112.346338.
8. **Guschinskaya N**, Nikolaichik YA, Evtushenkov AN. (2011) Construction of mutant variants of bacterial gene *aroA* with lower sensitivity to herbicide glyphosate. *Proceedings of BSU. Molecular Biology* 6 (1): 174-180.