

Curriculum Vitae – Ovidiu-Nicolae Popa

Heinrich-Heine University Düsseldorf

Institute of Quantitative and Theoretical Biology
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40225 Düsseldorf

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Email: info@ovidiu.de

Date of Birth: December 04, 1977

Citizenship: German

Languages: German, English, Romanian

Scientific position

2015 – today Scientific assistant, Institute of Quantitative and Theoretical Biology,
Heinrich-Heine University Düsseldorf

Education

2013-2015 Ph.D. Institute of Microbiology / Genomic Microbiology, Christian-
Albrechts-Universität zu Kiel. Supervisor Prof. Tal Dagan.
Thesis in preparation: “Directed networks of lateral gene transfer in
prokaryotic genomes”

2010-2013 Ph.D., Institute of Genomic Microbiology Heinrich-Heine University
Düsseldorf. Supervisors: Prof. William F. Martin, Prof. Tal Dagan.
Thesis in preparation: “Directed networks of lateral gene transfer in
prokaryotic genomes”

2002-2009 Diploma in Biology (equivalent to M.Sc.). Institute of Molecular
Evolution, Heinrich-Heine-University Düsseldorf. Supervisors: Prof
William F. Martin, Dr. Tal Dagan. Thesis: “Networks of recent lateral
gene transfer in prokaryotes”.

1998-2001 Apprenticeship - IT system engineer, Micromedic GmbH, 41468 Neuss

Teaching services

2014 Teaching Assistant, Basics of Genome Analysis, Christian-Albrechts-
Universität zu Kiel.

2013-2014 Teaching Assistant, PERL Programming for Biologists, Christian-
Albrechts-Universität zu Kiel.

2011-2012 Teaching Assistant, PERL Programming for Biologists, Heinrich-Heine
University Düsseldorf.

2010-2012	Teaching Assistant, Genome Analysis – Advanced course, Heinrich-Heine University Düsseldorf.
2009-2012	Teaching Assistant, Genome Analysis – Basic course, Heinrich-Heine University Düsseldorf.

Referee services

PLOS Genetics

Genome Biology and Evolution

BIOINFORMATICS

BMC Evolutionary Biology

Articles in Refereed Journals

Popa O, Landan G and Dagan T (2015): Phylogenomic transduction networks reveal genetic barriers to phage-mediated lateral gene transfer during microbial evolution. *Submitted*

Dagan T, **Popa O**, Klösges T, Landan G. (2014). Phylogenomic networks of microbial genome evolution in Manual of Environmental Microbiology, 4th Ed. ASM Press, *in press*.

Gophna U, Kristensen DM, Wolf YI, **Popa O**, Drevet C, and Koonin EV (2014): No evidence of inhibition of horizontal gene transfer by CRISPR-Cas on evolutionary timescales. *ISME J* **9**, 2021–2027 (2015).

Engelen A, Convey P, **Popa O**, Ott S. (2014): Lichen photobiont diversity and selectivity at an inland site of the south of the southern maritime Antarctic (Coal Nunatak, Alexander Island). *submitted*

Nelson-Sathi S, **Popa O**, List J-M, Geisler H, Martin WF, Dagan T (2013): Reconstructing the lateral component of language history and genome evolution using network approaches. In: Classification and Evolution in Biology, Linguistics and the History of Science. Concepts – Methods – Visualization, eds Fangerau H, Geisler H, Halling T, Martin W. (*Steiner, Stuttgart*) pp. 163–180, <http://www.steiner-verlag.de/titel/59821.html>

Popa O. and Dagan T. (2011). Trends and barriers to lateral gene transfer in prokaryotes. *Current Opinion in Microbiology* 1–9.

Popa O., Hazkani-Covo E., Landan G., Martin W., and Dagan T. (2011). Directed networks reveal genomic barriers and DNA repair bypasses to lateral gene transfer among prokaryotes. *Genome Research* 21, 599–609.

Kloesges T., **Popa O.**, Martin W., and Dagan T. (2011). Networks of gene sharing among 329 proteobacterial genomes reveal differences in lateral gene transfer frequency at different phylogenetic depths. *Molecular Biology and Evolution* 28, 1057–1074.

Presentations in scientific meetings

06/2015 **Metabolic Pathways Analysis 2015 in Braga / Portugal: poster**

Bacterial Community Profile of Phaeodactylum tricornutum Cultures

04/2014 **SMBEME: Satellite Meeting on Reticulated Microbial Evolution / Kiel: poster**

Directed networks uncover trends and barriers of lateral gene transfer within prokaryotes

07/2013 **FEMS 2013 / 5th Congress of European Microbiologists / Leipzig: poster**

A directed network of lateral gene transfers reveals trends and barriers during microbial evolution

06/2012 **Annual Meeting of the Society for Molecular Biology and Evolution in Dublin / Ireland: poster**

Towards a Timeline in Networks of Lateral Gene Transfer during Prokaryote Evolution

07/2011 **Annual Meeting of the Society for Molecular Biology and Evolution in Kyoto / Japan: oral presentation**

Lateral Gene Transfer Frequency Decreases with Donor-Recipient Divergence

06/2011 **Evolution and Classification in Biology, Linguistics and the History of Sciences in Ulm / Germany: oral presentation**

Directed networks reveal genomic barriers and DNA repair bypasses to lateral gene transfer among prokaryotes

06/2010 **Annual Meeting of the Society for Molecular Biology and Evolution in Lyon / France: poster**

A directed network of recent lateral gene transfer within prokaryotes reveals trends and barriers in gene acquisition

05/2010 **Bertinoro Computational Biology 2010 in Italy – oral presentation**

A directed network of recent lateral gene transfer within prokaryotes reveals trends and barriers in gene acquisition

06/2009 **Annual Meeting of the Society for Molecular Biology and Evolution in Iowa / USA: poster**

A novel method for detection of recent lateral gene transfers and their gene donor reveals high frequency of inter-species gene exchange

Skills in molecular evolution

Familiarity with biological databases:	NCBI, JGI, PHAST_DB, GOLD
Experience in phylogenetic analysis:	ClustalW, mafft, BLAST, phylip, proptest, modeltest, EMBOSS, phymI, codeml
Programming languages:	Perl, Awk, unix-shell
Databases:	MySQL
Statistical/Mathematical tools:	MATLAB/OCTAVE, R
Visualization tools:	Adobe Illustrator, Cytoscape

General skills in computer science

Experience in:	Installation and system wide support of the operation systems linux, windows and mac OS. Linux cluster batch system OpenPBS and Torque
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