

CURRICULUM VITAE

Name: Taraskina Anastasiya Evgen`evna

Degree: Philsophiae Degree (PhD) (2003 y.)

Academic rank: don't have

Field of study: Molecular biology, molecular genetics, microbiology, biogenic amines, micromycetes, opportunistic infections, microevolution, molecular phylogeny, personalized medicine

Knowledge of languages: English (intermediate)

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H-index (Scopus) – 9

H-index (Web of Science) – 9

H-index (Russian Science Citation Index) – 11

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Education/Training:

1991-1997 yy. - St.Petersburg University, Faculty of Biology, Department of Microbiology – Master Degree (biologist microbiologist)

1997-2003 yy – Federal Research and Clinical Center of Physical-Chemical Medicine – postgraduate studies

2003 y. – N.F. Gamaleya Federal Research Center for Epidemiology and Microbiology - PhD of Biological Sciences (03.00.07 – microbiology)

Positions and Honors:

1990-1992 – Laboratory assistant, Institute of Cytology RAS, Saint-Petersburg, Russia

1992-2002 – Scientific collaborator, Laboratory of Microbiology, D.O. Ott Institute of Obstetrics and Gynecology RAMS, Saint-Petersburg, Russia

2002-present – Senior scientific collaborator, Laboratory of Molecular human genetics, Petersburg Nuclear Physics Institute named by B.P. Konstantinov of National Research Centre «Kurchatov Institute», Leningrad district, Gatchina, Russia

2008-present – Head, Laboratory of Molecular biology, Pavlov First Saint Petersburg State Medical University, Saint-Petersburg, Russia

2014-present – Deputy Director for Science; Head, Laboratory of Molecular genetic microbiology, Kashkin Research Institute of Medical Mycology, North-Western State Medical University named after I.I. Mechnikov, Saint-Petersburg, Russia

OTHER APPOINTMENTS:

Deputy chief editor of the journal “Problems in medical mycology”

Reviewer: Journal of Problems of Particularly Dangerous Infections (in Russian)

Member: Vavilov Society of Geneticists and Breeders (VSGB)

Key Scientific Results

Part of Taraskina work is devoted to the study of the molecular genetic characteristics of key proteins of dopaminergic neurotransmission on peripheral blood lymphocytes (PBL) in various pathologies. Despite some limitations, it is definitely proved that PBL are surrogate markers for studying neurotransmission dysfunctions in neuropsychiatric pathologies, as well as for

monitoring pharmacological effects. In the course of the work, the parameters of lymphocytic neurotransmission in the syndrome of alcohol dependence were characterized, and during antipsychotic therapy. The role of neurotransmission parameters of peripheral blood lymphocytes in patients with schizophrenic spectrum disorders as biomarkers for assessing the efficacy and safety of antipsychotic therapy has been determined. The association of elevated levels of catecholamines in the blood serum with the development of adverse extrapyramidal symptoms in the treatment of neuroleptics has been proven.

The first metagenomic study of intestinal microbiota in patients with the syndrome of alcohol dependence and patients with alcoholic liver cirrhosis in a genome-wide format was conducted jointly with colleagues from the Federal Scientific Clinical Center FCM. The features of the taxonomic and functional composition of the intestinal microbiota in these diseases were established. According to changes in the relative representation of KEGG Orthology gene groups, a comparative analysis of the metabolic potential revealed an increase in the level of pathways associated with the response to oxidative stress. In patients with SAZ, an increase in two specific groups of genes encoding enzymes involved in alcohol metabolism, as well as virulence factors, was found. Presumably, the microbiota of the intestines of alcoholics, demonstrating the changes in both taxonomic and functional composition, plays a role in modulating the effects of alcohol on the host organism.

At present, the studies of opportunistic microscopic fungi and their effects on human health are being conducted at the main place of work. We study the mechanisms contributing to the transition of commensal to the pathogen, immunological parameters associated with the manifestation of a fungal infection. Studies on the reconstruction of phylogenetic relationships and microevolutionary processes in dermatomycetes of the *Trichophyton* genus have been performed using the multilocus sequencing method to evaluate the intraspecific variability of *Stachybotrys* spp.

HONORS AND AWARDS:

Award of the Government of Saint-Petersburg for young PhD (2008).

The winner of St. Petersburg competition of the grant in the field of scientific and scientific-technical activities (2016, 2018)

The nominal scientific research grant of the Governor of Leningrad region in the category "Leading scientists" (2009-2010; 2013-2014; 2018-2019).

PARTICIPATION IN SCIENTIFIC RESEARCH:

Participation in the grant of Russian Science Foundation (14-15-00904) «The therapy of antipsychotic drug: the development of personalized approach based on the individual characteristics of neurotransmission in peripheral blood lymphocytes»

Russian Foundation for Basic Research [grant no 16-54-53109] "Intraspecies typing of pathogenic microorganisms (genotyping and proteomics features)" (2016-2017) (Participation)

Responsible contractor of research work of the State Ministry of Health RF "Study of molecular markers of the risk of fungal infections and resistance of micromycetes to antifungal drug at the level of the genome and proteome"

PUBLICATIONS:

Author of more than 120 works, cited including in databases SCOPUS (43) and RSCI (81); co-author of two monographs; author of one patent.

Key publications in the journal topics:

1. I.M. Pchelin, V.V. Zlatogursky, M.V. Rudneva, G.A. Chilina, Ali Rezaei-Matehloaei, D.M.. Lavnikovich, N.V Vasileva, **A.E. Taraskina**. Reconstruction of phylogenetic relationships in dermatomycete genus *Trichophyton* Malmsten 1848 based on ribosomal internal transcribed

- spacer region, partial 28S rRNA and beta-tubulin genes sequences. *Mycoses*. 2016. Vol.59, Is.9, P. 566-575. DOI: 10.1111/myc.12505
2. Shadrivova O.V., Frolova E.V., **Taraskina A.E.**, Klimko N.N. Molecular-genetic and immunological aspects of invasive aspergillosis. *Journal of Infectology*. 2017. Vol. 9. No. 1. pp. 47-54.
 3. Vasilyeva N.V., Raush E.R., Rudneva M.V., Bogomolova T.S., **Taraskina A.E.**, Yong Fang, Fengmin Zhang, Klimko N.N. Etiology of invasive candidosis agents in Russia: a multicenter epidemiological survey. *Frontiers of Medicine*. 2018. 12 (1): 84-91. doi: 10.1007/s11684-017-0612-x.
 4. Pchelin IM, Azarov DV, Chilina GA, Dmitriev KA, Vasilyeva NV, **Taraskina AE**. Single nucleotide polymorphism in a local population of *Trichophyton rubrum*. *Medical Mycology*. 2018. V. 56: 125–128. doi: 10.1093/mmy/myx009
 5. **Taraskina A.E.**, Rudneva M.V., Shadrivova O.V., Frolova E.V., Bogomolova T.S., Klimko N.N., Vasilyeva N.V. CXCL10 gene promoter polymorphism A-1447G increase susceptibility to invasive aspergillosis in female oncohematological patients. *Med. Mycology*. 2018. 56 (Is.2): S153-S153.
 6. Pchelin IM., Azarov DV., Churina MA., Scherbak SG., Apalko SV., Vasilyeva N.V., **Taraskina A.E.** Species boundaries in the *Trichophyton mentagrophytes* / *T. interdigitale* species complex. *Med Mycol*. 2018. Nov 21. doi: 10.1093/mmy/mmy115
 7. **Taraskina A.E.**, Frolova E.V., Shadrivova O.V., Uchevatkina A.E., Filippova L.V., Desyatik E.A., Ignatieva S.M., Spiridonova V.A., Bogomolova T.S., Shulgina M.V., Boyko I.R., Kopylov E.D., Chudinovskikh Y.A., Uspenskaya O.S., Schneider T.V., Klimko N.N., Vasilyeva N.V. CXCL10 gene promoter allelic variants modulate serum interferon-gamma inducible protein of 10 kDa (IP-10) levels in oncohematological patients with invasive aspergillosis. *Problems in medical mycology*. 2018; 20 (3): 8-14.
 8. Pchelin I.M., Azarov D.V., Churina M.A., Ryabinin I.A., Vibornova I.V., Apalko S.V., Kruglov A.N., Sarana A.M., **Taraskina A.E.**, Vasilyeva N.V. Whole genome sequence of first *Candida auris* strain, isolated in Russian. *Med Mycol*. 2019. Jul 9. pii: myz078. doi: 10.1093/mmy/myz078.
 9. Ivan M Pchelin, Daniil V Azarov, Maria A Churina, Igor A Ryabinin, Irina V Vibornova, Svetlana V Apalko, Alexander N Kruglov, Andrey M Sarana, **Anastasia E Taraskina**, Natalya V Vasilyeva. Whole genome sequence of first *Candida auris* strain, isolated in Russia. *Medical Mycology*. – 2020. Vol. 58, №3. – P. 414-416. doi.org/10.1093/mmy/myz078
 10. Ivan M. Pchelin Yuri V. Mochalov Daniil V. Azarov Sofya A. Romanyuk Galina A. Chilina Irina V. Vybornova Tatiyana V. Bogdanova Vasily V. Zlatogursky Svetlana V. Apalko Natalia V. Vasilyeva, **Anastasia E. Taraskina**. Genotyping of Russian isolates of fungal pathogens *Trichophyton rubrum*, based on simple sequence repeat and single nucleotide polymorphism. *Mycoses*. – 12 August 2020. – P. 1-11. DOI: 10.1111/myc.13162