

Portfolio of potential scientific advisors of participants of the international Olympiad Open Doors: Russian Scholarship Project of the Association "Global Universities" on the track of postgraduate studies in 2021-2022.

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| University | Novosibirsk State University |
| English proficiency level | fluent |
| Proposed field of study | mathematics |
| Code of the field of study | 01.04.01 |
| List of research projects of the potential supervisor | Project of the Russian Science Foundadtion № 19-41-02005 (principal investigator) |
| List of the potential topics for PhD | Braid type groups and their representations Invariants in different generalizations of knot theory |
|  <p>Research supervisor: Timur Nasybullov</p> <p>PhD Novosibirsk State University Sobolev Institute of Mathematics Mathematical center in Akademgorodok</p> | <p>Supervisor’s research interests: Group theory, linear groups, braid groups, low-dimensional topology.</p> <p>I am mostly interest in the study of different generalizations and simplifications of braid groups: virtual braid groups, welded braid groups, fused braid groups, Gauss virtual braid groups, flat virtual braid groups, free braid groups and their applications in knot theory. In particular in the constructing of invariants of knot and links which are based on different properties of braid groups.</p> |
| | <p>Research highlights:</p> <p>The program is going to be realized in Novosibirsk Science Center. There are a lot of foreign student, and a lot of foreign specialist in different fields of mathematics (including the topic suggested for the applicants) which visit Novosibirsk Science Center and give lectures every year.</p> |
| | <p>Supervisor’s specific requirements:</p> <p>The candidate is required to listen the standard courses of algebra and geometry. Also the candidate has to know well the fundamentals of group theory and low dimensional topology. Also the candidate has to be able to speak appropriate English or Russian.</p> |
| | <p>Supervisor’s main publications:</p> <p><i>13 publications in the last 5 years. The five main publications are:</i></p> <ol style="list-style-type: none"> 1. A. Cattabriga, S. Matveev, M. Mulazzani, T. Nasybullov, On the complexity of non-orientable Seifert fibre space, Indiana Univ. Math. J. 69 (2020), no. 2, 421–451. 2. T. Nasybullov, Connections between properties of the additive and the multiplicative groups of a two-sided skew brace. J. Algebra 540 (2019), 156–167. 3. A. Cattabriga, T. Nasybullov, Virtual quandle for links in lens spaces. Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat. RACSAM 112 (2018), no. 3, 657–669. 4. T. Nasybullov, Classification of fused links. J. Knot Theory Ramifications 25 (2016), no. 14, 1650076. 5. A. Fel'shtyn, T. Nasybullov, The R_∞ and S_∞ properties for linear algebraic group, J. Group Theory 19 (2016), no. 5, 901–921. |
| | Results of intellectual activity 15 publications indexed in the international data bases. |