


University	Peter the Great St. Petersburg Polytechnic University
Level of English proficiency	Independent User (B1)
Educational program and field of the educational program for which the applicant will be accepted	<p>ENGINEERING & TECHNOLOGY</p> <p>2.1.1 Building structures, buildings and constructions</p> <p>URBANISM & CIVIL ENGINEERING</p> <p>2.1.5 Construction materials and products</p> <p>2.1.15. Safety of construction objects</p>
List of research projects of the potential supervisor (participation/leadership)	<ul style="list-style-type: none"> • Calculations of the actual fire resistance limits of building structures of oil and gas facilities, tunnel structures, wooden buildings. • Influence of space-planning and structural solutions on the spread of fire hazards and on the unimpeded and timely evacuation
List of the topics offered for the prospective scientific research	<ul style="list-style-type: none"> • Scientific justification of forecasting the behavior of building structures, buildings and structures in fire at the stages of their creation, operation and reconstruction. • Development of rational forms and parameters of structures, volume-planning solutions of buildings and structures, based on the conditions of placement in the building, functional and technological processes, thermal-physical, fire safety. • Development of new and improvement of rational types of supporting and enclosing structures, structural solutions of buildings and structures taking into account the processes taking place in them, the natural and climatic conditions and fire safety.
 <p>Research supervisor: Marina Gravit,</p>	<i>2.01. Construction & building technology</i>
	<p>Supervisor's research interests</p> <p>Development of new fire-resistant materials and fire-resistant structures; study of human flows in a fire depending on the characteristics of buildings and structures.</p>
	<p>Research highlights</p> <p>Fire safety in building</p>
	<p>Supervisor's specific requirements:</p> <p>Excellent knowledge of structural mechanics; understanding of thermophysical processes; understanding of finite element methods and basic fire propagation modeling.</p>

Candidate of Science/PhD

Place of thesis defence: SAINT-PETERSBURG UNIVERSITY OF STATE FIRE SERVICE OF EMERCOM OF RUSSIA

Supervisor's main publications

Olga Zybyna, Marina Gravit. Intumescent Coatings for Fire Protection of Building Structures and Materials. Springer Series on Polymer and Composite Materials. 2020. Publisher Springer International Publishing. XI, p.210. ISBN 978-3-030-59422-0. <https://doi.org/10.1007/978-3-030-59422-0>

Gravit, M.; Shabunina, D.; Shcheglov, N. Thermal Characteristics of Epoxy Fire-Retardant Coatings under Different Fire Regimes. *Fire* 2023, 6, 420. <https://doi.org/10.3390/fire6110420>

Gravit, M.; Shabunina, D.; Nedryshkin, O. The Fire Resistance of Transformable Barriers: Influence of the Large-Scale Factor. *Fire* 2023, 6, 294. <https://doi.org/10.3390/fire6080294>

Komarov, A.; Korolchenko, D.; Gromov, N.; Korolchenko, A.; Jafari, M.; Gravit, M. Specific Aspects of Modeling Gas Mixture Explosions in the Atmosphere. *Fire* 2023, 6, 201. <https://doi.org/10.3390/fire6050201>

Gravit, M.; Shabunina, D.; Stratiy, P.; Kotlyarskaya, I.L.; Sychov, M. The Effects of the Large-Scale Factor on the Integrity Parameters of Monolithic Fire-Resistant Glass. *Fire* 2023, 6, 114. <https://doi.org/10.3390/fire6030114>

V.A. Prusakov, M.V. Gravit, Ya.B. Simonenko. Superthin Basalt Fiber as the Base of a Matrix of the Fire-Resistant Filling of Deformation Joints in Building Structures. *Glass Physics and Chemistry*, 2023, Vol. 49, No. 1, pp. 75–80. DOI:10.1134/s1087659622600879

Gravit, M.; Ikhyanov, N.; Radaev, A.; Shabunina, D. Implementation of Elements of the Concept of Lean Construction in the Fire Protection of Steel Structures at Oil and Gas Facilities. *Buildings* 2022, 12, 2016. <https://doi.org/10.3390/buildings12112016>

Brics, A.; Serdjuks, D.; Gravit, M.; Buka-Vaivade, K.; Goremikins, V.; Vatin, N.I.; Podkoritovs, A. The Behaviour of Load-Carrying Members from Cordwood. *Buildings* 2022, 12, 1702. <https://doi.org/10.3390/buildings12101702>

Gravit, M.; Shabunina, D.; Antonov, S.; Danilov, A. Thermal Characteristics of Fireproof Plaster Compositions in Exposure to Various Regimes of Fire. *Buildings* 2022, 12, 630. <https://doi.org/10.3390/buildings12050630>

Gravit, M.; Shabunina, D. Numerical and Experimental Analysis of Fire Resistance for Steel Structures of Ships and Offshore Platforms. *Fire* 2022, 5, 9. <https://doi.org/10.3390/fire5010009>

	<p>Gravit, M.; Klementev, B.; Shabunina, D. Fire Protection of Steel Structures with Epoxy Coatings under Cryogenic Exposure. <i>Buildings</i> 2021, 11, 537. https://doi.org/10.3390/buildings11110537</p> <p>Gravit, M.; Shabunina, D. Structural Fire Protection of Steel Structures in Arctic Conditions. <i>Buildings</i> 2021, 11, doi:10.3390/buildings11110499</p> <p>Marina Gravit, Elena Golub, Boris Klementev, Ivan Dmitriev. Fire Protective Glass Fiber Reinforced Concrete Plates for Steel Structures under Different Types of Fire Exposure. <i>Buildings</i> 2021, Volume 11, Issue 5, 187. https://doi.org/10.3390/buildings11050187</p> <p>Gravit, M.V., Serdjuks, D., Vatin, N., Lazarev, Y.G., Yuminova, M.O. Single burning item test for timber with fire protection. <i>Magazine of Civil Engineering</i>. 2020. 95(3). Pp. 19–30. DOI: 10.18720/MCE.95.2</p> <p>Gravit, M.V., Golub, E.V., Grigoriev, D.M., Ivanov, I.O. Fireproof suspended ceilings with high fire resistance limits. <i>Magazine of Civil Engineering</i>. 2018. 84(8). Pp. 75–85. doi: 10.18720/MCE.84.8</p> <p>Gravit M.V., Nedryshkin O.V., Ogidan O.T. Transformable fire barriers in buildings and structures. <i>Magazine of Civil Engineering</i>. 2018. No. 1. Pp. 38–46. doi: 10.18720/MCE.77.4</p> <p>Gravit M.V., Golub E.V., Antonov S.P. Fire protective dry plaster composition for structures in hydrocarbon fire. <i>Magazine of Civil Engineering</i>. 2018. No. 3. Pp. 86–94. doi: 10.18720/MCE.79.9.</p> <p>Korotkov, A.S., Gravit, M. 3D-map modelling for the melting points prediction of intumescent flame-retardant coatings. <i>SAR and QSAR in Environmental Research</i>. 2017. Vol. 28, Issue 8, 3 Pp. 677-689. DOI: 10.1080/1062936X.2017.1370725</p>
	<p>Results of intellectual activity</p> <p>Grants won in the field of fire safety in construction; contracts and patents. Articles in Q1-Q2 level journals.</p>