На английском языке:

University	Kazan Federal University
Level of English proficiency	Advanced
Educational program and field of the educational program for which the applicant will be accepted	*03.04.02 Physics (MSc program)* *03.04.02 Radiophysics (MSc program)* *1.3.8 Condensed Matter Physics (PhD program)* *1.5.2 Biophysics (PhD program)* *2.2.13 TV and Radio Systems (PhD program)*
List of research projects of the potential supervisor (participation/leadership)	Application and development of magnetic resonance methods for material science, petrophysics, biomedical applications, in the study of complexes of biologically active substances, implants, new contrast agents for imaging and drug delivery
List of the topics offered for the prospective scientific research	Development of Equipment for Nuclear Magnetic Resonance Development of Equipment for Electron Paramagnetic Resonance New Medical Materials based on Calcium Phosphate Effective Technical Tools for the Enhanced Oil Recovery Multipurpose Semiconducting Materials New Materials for the Magnetic Catalysts
 Research supervisor: **Marat R. Gafurov** Director of the Institute of Physics, KFU, Doctor (Physics and Mathematics) (2020) in the specialty 01.04.07 - Condensed Matter Physics, dissertation title "Multi-frequency EPR spectroscopy and double	***1.3 Physical sciences*** • Atomic, molecular and chemical physics (physics of atoms and molecules; magnetic resonances); Condensed matter physics (including formerly solid state physics, superconductivity). Supervisor's research interests *Development and application of magnetic resonance techniques (nuclear magnetic resonance, NMR; Electron paramagnetic resonance, EPR, ESR; and their combinations) for the investigation of new materials for biomedical purposes (implants, contrast agents for bioimaging, drug delivery cargoes) and petroleum industry (catalysts)* . Research highlights *(при наличии)* We have a wide range of preparative analytical equipment, unique for the Russian Federation and some of the world's leading laboratories. Among them EPR spectrometer ELEXSYS E680, Bruker with the ability to carry out experiments in two frequency ranges, in a pulsed mode, photoinduced measurements, etc. EPR spectrometer ESP300, Bruker Biospin International AG NMR spectrometer Avance-500 NMR, Bruker Biospin Mössbauer spectrometer NMR relaxometer NMR Fourier spectrometer AVANCE 400 Bruker with gradient coils for diffusometry NMR spectrometer AvanceIIIHD 700, Bruker, equipped with QCI cryoprobe and multinuclear probe (1H/19F, 13C, 15N, 31P)

electron-nuclear resonances in the study of water- and oil-dispersed systems" https://kpfu.ru/Marat.Gafurov?p_lang=2	Supervisor's specific requirements: *Раздел заполняется при наличии требований, предъявляемых к аспиранту (обязательный бэкграунд кандидата/дисциплины, которые он обязательно должен был освоить/ методы, которыми он должен владеть/ уметь пользоваться каким-то определённым ПО и др.)*
	Supervisor's main publications **EFFECTS OF VARIOUS RIPENING MEDIA ON THE MESOPOROUS STRUCTURE AND MORPHOLOGY OF HYDROXYAPATITE POWDERS** *Goldberg, M.A., Antonova, O.S., Donskaya, N.O., Fomin, A.S., Murzakhanov, F.F., Gafurov, M.R., Konovalov, A.A., Kotyakov, A.A., Leonov, A.V., Smirnov, S.V. and Obolkina, T.O.* Nanomaterials 2023, 13(3), p.418. **INFLUENCE OF ANIONIC AND AMPHOTERIC SURFACTANTS ON HEAVY OIL UPGRADING PERFORMANCE WITH NICKEL TALLATE UNDER STEAM INJECTION PROCESSES** *Kholmurodov, T., Vakhin, A., Aliev, F., Galyametdinov, Y., Mirzayev, O., Tajik, A. and Gafurov, M.* *Industrial & Engineering Chemistry Research. 2023, 62 (27), 10277–10289* https://doi.org/10.1021/acs.iecr.3c01131 **Nd^{3+}, Yb^{3+}:YF_3 OPTICAL TEMPERATURE NANOSENSORS OPERATING IN THE BIOLOGICAL WINDOWS** *Pudovkin, M., Oleynikova, E., Kiiamov, A., Cherosov, M. and Gafurov, M.* *Materials*, 2023, *16*(1), p.39. **STUDY OF ELECTRON-NUCLEAR INTERACTIONS IN DOPED CALCIUM PHOSPHATES BY VARIOUS PULSED EPR SPECTROSCOPY TECHNIQUES** *Murzakhanov F., Mamin G.V., Orlinskii S., Gafurov M.R., Goldberg M., Petrakova N.V., Fedotov A.Y., Komlev V.S., Grishin P.* ACS Omega. 2021. V. 6. № 39. P. 25338-25349 **EFFECT OF THE BERYLLIUM ACCEPTOR IMPURITY UPON THE OPTICAL PROPERTIES OF SINGLE-CRYSTAL ALN** *Mokhov E.N., Rabchinskiy M.K., Nagalyuk S.S., Kazarova O.P., Gafurov M.R.* Semiconductors. 2020. V. 54. № 3. P. 278-281.
	Results of intellectual activity