University	Peter the Great St. Petersburg Polytechnic University
Level of English proficiency	Fluent
Courses and fields of studies offered for applicants	2.2.11 Information, measuring and control systems
Projects for potential academic supervision	2019-2012. Head of the grant 19-31-90165 "Methods and software for estimating the error of roots of systems of nonlinear equations with inaccurate coefficients" of the Russian Foundation for Basic Research.
	2019-2021. Head of the grant 19-71-00127 "Software for metrological support of calculations with inaccurate data" of the Russian Science Foundation.
	2023-present. Head of the grant "Nonparametric methods and software based on them for reconciling and clarifying inaccurate data based on taking into account known relationships and a priori information" 23-29-00694 of the Russian Science Foundation.
	2022. Member of the scientific team of grant 20-15-00228 "Cellular exosomes during infection with influenza A virus: role in pathogenesis and potential for therapeutic use" of the Russian Science Foundation.
	2020-present. Projects' participant of the world-class Scientific Center of St. Petersburg Polytechnic University (scientific and technological complex "Mathematical modelling and intelligent control systems").
	2020-present. Participant of two SPbPU projects within the federal program "Priority 2030".
	2021-2022. Participant of two research projects between SPbPU and Siemens AG.
	2008-2022. Participated in more than 50 research and development projects on physical and mathematical modelling of the interaction of sea waves with hydraulic structures
Topics offered for prospective researches	Determined following an interview with a potential applicant
	Automated control systems
	Supervisor's research interests Probability theory and mathematical statistics, data processing, processing of inaccurate and incomplete data, decision-making under conditions of uncertainty, measurement methods, instrumentation, information-measuring and control systems, metrologically significant software, metrology, mathematical modelling, algorithmization, numerical methods, computational mathematics, physical modelling of processes in fluids, applied hydrodynamics, interaction of sea waves with hydraulic structures, performing meta-analyses, the impact of eco-innovations on the financial performance of companies (in the context of their size), scientometrics

  Research supervisor: Konstantin K. Semenov, Ph.D. (instrumentation, 2011) (Peter the Great St. Petersburg Polytechnic University)	Supervisor's specific requirements: Confident knowledge of methods and means of probability theory and mathematical statistics, understanding of the fundamentals of instrumentation and information and measurement systems

Research supervisor:

Konstantin K. Semenov,

Ph.D. (instrumentation, 2011) (Peter the Great St. Petersburg Polytechnic University)

Supervisor's specific requirements:
Confident knowledge of methods and means of probability theory and mathematical statistics, understanding of the fundamentals of instrumentation and information and measurement systems

Supervisor's publications

Scopus:
https://www.scopus.com/authid/detail.uri?authorId=36338165900
Google Scholar:
https://scholar.google.com/citations?user=pPAtqDMAAAAJ
Elibrary:
https://elibrary.ru/author_profile.asp?id=648428

Total number of publications indexed in Scopus / Web of Science in last five years – **29**,
Total number of publications indexed in the Russian Scientific Citation Index (elibrary.ru) in last five years – **95**,

The latest in time Q1/Q2 publications (Scopus):
1. Taraskin A.S., Semenov K.K., Protasov A.V. et al. (2022). Quench me if you can: alpha-2-macroglobulin trypsin complexes enable serum biomarker analysis by MALDI mass spectrometry. *Biochimie*. Vol. 185. P. 87-95.
2. Taraskin A.S., Semenov K.K., Lozhkov A.A. et al. (2022). A novel method for multiplex protein biomarker analysis of human serum using quantitative MALDI mass spectrometry. *Journal of Pharmaceutical and Biomedical Analysis*. Vol. 210. Paper 114575.
3. Semenova A.S., Semenov K.K., Strochevoy M.A. (2023). One, Two, Three: How Many Green Patents Start Bringing Financial Benefits for Small, Medium and Large Firms? *Economies*. Vol. 11(5). Paper 137.
4. Semenov K.K., Taraskin A.S., Yurchenko A. et al. (2023). Uncertainty estimation for quantitative agarose gel electrophoresis of nucleic acids. Sensors. Vol. 23. No. 4. Paper 1999.
5. Garanin V.A., Semenov K.K. (2024). Increasing measurement accuracy by nonparametric data reconciliation. Measurement. Vol. 238. Paper 115235

Impacts of Supervisor's research in the last five years:

The total number of patents – **1**.
The total number of stately registered software – **25**.

The list of the five most important results (in Russian as the language of the patents and software):
1. Тараскин А.С., Семенов К.К., Ложков А.А., Васин А.В., Клотченко С.А., Забродская Я.А. Способ количественного мультиплексного анализа альфа-2-макроглобулина, фетуина А и сывороточного амилоида a1 как факторов воспаления в сыворотке крови с использованием MALDI-TOF масс-спектрометрии. Патент на изобретение 2789503 C1, 03.02.2023. Заявка № 2022112637 от 11.05.2022.
2. Большщиков В.А., Семенов К.К. Программа для

определения максимального количества кластеров, в принципе различимых в обрабатываемых неточных данных, при использовании алгоритма кластеризации K-means. Свидетельство о регистрации программы для ЭВМ 2023680534, 02.10.2023. Заявка № 2023669551 от 25.09.2023.

3. Васин А.В., Семёнов К.К. Программа для построения карты предпочтительного использования той или иной математической модели процесса in vitro транскрипции в зависимости от метрологических свойств используемых средств измерений для контроля реакции и условий ее протекания. Свидетельство о регистрации программы для ЭВМ RU 2023688013, 19.12.2023. Заявка от 06.12.2023.

4. Семенов К.К., Сушников В.А. Программа для автоматического распознавания показаний на цифровых индикаторах средств измерений, участвующих в процедуре калибровки портативных цифровых граммометров по методике с применением точных весов**.** Свидетельство о регистрации программы для ЭВМ RU 2024663493, 06.06.2024. Заявка от 09.04.2024.

5. Семенов К.К. Программа для компенсации неизбирательности датчиков с линейной и нелинейной характеристиками преобразования, установленных в измерительных каналах киберфизической системы, с целью повышения точности выполняемых ими измерений с использованием аппроксимации нелинейностей кубическими сплайнами. Свидетельство о регистрации программы для ЭВМ 2022684975, 20.12.2022. Заявка № 2022684022 от 08.12.2022.