Skoltech

Skolkovo Institute of Science and Technology

Academic Council

Annual Report

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Content

Executive Summary

The Academic Council is a key collegial governance body implementing the shared governance at Skoltech. It oversights educational, scientific, R&D and innovation activities by involving faculty and students in planning, decision making and results evaluation together with administration.

The Council in the present composition was appointed by Skoltech Founders in September 2019. The first year of the Council was very productive. While the agenda had a lot of issues to review, there are several items of particular importance, worth to mention.

Supported by the Committees, the Council significantly advanced institutional policy making by defining a balanced view on management of the Centers, research facilities and infrastructure of shared use. The expertise was also provided on the educational programs and PhD thesis defenses, policies related to admission and final state attestation.

The Council contributed to Skoltech strategy development. The majority of the members attended the consultation sessions held during August – October 2020, sharing views on Skoltech to be in 2025.

It is a pleasure to mention that researchers nominated by Skoltech Academic Council received national fellowships, such as a grant of the President of the Russian Federation and Moscow Government Prize for Young Scientists.

The Annual report summarizes highlights of the 2019/2020, a year dramatically influenced by covid-19. Despite the pandemic, the Council and Committees were fully functional, gathering in zoom sessions with readiness and enthusiasm to drive Skoltech development.

On behalf of the Chairman of the Academic Council, Prof. Alexander Kuleshov, sincere appreciation to all the members who invested their time and efforts in serving the shared governance at Skoltech.

Alexander Safonov,
Academic Secretary

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Council authorities

The Academic Council is the collegial governance body overseeing Skoltech educational, scientific, R&D and innovation activities. The Council is responsible for elaborating and maintaining quality standards for hiring and promotion of academic personnel, MSc and PhD educational programs, as well as research and innovation activities. The authorities of the Council are established in the Charter and the Regulations of the Council. In its work, the Council is supported by the Committees which annually report on major activities.

The Appointment, Promotion and Tenure Committee (APTC) reviews applications of candidates of candidates to faculty positions, making decisions on appointment, promotions and contract renewals. The Committee acts as a decision making body for nominating academic personnel to national level awards and fellowships. The APTC members are also involved as experts in developing policies related to academic personnel.

The Educational Committee sets rules and approaches to maintain high quality standards in the educational domain. The Committee reviews and approves the programs portfolio, programs curricula, receives regular updates on the results of Innovation Workshop, Industry Immersion. It also considers the admission rules and admission procedures. On the annual basis, the Committee nominates chairs of the final attestation commissions as well as reviews reports on defenses.

The Research and Innovation Committee approves plans for development of research units (laboratories, shared facilities), requests for research equipment purchases. It also reviews reports on projects performed under grants (contracts), as well as provides recommendations on major research initiatives.

Membership[1]

ACADEMIC COUNCIL

Prof. **Alexander Kuleshov**, *President (Chair)*

Prof. **Keith Stevenson**, *Provost*

Prof. **Iskander Akhatov**, *CDMM*

Prof. **Nikolai Brilliantov**, *CDISE*

Prof. **Edward Crawley**, *MIT*

Dr. **Anna Derevnina**, *Associate Provost*

Prof. **Maxim Fedorov**, *VP Artificial Intelligence and Mathematical Modelling*

Dr. **Alexander Fertman**, *Sk Foundation*

Prof. **Clement Fortin**, *Associate Provost*

Prof. **Ildar Gabitov**, *CPQM*

Prof. **Mikhail Gelfand**, *VP Biomedical Research*

Prof. **Anton Ivanov**, *SC*

Dr. **Grigoriy Kabatiansky**, *Advisor to the President for Science*

Prof. **Igor Krichever**, *CAS*

Prof. **Dmitry Kulish**, *CEI*

Ekaterina Malysheva, *alumni*

Alexey Ponomarev, *Senior VP Industrial Cooperation*

Prof. **Valery Rubakov**, *Moscow State University*

Prof. **Mikhail Spasennykh**, *CHR*

Lawrence Stein, *VP International Business Affairs, IP*

Dr. **Alexander Safonov**, *VP Development (Academic Secretary)*

[1] As of November 1, 2020.

APPOINTMENT, PROMOTION AND TENURE COMMITTEE

Prof. Igor Krichever,
CAS
(Chair)

Prof. **Iskander Akhatov**,
CDMM

Prof. **Alexei Buchachenko**,
CEST

Dr. **Alexander Fertman**,
Sk Foundation

Prof. **Ildar Gabitov**,
CPQM

Prof. **Mikhail Gelfand**,
CLS

Dr. **Grigoriy Kabatiansky**,
Advisor to the President for Science

Prof. **Yury Kotelevtsev**,
CLS

Prof. **Albert Nasibulin**,
CPQM

RESEARCH & INNOVATION COMMITTEE

Prof. **Artem Abakumov**,
CEST
(Chair)

Prof. **Georgii Bazykin**,
CLS

Prof. **Pavel Dorozhkin**,
CEI

Prof. **Anton Ivanov**,
SC

Dr. **Dmitry Katalevsky**,
Department for Industrial Cooperation

Prof. **Dmitry Lakontsev**,
CDISE

Dr. **Nikolay Suetin**,
Sk Foundation

Prof. **Ighor Uzhinsky**,
CDMM

Prof. **Arkadi Shipulin**,
CPQM

Dr. **Alexander Fertman**,
Sk Foundation

Prof. **Timofei Zatsepin**,
CLS

Prof. **Alexey Cheremisin**,
CHR

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EDUCATIONAL COMMITTEE

Prof. **Alexei Buchachenko,** *CEST (Chair)*

Prof. **Georgii Bazykin**, *CLS*

Prof. **Nikolai Brilliantov**, *CDISE*

Prof. **Alexey Cheremisin**, *CHR*

Prof. **Maxim Fedorov**, *CDISE*

Prof. **Clement Fortin**, *SC*

Prof. **Mikhail Gelfand**, *CLS*

Prof. **Elena Gryazina**, *CEST*

Prof. **Anton Ivanov**, *SC*

Prof. **Dmitry Ivankov**, *CLS*

Prof. **Aslan Kasimov**, *CDMM*

Prof. **Andrei Marshakov**, *CAS*

Prof. **Maxim Panov**, *CDISE*

Prof. **Dimitry Pissarenko**, *CHR*

Prof. **Henni Ouerdane**, *CEST*

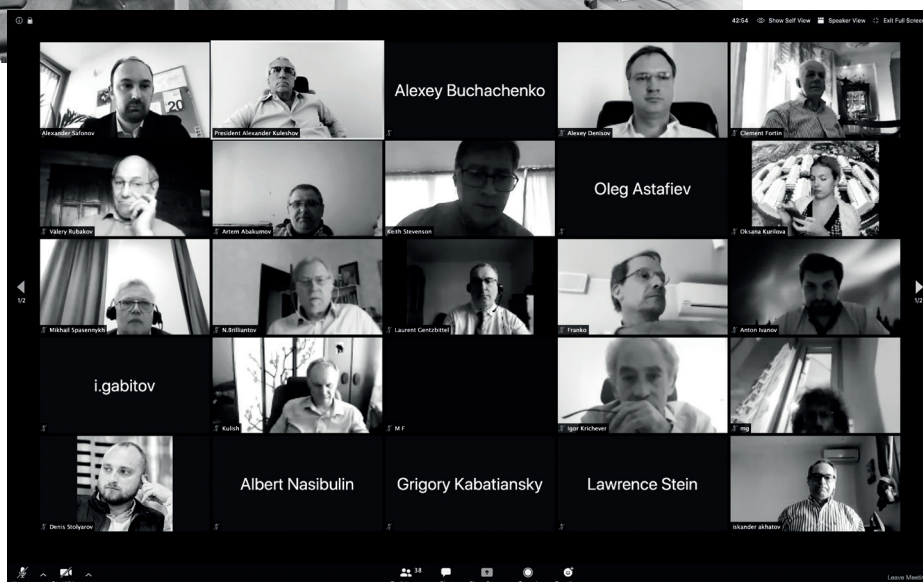Prof. **Mikhail Skvortsov**, *CPQM*

Prof. *Kelvin Willoughby*, *CEI*

Prof. **Andriy Zhugayevych**, *CEST*

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Meetings

The Academic Council held six regular meetings, all in a presence format:

September 03, 2019
November 21, 2019
April 30, 2020
May 5, 2020
May 18, 2020
September 9, 2020

The Committees held in total 40 meetings, including 20 absentee meetings.

Below is the summary of major issues under review during the year.

STRATEGY & PLANNING

The Council reviewed the update of the Strategic Action Plan 2019 – 2020, supporting the priorities to increase efficiency of R&D projects, implement student development opportunities, build alumni network, develop research infrastructure and facilities of shared use.

Starting from August 2020, the Council members participate in the strategic planning process. Two consultation sessions were held to address the strategy concept and make a number of recommendations to be embedded. At September meeting, the Council supported the strategy concept 2021 – 2025, recommending the President to present it to the Board of Trustees. The Council also approved the approaches to develop select priority areas – AI & Mathematical Modelling, Biomedical Research. Currently, the Council members contribute to developing the scope of specific strategy directions.

The Council approved long-term plans for development of the Laboratory of Nanomaterials (CPQM), Quantum Materials and Superconducting Technologies Direction (CPQM), International Laboratory of Representation Theory and Mathematical Physics (CAS). The development plan of the Digital Agriculture Laboratory, established as a separate unit, was also supported.

POLICY MAKING

During the year, the Council (Committees) substantially contributed to a number of major policies, including:

- Policy on Centers – the Council formulated the role and expectations to the Centers, criteria of a Center's establishment. Also, the Council supported extension of CREI Directors' authorities in terms of faculty hiring, promotion, assessment, and contract renewals.

- Policy on Research Facilities Center – the Council reviewed the proposed model for managing and developing research infrastructure and shared facilities, providing remarks on training personnel, pricing approaches. The Policy, establishing goals, functions, management, structure and resources of the Center, was approved.

- Code of Ethics – the Council supported the core values and principles to be observed by Skoltech community. The Code was approved with minor remarks.

- Student admission policies including admission rules, regulations on procedural issues (admission committees, examination boards, procedures for appeal, etc.) were reviewed and recommended for formal issue.

- Major educational domain policies, PhD Thesis Defense Policy, Policy on Graduate Educational Programs, Policy on the State Final Attestation for MSc Programs, are currently under review of the Educational Committee. Among other policies on the agenda are Policy for interim and current assessment, Policy on student practice, Policy on e-learning environment, Regulations on credit transfer from other institutions of higher education, Course/project registration regulations, add/drop procedures.

ACADEMIC PERSONNEL

31 nominations of the faculty and researchers were approved for submission to national fellowship programs, such as a grant program of the President of the Russian Federation for state support of the leading scientific schools, a scholarship of the President of the Russian Federation for young scientists and PhD candidates performing advanced research and development in priority areas of the Russian economy, a grant of the President of the Russian Federation for state support of young Russian scientists – candidates and Doctors of Science, Moscow Government Prize for Young Scientists, Zhores Alferov Scholarship for Young Scientists in Physics and Nanotechnologies.

In terms of faculty hiring, promotion and contract renewals, the APTC reviewed 217 cases, making 28 positive resolutions.

APPOINTMENT, PROMOTION AND TENURE COMMITTEE

Overall data

	Cases reviewed	Positive resolutions	Negative resolutions
Hiring	197	9	188
Promotion	7	6	1
Contract renewals	13[3]	13	0

Hiring

	Cases reviewed	Positive resolutions	Negative resolutions
Full Professor	2	1	1
Associate Professor	0	0	0
Assistant Professor	143	7	136
Visiting Professor	52	1	51

Promotion

	Cases reviewed	Positive resolutions	Negative resolutions
Full Professor	2	2	0
Associate Professor	2	2	0
Assistant Professor	3	2	1

Contract renewals

	Cases reviewed	Positive resolutions	Negative resolutions
Full Professor	7	7	0
Associate Professor	2	2	0
Assistant Professor	0	0	0
Visiting Professor	2	2	0
Adjunct Professor	2	2	0

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[3] Tenure cases are included.

ADMISSION CAMPAIGN

The interim reports on the admission campaigns (2019/2020, 2020/2021) were regularly presented to the Educational Committee. The Committee members advised on the issues related to recruitment tools, attraction of international students, as well as approaches to ensure admission procedures in the COVID restrictions.

The annual reports on the admission results are traditionally reviewed by the Council. As for 2019/2020[1], the Council praised the target measures implemented to increase selectivity of applicants (requirements for submitting hard copy of diploma a stronger E&I component in selection events).

The MSc and PhD admission plan for 2021 was approved with recommendations to use a 5% slot for MSc and PhD positions financed from Sk grant, to support the strategic cross-CREI initiatives and new laboratories.

SCHOLARSHIP FRAMEWORK

The proposal to revise the scholarship framework was under review of the Council. In general, the revision was initiated to increase competitiveness among students, provision of tailor-made career development opportunities in the major tracks: academia, high tech, startups. The Council did not manage to elaborate a joint position with regards to the proposal, raising different opinions. Some concerns were stated for a potential decrease of the basic scholarship, while the measures to increase motivation and development opportunities for students were supported.

Considering the recent strategy sessions and meetings of the Educational Committee, starting from admission 2021/2022 Skoltech will decouple enrolment decisions and decisions on assigning basic scholarships. The brightest students will be the first ones to receive offers with scholarships right after selection interviews. Other students will be entitled to receive scholarships after completion of all selection waves, subject to availability, or based on results demonstrated during or between the selection events.

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[1] The annual report on admission 2020/2021 will be presented at November meeting.

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TEACHING AND LEARNING

During the year, the Educational Committee addressed a number of issues related to quality of education, including assessment of thesis defenses results, curricular design, teaching in remote operations.

Taking into account results of defenses, a set of measures and action plans to improve quality were approved. The measures ensure transparency and procedural improvements, including revision of defense assessment criteria, grading process, introducing paperless processes. Following the legislative requirements, the candidates for the chairs of the MSc and PhD state attestation committees were nominated.

The Committee issued the guidelines for teaching assistantship, which covers TAs' responsibilities, recommended benchmarks for TAs per course, requirements for reporting.

To address the COVID remote operations mode, the Committee elaborated recommendations to support teaching faculty, including tools for active students' engagement, resources on best practices of online teaching, suggestions to pre-record lectures.

The curricula for MSc and PhD programs 2020/2021 were approved with a few changes to address the requirements of accreditation, also a few new courses were included in the E&I stream. The professional training programs "Digital certification of polymer composite products related to civil engineering and infrastructure", "Application of algorithms of machine learning to robotics", "Digital Economy and New Technologies" were approved.

RESEARCH INFRASTRUCTURE

The Research and Innovation Committee focused on reviewing issues related to development of the shared facilities, as well as purchases of new equipment. The positive resolutions were taken on setting the Advanced X-ray Characterization Core Facility, Smart Learning Factory, updates of the plans of the Genomics Core Facility and Advanced Imaging Core Facility. A number of internal projects were recommended for implementation on the base of the Clean Room. Positive resolutions were made for purchasing VEGA SE microscope, visualization tool for nanomechanics experiments, Liquid Chromatography System, equipment for Advanced Imaging Core Facility.

OTHER ISSUES

The Council served as a review panel to select Skoltech proposal for submission under the Call for fundamental research projects in priority areas of scientific and technological development announced by the Ministry of Science and Higher Education of the Russian Federation. The application "Fundamental and applied problems of pathogenesis and immune response of coronavirus infections" (Prof. Mikhail Gelfand) was approved for submission.

Skoltech activities for bachelor students were on the agenda of the Council and Educational Committee. The status reports on the undergrad research opportunities programs held by the CEST and CPQM were presented. The Council and Committee advised to develop a common vision on such programs considering the strategy for 2021 – 2025[2].

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[2] The annual report on admission 2020/2021 will be presented at November meeting.