

Skoltech

Academic Council Report

20
21

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Shared governance is an essential part of making Skoltech a world leading institute of science and technology.

As previously, the academic year 2020/2021 was very productive and viewed as a “milestone” for Skoltech development. The Academic Council and Committees addressed a wide span of issues, the major of which were brought up to the Board of Trustees’ approval, such as the concept and Strategy 2021 – 2025, progress reports on Skoltech transformation – a revision of the research agenda and reconfiguration of the Centers, as well as the new organizational structure with regards to the Centers.

By a large extend, the results of the year are the dedication and contribution of members who actively participated in the Council and Committees meetings. These efforts helped to enhance teaching and learning process, introduce changes and improvements in the existing policies, ensure the quality of research projects, lead the faculty recruitment and promotion process.

On behalf of the Academic Council Chairman, Alexander Kuleshov, and me personally, I would like to thank all the members of the Academic Council and Committees for comprehensive expertise which helped to implement this year’s ambitious agenda.

Looking ahead, in 2022 the Council will address issues which impact the entire Skoltech – the baccalaureate concept and campus development, HR policy, further development of Centers and Skoltech at large.

A stylized, handwritten signature in black ink, consisting of a large, flowing 'A' followed by a series of connected loops and a final horizontal stroke.

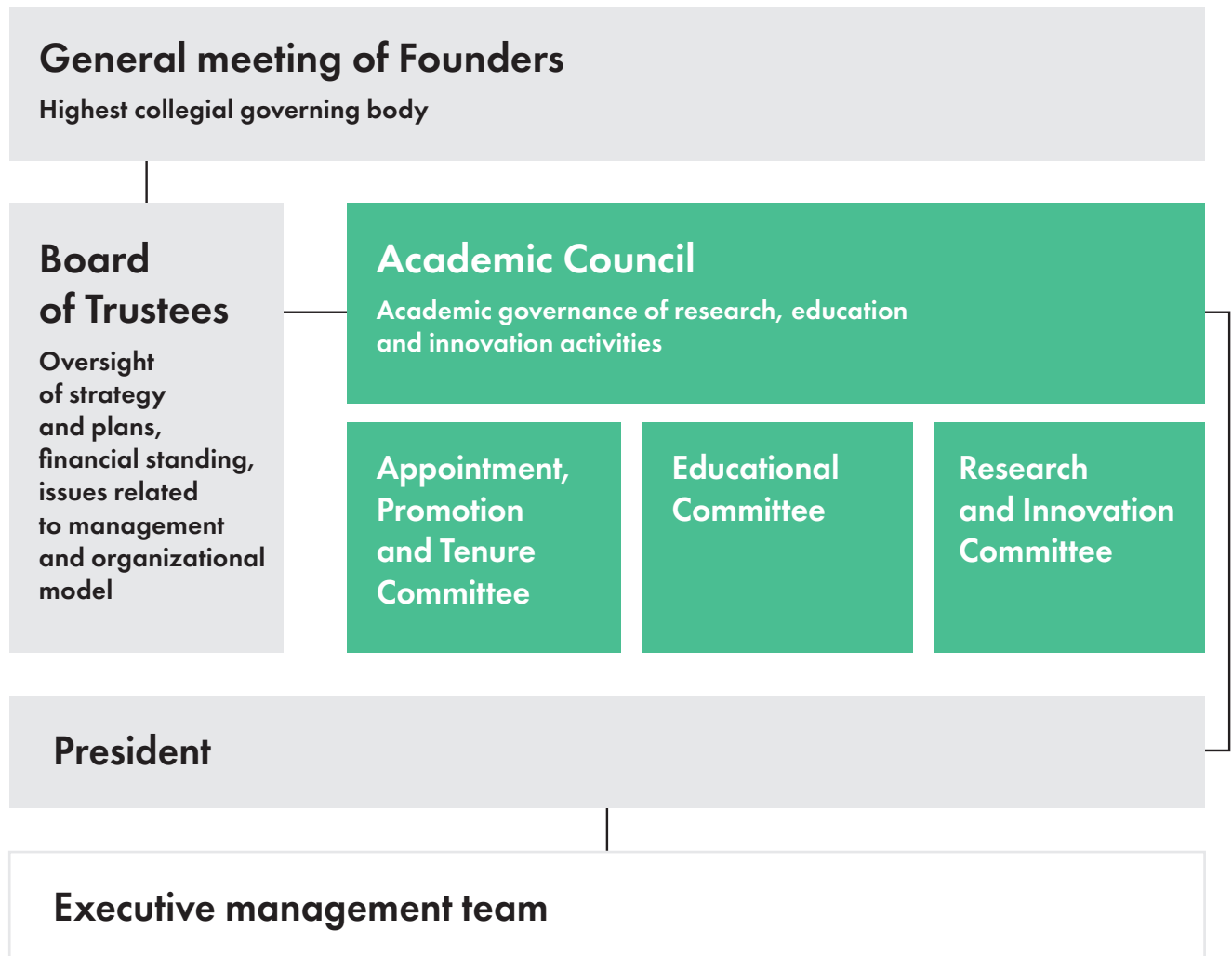
Alexander Safonov,
Academic secretary

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Role and authorities

Skoltech institutional governance is based on the Russian legislation, Charter, international practices and is designed in a way to support achievement of strategic goals. The Academic Council is a decision-making collegial body to give the overall academic governance of Skoltech scientific, research and development, and education activities ensuring their quality and integrity. The Council is responsible for the framework of academic personnel recruitment and promotions, approval of educational programs, admission plans, review of research concepts

related to setting new Centers and laboratories. The authorities of the Council are established in the Charter and Regulations on the Academic Council. To organize its operations the Academic Council has Appointment, Promotion and Tenure Committee, Educational Committee and Research and Innovation Committee. The Committee members are appointed by the Academic Council, while the authorities, including the decision-making ones, are established in the Regulations on the Academic Council.



The Appointment, Promotion and Tenure Committee (APTC) conducts a peer review of candidates for faculty positions, makes decisions on faculty appointment, promotions and contract renewals. The Committee also nominates academic personnel to scientific awards or fellowships. The APTC recommendations are taken into account while developing policies related to academic personnel. The Educational Committee (EC) sets rules and approaches to maintain the highest quality standards in teaching

and learning. The Committee reviews and approves programs portfolio, curricula, receives updates on results of theses defences, innovation workshop, industrial immersion, recruitment campaigns. It also pre-approves admission rules and procedures. The Research and Innovation Committee (RIC) reviews plans of the Centers and new laboratories, makes recommendations on development of research facilities. The Committee is also in charge for review of research reports within grants and R&D contracts.

Members



In accordance with the Regulations on the Academic Council, the Council is comprised of faculty and (or) senior management personnel, students' representatives, as well as recognized scientists, experts in education, science and innovation. The Council is appointed by the Board of Trustees for a three-year term of office.

During the academic year, the Council composition was changed due to resignations of the Associate Provost Anna Derevnina, and Vice President for Artificial Intelligence and Mathematical Modelling Maxim Fedorov. As of November 2021, the Council is represented by 19 members.



Council members



Prof. Alexander Kuleshov
Skoltech President
Chairman



Prof. Keith Stevenson
Provost



Professor Iskander Akhatov
CDMM



Professor Nikolai Brilliantov
CDISE



Professor Edward Crawley
MIT



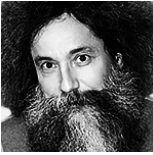
Dr. Alexander Fertman
Skolkovo Foundation



Professor Clement Fortin
Associate Provost,
Dean of Education



Professor Ildar Gabitov
CPQM



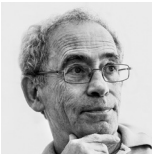
Professor Mikhail Gelfand
Vice President
for Biomedical
Research



Professor Anton Ivanov
SC



Dr. Grigory Kabatiansky
Vice President
for Academic
Relations



Professor Igor Krichever
CAS



Professor Dmitry Kulish
CEI



Ekaterina Malysheva
alumni



Alexey Ponomarev
Senior Vice
President for
Industrial
Cooperation



Professor Valery Rubakov
Moscow State
University



Professor Mikhail Spasennykh
CHR



Lawrence Stein
Vice President
for International
Business Affairs,
IP



Dr. Alexander Safonov
Vice President
for Development
(Academic
Secretary)

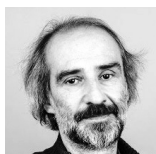
Appointment, Promotion and Tenure Committee



Professor Igor Krichever
CAS (Chair)



Professor Iskander Akhatov
CDMM



Prof. Alexei Buchachenko
CEST



Dr. Alexander Fertman
Skolkovo Foundation



Professor Ildar Gabitov
CPQM



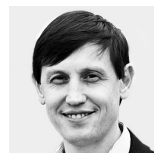
Professor Mikhail Gelfand
CLS



Dr. Grigory Kabatiansky
VP Academic Relations



Professor Yury Kotelevtsev
CLS



Professor Albert Nasibulin
CPQM

Research & Innovation Committee



Professor Artem Abakumov
CEST (Chair)



Professor Alexey Cheremisin
CHR



Professor Pavel Dorozhkin
CEI



Dr. Alexander Fertman
Skolkovo Foundation



Professor Anton Ivanov
SC



Dr. Dmitry Katalevsky
Department for Industrial Cooperation



Professor Dmitry Lakontsev
CDISE



Professor Maria Logacheva
CLS



Professor Arkady Shipulin
CPQM



Dr. Nikolay Suetin
Skolkovo Foundation

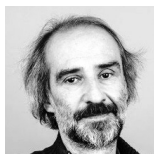


Professor Ighor Uzhinsky
CDMM



Professor Timofei Zatsepin
CLS

Educational Committee



Professor Alexei Buchachenko
CEST (Chair)



Professor Georgii Bazykin
CLS



Professor Nikolai Brilliantov
CDISE



Professor Alexey Cheremisin
CHR



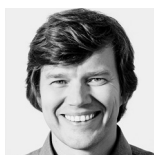
Professor Clement Fortin
Associate
Provost, Dean
of Education



Professor Elena Gryazina
CEST



Professor Anton Ivanov
SC



Professor Dmitry Ivankov
CLS



Professor Aslan Kasimov
CDMM



Professor Andrei Marshakov
CAS



Professor Maxim Panov
CDISE



Professor Henni Overdane
CEST



Professor Andriy Zhugayevych
CEST

Academic Secretary

The Academic Secretary is appointed by the Chairman of the Academic Council from among its members. The Secretary's role is to ensure that the Council performs its functions within the established authorities, provide organizational support on meetings, advice Council and

Committee members as well as Skoltech personnel on procedures. Alexander Safonov, Vice President for Development, has held the position of the Academic secretary since 2016. Operational support for the Council and Committees is provided by the Institutional Development team.

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Meetings Overview

The Academic Council meets as often as required to perform its authorities, as a rule on a quarterly basis. During the reporting period, the Council gathered four times in a hybrid format (on campus and in zoom considering

ongoing COVID restrictions). The meetings were also attended by the management team, CREI Directors (non-members of the Council) as well as the President of the Student Council.

Meetings held

December 1, 2020

March 3, 2021

June 23, 2021

August 30, 2021

During the academic year, the Academic Council and Committees held 39 meetings in total, including 16 absentee meeting, monitoring and making recommendations

on a significant number of proposals and reports. More than 300 resolutions were adopted, the primary focus points are summarized on following pages.

Education

7%

Curricula review
Programs approval
Policies
Professional training

Strategy

2%

Strategy issues
and status reports

Hiring, Promotion and Contract Renewal

63%

Faculty hiring cases
Academic personnel
promotions
Faculty contracts renewal

Research

4%

Reports on grants
and contracts

Awards / Fellowships

12%

Academic personnel nominations
to national science awards
Students nominations to fellowships

Procedural

12%

Minutes approval
Rotation issues
Regulations of the Council
Academic Council annual report

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Main Activities

Procedural issues

Among the procedural issues appeared on the Council agenda were the rotation of a few members of the Educational Committee and Research and Innovation Committee, approval of amendments to the Regulations on the Academic Council. In particular, the authority

to launch / terminate educational programs as well as appoint members of APTC expert groups were re-assigned to the Academic Council (previously these authorities were executed by the Educational Committee and Appointment, Promotion and Tenure Committee respectively).



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Strategy working group: summary

- 22 proposals received by the Strategy working group (SWG) on time. All proposals line with the formal requirements (e.g. initiated by faculty, templates). Review process was conducted as per Policy on strategic planning and reporting, Policy on Centers. Based on review, the SWG supported 7 CREI programs and 3 Project Centers programs. CAS program approved by the President.
- Consultations on proposals received by the SWG after the deadline, are ongoing.

CREI program

Review criteria:
formal criteria to
Centers*, alignment of
the proposal to Skoltech
strategic priorities.

Reasons for proposal rejection:

- no critical mass of faculty (e.g. 1-3 faculty, or predominantly part-time faculty)
- no capacities to deliver own MSc (PhD) program (e.g. select courses or a narrow focused track)
- focus area will require investments (e.g. hiring, ...)

* Critical mass, educational program, transfer of knowledge and solutions to high-tech companies and wider community and innovation are established by the Policy on Centers (reviewed and approved by the Academic Council)

Project center program

Review criteria:
ability to design and bring to
industry a scalable technology.
Task force capacities, industry
partner(s). Focus on national
technology agenda.

Reasons for proposal rejection:

- proposal is arranged around a regular lab or a single faculty research interests
- proposal focuses on a technology service rather than a scalable technology product
- no capacities to form a task force, weak ties of industry partners

Strategy and development

Closing 2020, the Academic Council reviewed and supported the proposal on the Strategy 2021-2025, developed by sixteen task forces of stakeholders – representatives of the management, faculty, CREI Directors, Skolkovo Foundation and Board of Trustees. In addressing the proposal, the Council noted the importance of faculty open calls along with target opportunities, a greater flexibility for target regions/countries for international student recruitment, as well as necessity to strengthen engineering curriculum, including a possibility to open an engineering track in future BSc programs.

Throughout 2021, the Council agenda was predominantly focused on Skoltech transformation – a revision of the overall research agenda and reconfiguration of the Centers. The Council considered the report on the Centres' assessment, conducted by the international advisory groups representing experts from academia and business. Although some conclusions raised different opinions, the Council agreed that external evaluations are a way how the international community perceives Skoltech. Thus, the observed

discrepancies between the target domains and Centers' research agenda should not be ignored – measures to make the agenda more coherent need to be taken.

In June, the Council discussed interim results of the transformation presented by the strategy working group under the Provost's chair – target research areas in six domains and a planned composition of CREIs and Project Centers. In August, the executive management, Council members and Centers' program proposers gathered for the whole day session to openly discuss the strategic programs. The programs were reviewed from the point of alignment to Skoltech strategy, expectations to the CREIs and Project Centers, existing capacities as well as sustainability of proposed resource plans. The proposers were given numerous comments and recommendations regarding focus and synergy of the programs, collaborations, educational plans, interaction with research groups from other Centers.

Following the Academic Council meeting, the target organizational structure of the Centers was approved by the Board of Trustees to become fully operational in 2022.

Policy making

The Academic Council heard the report of Vice President for Development Alexander Safonov on the new Scholarship Policy, which specifically focuses on stimulating development opportunities in major tracks – academia, high tech and startups. The Council recommended to specify procedures for assigning “zero” stipends as well as monitor overall enrolment numbers accounting possibilities to admit extra candidates,

eligible for ‘zero scholarship offers’. The Educational Committee established several task forces to develop (update) a set of educational policies. As a result, the Policy on PhD Programs, Policy on Industry Immersion, Policy on Course Design and Approval, Policy on Credit Transfer and Reassessment were approved by the Committee and brought into force by the President’s orders.

Academic personnel

The APTC addressed and made decisions on more than 200 hiring, promotions and contract renewals (refer to Appendix for details).

The Committee also reviewed a number of nominations for the national fellowship programs, such as the 2021 Moscow Government Prize for Young Scholars, a grant of the President of the Russian Federation for state support of young Russian scientists,

Government Prize in the field of science and technology, the grant of the President of the Russian Federation for the state support of leading scientific schools.

The Academic Council unanimously supported the nomination of Prof. Maxim Fedorov for the title of “Honored Scientist of the Russian Federation”, noting his academic achievements.

Admission campaigns

The Student Department updated the Educational Committee and the Council on results of the outreach and recruitment campaign 2020, covering details on promotion events, recruitment funnel, as well as sharing insights from the applicants' survey

on reasons to choose Skoltech – the majority noted the educational programs and international environment.

Regular reports on the campaign 2021 were delivered to the Educational Committee.

Teaching and learning

During the year, the Educational Committee was briefed on PhD annual progress review, results of MSc and PhD defences as well as plans for defences in the upcoming academic year.

Considering the ongoing online teaching due to COVID restrictions, the Committee monitored students' and faculty experiences receiving updates on results of courses evaluation, surveys on quality of technical and methodological support.

As a response to unbalanced educational load per programs and faculty, witnessed in various Centers, the Committee created a working group to develop measures for balancing.

Certain attention was given to double degree and cotutelle programs, conducted with Sorbonne, Grenoble Alpes, KU Leuven, ETS Montreal, Insurbia, Aalto, Curtin, Strasbourg University, RIKEN, Higher School of Economics, Moscow Institute of Physics and Technology. The Committee discussed curricula, organization of defences, current and planned capacities in terms of student enrolment. As a part of the preparation for receiving the state accreditation, the Educational Committee launched a self-assessment process of PhD programs. The program reports, covering SWOT, curriculum, organization of teaching and learning process, graduates' career paths, were discussed.

Tuition fee model

The tuition fee model was on the agenda of several Council meetings.

The concept, presented by Prof.

Clement Fortin, Associate Provost and Dean of Education, was based on a detailed review of benchmarks in the USA, Europe and Russia.

The model applied in the National Economy School was named as the most appropriate one for Skoltech, potentially to be piloted in 2022/2023 considering preparatory activities.

Much discussions focused on potential effects of the model implementation, such as decrease in admission

numbers and the academic level

of students. The Council found

the proposal not ready for decision

making resolution and recommended to further address the concept,

e.g. make SWOT analysis, accounting such factors as programs

competitiveness, also define admission procedures, in particular assignments

of scholarships to cover tuition fees.

The President of the Student

Council paid attention to necessity

to support students with on-campus employment opportunities to cover

tuition costs.

Research activities

The Research and Innovation Committee approved a number of reports on projects within national programs (e.g. Federal program “Research and Development in Priority Areas for Developing Russia’s Scientific and Technological Complex in 2014 - 2020”), grant of the President of the Russian Federation, contracts with industrial partners, University of Calgary

(master research agreement). Several faculty members presented the plans for developing new laboratories established under the national megagrant program – Laboratory of Multiscale Neurodynamics for Intelligence Systems (Prof. Jun Wang and Prof. Evgeny Burnaev) and Laboratory of Modern Energy Systems (Prof. Vladimir Terzija).

Professional education programs

The proposals to launch professional education programs were reviewed and approved – “Internet of Things and Student Projects Development”, “Modern Technologies in Plant Breeding”, “Technologies for Agribusiness: 10 main scientific achievements that need to be

implemented in the next 5 years”, “Modern Wireless Communication Systems: Key Factors of 5G Networks Deployment”, and “ESG factors integration: from PR strategy to the instrument of creating value”. All programs are to be launched in 2021/2022.

Campus library

Given the importance of a university library, the concept of library spaces and services was on agenda of several meetings of the Educational Committee. The Committee appraised the proposed approach, noting its' competitiveness with the international benchmarks. At the same time, it recommended to cooperate with other institutions to extend access to

resources, as well as introduce a library online course.

In Fall 2021, the Library was officially opened, providing excellent spaces and services to users.

The Digital Literacy Online course was piloted to teach how to use digital resources available for various research needs and improve research workflow.

Appendix

Appointment, Promotion and Tenure Committee resolutions

Overall data

	Cases reviewed	Positive resolutions	Negative resolutions
Hiring	175	9	166
Promotion	6	5	1
Contract renewals ¹	38	38	0

Overall data

	Cases reviewed	Positive resolutions	Negative resolutions
Full Professor	2	1	1
Associate Professor	3	3	0
Assistant Professor	169	4	165
Visiting Professor	1	1	0

¹ Including Tenure Cases

Promotion

	Cases reviewed	Positive resolutions	Negative resolutions
Full Professor	2	1	1
Associate Professor	4	4	0
Assistant Professor	0	0	0

Contract renewals

	Cases reviewed	Positive resolutions	Negative resolutions
Full Professor	24	24	0
Associate Professor	6	6	0
Assistant Professor	2	2	0
Visiting Professor	2	2	0
Adjunct Professor	2	2	0
Professor of the Practice	2	2	0





	2022	2023	2024	2025
021	1	1	1	1
	0	1	1	1
	83	88	87	
	20	20	36	
	140	140	140	
	12	12	12	



Skoltech



Ecole Polytechnique de Montréal - Canadian system

- All students pay tuition fees : 3000 CAN\$ - 170 k rub / year for PhD students
- All graduate students have just a student status
- Scholarships available for best students from government agencies – very competitive and limited number – 1 to 2 %
- Institution offers a number of scholarships coming from endowment and targeted donations
- Faculty members are responsible to financially support their graduate students involved in research through grants and industrial contracts

Skoltech

Skolkovo Institute of Science and Technology



GOVERNANCE

Strategy

The 10 months strategy cycle, involving executive team, CREI Directors, Academic Council, members of the Board, **resulted in Strategy 2021 – 2025**. Skoltech five years goals:

- to become a full-fledged world leading university, producing substantial economic impact
- to be the 1st choice for the brightest students, delivering BSc, MSc and PhD programs in Russia
- to become a recognized *think* and *act* tank in large-scale national programs and initiatives

Governance

Main resolutions:

- Strategy 2021 – 2025 supported, approved and endorsed (Academic Council, Board, Founders)
- Co-founding the New League of Universities (Founders)
- Founding the Alumni Association (Founders)
- Support on student development framework (Board)
- Defining a framework for Centers and research facilities management (Academic Council)

Focused agenda

CREI assessment completed to assure high level of activities, focus on Skoltech vision of being a world leading academic institution. Specific goals:

- assess Skoltech standing in target domains and topical areas¹
- assess results under CREI plans 2018 – 2020, also further plans
- assess educational programs with regards to graduates' competencies, relevance to international peers

International reviewers made conclusions on:

- Skoltech standing in target domains
- topical areas of excellence and international visibility
- relevance of results to the plans, feasibility of future plans
- recommendations on curricula
- recommendations on structuring domains

¹ Defined in 2018 as priorities formulation based on a set of intl. documents (long term research initiatives and strategies, etc). Topical areas were reviewed by the Academic Council.









Skolkovo Institute of Science
and Technology
Bolshoy Boulevard 30, bld. 1
Moscow, Russia 121205
Tel.: +7 (495) 280 14 81
skoltech.ru

The information in this report
was correct at the time
of printing (November 2021).
Skoltech reserves the right
to amend the material
contained in this report.