

COMPETITION DOCUMENTATION

**regulating terms and conditions of an open international grant
competition of National University of Science and Technology «MISiS»
designed to provide support to new research projects implemented under
the supervision of Leading scientists, and to establish a new laboratory**

MOSCOW 2016

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INFORMATION ABOUT THE GRANT COMPETITION

1. General provisions

- 1.1. The purpose of this grant competition is to identify, in compliance with approved procedures and regulations, the best research project proposal (proposals) submitted by an applicant (applicants) seeking support in the form of a grant of the National University of Science and Technology «MISiS» (NUST «MISiS»).
- 1.2. Grants of NUST «MISiS» are made available in the amount of up to 60 million rubles each to support a research project over a period of two and a half years (from 01.07.2016 to 31.12.2018) with the possibility of being renewed based on the results of the previous work.
- 1.3. Each competition winner will sign a grant agreement with NUST «MISiS».
- 1.4. The legal relationships between all parties involved in the open grant competition are regulated by applicable laws of the Russian Federation.

2. Participation eligibility requirements

- 2.1. Research teams in collaboration with leading Russian or foreign scientists that are recognized by the global scientific community as authoritative and influential leaders within their respective fields of science and research areas that designed and submitted their grant applications in compliance with cl. 5.1 to 5.4 of the Competition Documentation are deemed as a single applicant.
- 2.2. A Leading scientist may take part in one research project only.
- 2.3. Only those Leading scientists that have had no job relationships with NUST «MISiS» for the last 3 years¹ (2013-2015), are eligible to apply for the grant.

3. Research project and research project implementation requirements

- 3.1. Any research projects proposed hereunder may not duplicate any prior or current research projects financially supported by different level budgets of the Russian Federation or funded from other sources.
- 3.2. NUST «MISiS» will make its grants available to support successful research projects proposed for implementation within the following fields of science:
 - **Meta-materials and post-silicon electronics**
 - **Autonomous energy and energy efficiency**
 - **Materials and technologies for improving human lifespan and overall quality of life**
 - **Industrial design and engineering technologies to reindustrialise the economy**
 - **Green technologies for efficient resource use**
- 3.3. The research team formed by the Leading scientist to implement the research project at NUST «MISiS» shall include at least 2 members with doctoral degree, at least 3 postgraduate students and at least 3 undergraduate students of NUST «MISiS».
- 3.4. Pursuant to the terms and conditions of the open grant competition, to implement the project the Leading scientist shall be available at NUST «MISiS» for direct supervision of the research project and laboratory at least:

2 months (in total) in 2016;
4 months (in total) in 2017

¹ Presence of labor agreements within the last three years, excluding service agreements.

4 months (in total) in 2018.

3.5. NUST «MISiS» must undertake to:

- a) Ensure continuous funding of the research project in compliance with its approved budget;
- b) Provide office space and access to laboratories and other experimental research facilities required to implement research projects proposed hereunder;
- c) Execute service or (fixed term) labor agreements with the Leading scientist and the research team members;
- d) Compensate each member of the research team taking into account the quality and quantity of the work completed by each member of the team specifically (the total amount of compensation payable to the Leading scientist and team members, inclusive of taxes and other social benefits, should not exceed 35 per cent of the grant sum, and the amount of compensation payable to the Leading scientist will not exceed 0.4 mln RUB/month during full-time presence and maximum 0.1 mln RUB/month for the rest of the time.).

- 3.6. Leading scientist shall supervise the scientific research during the entire duration of the project.
- 3.7. Leading scientist shall appoint responsible deputy of the Leading scientist, who will be in charge of administrative supervision of the research team and make organizational decisions during the absence of the Leading scientist.
- 3.8. Leading scientist, together with a deputy of the Leading scientist, shall make decisions regarding the disbursement of the funds in accordance with the previously approved cost estimate.
- 3.9. The Leading scientist undertakes an obligation as a research outcome to publish at least 3 articles in 2016, at least 7 articles in 2017 and at least 8 articles in 2018 on the research matter in the peer review journals referenced in the «Web of Science» with impact factor in the first quartile in the research area.
- 3.10. The Leading scientist undertakes an obligation as a research outcome to create a new educational course in the research area.
- 3.11. The Leading scientist undertakes an obligation as a research outcome to attract additional funding for the implementation of scientific research from other sources, at least 50% of the grant requested.
- 3.12. The Leading scientist undertakes an obligation as a research outcome to popularize the scientific research area in the form of oral reports at international conferences and events outside the territory of the Russian Federation (conference expenses total amount shall not exceed 7% of the grant amounts) as well as other external mass media forms.
- 3.13. The Leading scientists and research team shall be responsible for achieving the research project results specified in their project proposals and accounted for by their respective grant

agreements with NUST «MISiS».

4. Grant competition participation costs

- 4.1 Applicants are responsible for covering all costs incurred thereby in connection with their participation in the open grant competition, including their costs associated with preparation and submission of their grant applications.

5. Grant application contents

- 5.1. Form A. «Application Registration» – to be filled in advance and mailed to projects@misis.ru for obtaining registration number;

A grant application shall contain the following:

- 5.2. Form 1. «Document Checklist», listing all documents submitted as part of the grant application;
- 5.3. Form 2. «Grant Application»;

Documents to be submitted by the Leading scientist:

- 5.4. Form 3. «Leading scientist's questionnaire»;
- 5.5. Form 4. «Leading scientist's work experience and research achievements»;

Documents pertaining to the proposed research project:

- 5.6. Form 5. «Overview of the laboratory to be established under the project»;
- 5.7. Form 6. «Research Project Description»;
- 5.8. Form 7. «Project Efficiency Indicators»;
- 5.9. Form 8. «Research Project Implementation Plan»;
- 5.10. Form 9. «Research Project Budget»;
- 5.11. Form 10. « Break down of the expenditures »;
- 5.12. Appendix (if applicable);
- 5.13. Copies of the pages of the Leading scientist's passport containing the Leading scientist's full name and place of residence information;

6. Preparing a grant application

- 6.1. NUST «MISiS» grant applications prepared and submitted by a Leading scientist and research team shall meet the competition selection criteria enlisted in cl.10.4. The application shall be prepared both in hard copy and in electronic form.
- 6.2. Form A. «Application Registration» shall be filled in and mailed to projects@misis.ru . In reply letter registration number will be sent. The registration number shall be specified in Form 1. «Documents checklist» and on the envelope with the grant application.

- 6.3. Grant applications shall be submitted in Russian and in English. Grant applications submitted in any other languages will be disqualified by the Competition Commission as failing to meet the competition requirements.

If any documents that are part of a grant application package are in languages other than Russian or English, they must be accompanied by certified translations into Russian and English.

- 6.4. The amount of funding requested by applicants in their grant applications shall be specified in Russian rubles and shall not exceed the maximum grant amount that may be made available under a grant agreement.

- 6.5. All grant application documents shall be signed by the Leading scientist if applicable. Facsimile images of relevant signatures shall not be used to sign the grant application documents.

- 6.6. Contradictions and inconsistencies identified in grant application documents will be viewed by the Commission as the applicant's failure to meet the selection requirements accounted for by the Competition Documentation.

Grant applications submitted without the documents accounted for by cl. 5.1 to 5.4 of the Competition Documentation, grant applications documented in violation of requirements accounted for by the grant application form, as well as grant applications that fail to provide the requisite data accounted for by the grant application form will be deemed by the Competition Commission as non-compliant with relevant requirements of the Competition Documentation.

- 6.7. All grant application documents shall be arranged in the order accounted for by Form 1. «Document checklist».

- 6.8. All pages of a grant application must be numbered and bound with a band or durable string whose ends must be tied up on the reverse side of the last page and the number of bound pages shall be specified.

- 6.9. Electronic copy shall be submitted on a CD disk and shall contain the following files:

- Application in Russian in Word;
- Application in English in Word;
- Application in Russian in pdf;
- Application in English in pdf;
- Appendix (passport copy, residence permit copy (if applicable), diploma copy, PhD certificate copy, CV, copies of other diplomas and certificates, etc.).

The CD disk shall obligatory carry the Registration number.

7. Submitting a grant application

- 7.1. Applicants shall submit an application in hardcopy in a sealed envelope containing a signed CD containing the grant application files in compliance with Clause 6.9. Applicants shall ensure that the electronic and hardcopy versions of their grant applications are identical.

- 7.2. Each applicant shall label the envelope containing his/her grant application as follows: «Application for participation in the open international grant competition designed to provide NUST «MISiS» support to new research projects implemented under the supervision of the world's Leading scientists, and to establish a new laboratory», as well as specify the registration number.

- 7.3. Each envelope containing a grant application must be sealed in such a fashion as to prevent its opening without undermining its integrity. If an envelope containing a grant application is not sealed or labeled in full compliance with the requirements hereof, the Department of Science

shall not be liable to the applicant if his/her grant application documents go missing or if the envelope containing his/her grant application is not open in a timely fashion.

- 7.4. Envelopes with grant applications shall be submitted to the address of the grant competition organizer: 119049 NUST «MISiS», room B-520, 5th floor, Leninsky prospect, 4 Moscow (International Research Projects Department, code №431) in the period from **May 23, 2016 to June 24, 2016 (12:00 Moscow time)**.
- 7.5. Each envelope containing a grant application will be registered in the grant applications registry.
- 7.6. The registrar will issue a receipt stating the date and time of delivery and the registration number of the grant application received thereby if requested by an applicant, having provided the envelope with the application.

8. *Opening the envelopes containing grant applications*

- 8.1. The envelopes containing grant applications will be opened by the Competition Commission publicly on the day and at the time and place specified in the Competition Announcement.
- 8.2. Any grant applications received by the competition organizer after the grant application submission deadline will be disqualified from participation in the open grant competition.
- 8.3. The envelopes opening procedure shall be documented in the form of minutes to be signed by all members of the Competition Commission present at the envelope opening procedure. The minutes shall be posted on the official website of NUST «MISiS» Internet science portal within three working days of being signed.

9. *Reviewing grant applications*

- 9.1. Within 10 working days following the opening of the envelopes containing grant applications the Competition Commission will review the documents and information contained therein on account of:
 - a) Compliance of the grant applications with the selection requirements established by the Council;
 - b) Compliance of the applicants with the participation qualification requirements accounted for by the Competition Documentation;
 - c) Compliance of the grant applications with the requirements accounted for by the Competition Documentation;
 - d) Compliance of the proposed research projects seeking financial support with relevant requirements accounted for by the Competition Documentation.
- 9.2. Following the examination of the reviewed documents and information contained in the grant applications the Competition Commission shall make a conclusion on:
 - a) The applicants whose grant applications and research project proposals meet the qualification and selection requirements accounted for by the Competition Documentation;
 - b) The applicants, who do not meet and/or whose grant applications and/or research project proposals do not meet the qualification and selection requirements accounted for by the Competition Documentation.
- 9.3. The review results shall be documented in the form of minutes to be signed by all members of the Competition Commission present at review procedure. The minutes shall be posted on the official website of NUST «MISiS» Internet science portal within three working days of being

signed.

10. Evaluating grant applications

- 10.1. The Competition Commission shall undertake assessment of the submitted documents to be in compliance with all the Competition Documentation requirements.
- 10.2. The grant applications deemed by the Competition Commission to be in compliance with all applicable requirements will be forwarded for the grant competition.
- 10.3. The grant applications submitted to the open grant competition shall be expertized by The International Scientific Advisory Council of NUST «MISiS».
- 10.4. The following evaluation criteria will be used to assess the grant applications and research project proposals submitted to the open grant competition:

| No. | Assessment criterion | Criteria content (requirements) | Group weight | Weight of criterion within group | Maximum score |
|---|--|---|--------------|----------------------------------|---------------|
| 1. Leading scientist's work experience and scientific achievements | | | | | |
| 1.1 | Level of scientific publications | To be assessed: types of journals (professional, leading) and number of articles published by the Leading scientist; how typical this type of publication activity is for leading researchers; Leading scientist's quotation index within his/her the field of science. | 30% | 50% | 20 |
| 1.2 | Leading scientist's experience in managing research team | To be assessed: Leading scientist's experience in creating and managing world-class research teams. | | 25% | 10 |
| 1.3 | Leading scientist's experience and prospects in training research and academic staff | To be assessed: how sufficient the Leading scientist's experience in training research and academic staff is. | | 25% | 10 |
| 2. Research project vision | | | | | |
| 2.1 | Relevance of proposed scientific research | To be assessed: relevance of the proposed research project from the point of view of the current status of global science; likelihood of achieving breakthrough world-class research results and their relevance in terms of global science and economy. | | 25% | 10 |

| | | | | | |
|---|--|---|-----|-----|----|
| 2.2 | Applicant's ability to achieve the anticipated project results within the suggested timeframe and using the methods proposed thereby | To be assessed: how detailed the anticipated research project results are and if they meet the world-class research level; how detailed and viable the research project implementation plan is; how likely the applicant is to implement the research project plan within the suggested timeframe and using the methods proposed thereby | 40% | 25% | 10 |
| 2.3 | Adequacy of the amount of funding requested by the applicant in terms of its ability to ensure the achievement of the project results; quality of the project budget detailing | To be assessed: how adequate the amount of requested project funding is (including extra funding) and if it is excessive or insufficient to achieve the project goals and accomplish its objectives | | 25% | 10 |
| 2.4 | Anticipated overview of the laboratory to be established in the framework of the project | To be assessed: the ability of the laboratory to continue its operations upon completion of the project; the research team ability to perform world-class scientific research; availability of independent plans to obtain fundraising from various sources for 2 years, feasibility of such plans. | | 25% | 10 |
| 3. Overview of the research team, vision of the laboratory to be established under the project | | | | | |
| 3.1 | Publications of the research team members | To be assessed: number of articles, monographs and conference reports published by the team members within the past three years, the level of the journals, publishers and conferences; number and level of journal articles referenced in the Web of Science or Scopus; number of articles intended for publication in journals indexed in the Web of Science or Scopus during the next two years. | 30% | 50% | 30 |

| | | | | | |
|-----|--|--|--|-----|----|
| 3.2 | Research infrastructure available to the research team members | To be assessed: how advanced the research infrastructure available to the team members is; the infrastructure's ability to facilitate world-class research activities; possibility to upgrade the infrastructure required for the research project aims. | | 30% | 15 |
| 3.3 | Laboratory's role in the innovative development | To be assessed: the laboratory ability to significantly improve the efficiency of the host organization's research and teaching activities; the socio-economic effects of the laboratory's operations; the laboratory's contribution to the development of the host organization's infrastructure. | | 20% | 5 |

- 10.5. The grant applications received by the Competition Commission will be distributed among expert groups for the purposes of assessment. The Competition Commission shall distribute the grant applications ensuring that intellectual activity information from the grant applications is treated in a confidential manner. All expert evaluation statements will be forwarded by the Competition Commission to the Council, established by Order № 513 dated 31.12.2013, to decide competition winners.
- 10.6. The Council shall review the expert assessment statements and makes a decision on the competition winners by July 07, 2016.
- 10.7. Information about the outcomes of the open grant competition shall be posted on the official website of NUST «MISiS» and Internet science portal within three working days of the Council meeting minutes being signed.

11. Executing a grant agreement

- 11.1. The competition winners will execute grant agreements with NUST «MISiS» within 30 working days after posting the results of the open grant competition on the official website of Internet science portal.

12. Returning grant applications

- 12.1. The grant applications (including grant application documents) are not returned to the applicants except for the grant applications recalled by applicants in compliance with the established procedure.

FORMS TO BE COMPLETED BY APPLICANTS

Form 1. Document checklist

DOCUMENT CHECKLIST

List of documents required for submission to the open International grant competition of NUST «MISIS» designed to provide support to new research projects implemented under the supervision of the world's Leading scientists, and to establish a new laboratory

Grant application registration number _____

| No. | Name of document | Page numbers (from to) | Number of pages |
|-----|--|----------------------------|--------------------|
| 1. | Form 1. «Document Checklist» | | |
| 2. | Form 2. «Grant application» | | |
| | Documents to be submitted by the Leading scientist: | | |
| 3. | Form 3. «Leading scientist's Questionnaire» | | |
| 4. | Form 4. «Leading scientist's work experience and research achievements» | | |
| 5. | Form 5. «Overview of the laboratory to be established under the project» | | |
| | Documents pertaining to the research project proposed hereunder: | | |
| 6. | Form 6. «Research Project Description» | | |
| 7. | Form 7. «Project Efficiency Indicators» | | |
| 8. | Form 8. «Research Project Implementation Plan» | | |
| 9. | Form 9. «Research Project Budget» | | |
| 10. | Form 10. «Breakdown of the expenditures» | | |
| 11. | Appendices | | |
| 12. | Copies of the Leading scientist's passport containing his/her full name and place of residence | | |

Leading scientist _____

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Leading scientist from NUST «MISIS» _____

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Form 2. Grant Application

APPLICATION

for participation in the open international competition for grant of NUST «MISiS» designed to support new research projects implemented under the supervision of the world's Leading scientists, and to establish a new laboratory

_____ (full name of the Leading scientist)

hereinafter referred to as «Leading scientist»,
submits herewith joint application for participation in the grant competition of NUST «MISiS» designed to support research projects implemented under the supervision of the Leading scientists, and to establish a new laboratory.

1. Information about the research project

- Field of science Meta-materials and post-silicon electronics
 Autonomous energy and energy efficiency
 Materials and technologies for improving human lifespan and overall quality of life
 Industrial design and engineering technologies to reindustrialise the economy
 Green technologies for efficient resource use

Research area (according to Appendix 1) _____

Project Title _____

2. Grant amount requested to support research projects implemented at NUST «MISiS» under the supervision of the Leading scientists:

in 2016 _____ mln Rub,

in 2017 _____ mln Rub,

in 2018 _____ mln Rub

Total: _____ mln Rub.

3. The Leading scientist confirms herewith that:

- He/she has not applied to any other grant competition of NUST «MISiS» designed to support research projects;
- The research project proposed herein does not duplicate any of his/her prior or current

research projects financially supported by different budget levels of the Russian Federation or funded from other sources.

4. *If his/her grant application is decided a winner, the Leading scientist undertakes the following commitments:*

- Execute a grant agreement in due time;
- Hire research team members, including **at least 2 members with doctoral degree, at least 3 postgraduate students, and at least 3 undergraduate students of NUST «MISiS»;**
- Pursuant to the terms and conditions of the open grant competition, to implement the project the Leading scientist shall be available at the period from 15.07.2016 to 31.12.2018 at NUST «MISiS» for direct supervision of the research project and laboratory at least:
 - **2 months (in total) in 2016;**
 - **4 months (in total) in 2017;**
 - **4 months (in total) in 2018.**
- The Leading scientist undertakes an obligation as a research outcome to publish at least 3 articles in 2016, at least 7 articles in 2017 and at least 8 articles in 2018 on the research matter in the peer review journals referenced in the «Web of Science» with impact factor in the first quartile in the research area;
- The Leading scientist undertakes an obligation as a research outcome to attract additional funding for the implementation of scientific research from other sources, at least 50% of the grant requested;
- The Leading scientist undertakes an obligation to prepare a new educational course of lectures;
- Submit an annual research project progress report documented in compliance with the form approved by NUST «MISiS».

5. *The Leading scientist shall be personally responsible for achieving the research project results specified in the project proposal and grant application.*

6. Pursuant to RF Federal Law No.152-FZ of July 27, 2007, «On personal data», the Leading scientist agrees hereby to have his/her personal information presented in his/her grant application processed and used for the purposes of the grant competition and execution of relevant grant agreements by the competition organizer and the third parties contracted thereby, as well as to have his/her personal information saved in the database of NUST «MISiS» containing information about the grant competition participants, their respective grant applications.

7. *The University confirms herewith that:*

- It fulfills its tax obligations by paying requisite tax amounts to the budgets of all levels and by making mandatory payments to the state non-budget funds, is solvent, is not under liquidation or reorganization, has not been found insolvent (bankrupt), has not had its property seized or its economic activities suspended;
- The research project proposed herein does not duplicate any of its prior or current research

projects implemented by the team financially supported by different level budgets of the Russian Federation or funded from other sources.

8. *If the application is decided a winner, NUST «MISiS» agrees to undertake the following commitments:*

- Ensure continuous funding of the research project in compliance with its approved budget;
- Execute, within the designated timeframe, a grant agreement in compliance with the form approved by relevant order;
- Execute service or (fixed term) labor agreements or addenda to agreement with the Leading scientist and the research team members;
- Compensate each member of the research team taking into account the quality and quantity of the work completed by each member of the team specifically, the total amount of compensation payable to the Leading scientist and team members, inclusive of taxes and other social benefits, should not exceed 35 per cent of the grant sum;
- Provide office space and access to laboratories and other experimental research facilities required to implement the research project proposed herein.

Leading scientist _____
Leading scientist's signature Leading scientist's surname, first name, patronymic

Form 3. Leading scientist's Questionnaire

| Information | Leading scientist's Information |
|--|---------------------------------|
| <i>Personal data</i> | |
| Last name | |
| First name | |
| Patronymic | |
| Date of birth | |
| Citizenship | |
| Second citizenship (for individuals with dual citizenship) | |
| <i>Education</i> | |
| Education, name of institution of higher learning and year of graduation | |
| Academic degree | |
| Academic title | |
| <i>Place of residence</i> | |
| Country | |
| Mailing address | |
| Telephone | |
| E-mail | |
| <i>Employer</i> | |
| Full name of employer organization | |
| Job title | |
| Country | |
| Mailing address | |
| Telephone | |
| Fax | |
| E-mail | |
| <i>Previous employers</i> | |
| Full name, country, period | |
| Full name, country, period | |
| | |
| <i>Scientometrical indicators</i> | |
| Researcher ID ² | |
| SPIN ³ | |

² In order to obtain Researcher ID it is necessary to be registered at: <http://www.researcherid.com>.

³ Only the Leading scientists operating in Russia should fill-in this field. In order to obtain SPIN-code (Scientific Personal Identification Number), it is necessary to be registered in SCIENCE INDEX system at: http://elibrary.ru/author_info.asp?isnew=1&rpape=.

| | |
|--|--|
| Sphere of scientific interests ⁴ | |
| H-index ⁵ | |
| Number of articles published in peer review periodicals referenced in the «Web of Science» database | |
| Number of citations of the articles published in periodicals referenced in the «Web of Science» database | |
| Average number of citations per article | |
| Number of articles published in periodicals referenced in the «Web of Science» database for the past five years | |
| Average number of citations per article in periodicals referenced in the «Web of Science» database for the past five years | |
| Average weighted impact factor of the periodicals in which the articles were published within the past five years ⁶ | |

Additional personal information

Leading scientist

Leading scientist's signature Leading scientist's surname, first name, patronymic

Leading scientist from NUST «MISiS»

Leading scientist's signature Leading scientist's surname, first name, patronymic

⁴ Key words describing the Leading scientist's specialty.

⁵ As of the date of filing an application according to the «Web of Science» database.

⁶ Only for periodicals referenced in the «Web of Science» database.

Form 4. Leading scientist's work experience and research achievements

Section 1. Leading scientist's research achievements

1.1. Leading scientist's research work and principal scientific achievements⁷

1.2. Leading scientist's awards and honorary titles

| No | Name of award/honorary title | Issuing authority | Year of winning an award | Achievement awarded by prize/honorary title |
|----|------------------------------|-------------------|--------------------------|---|
| 1. | | | | |
| 2. | | | | |

Section 2. Intellectual achievements of the Leading scientist for 2010-2015

2.1. Leading scientist's major publications for the last 5 years in journals indexed in the «Web of Science»⁸

| No. | Name of the journal | Authors (in the order specified in publication) | Title of the article | Year, volume, issue | Impact-factor |
|-----|---------------------|---|----------------------|---------------------|---------------|
| 1. | | | | | |
| 2. | | | | | |

⁷ Description of the Leading scientist's work and work results in his/her research area.

⁸ Impact factors of the publication are specified in the descending order. Publications should meet the following

requirements: a) must fall within the «article» or «review» category; b) be published in academic journals indexed at the time of application submission in Science Citation Index Expanded, Social Science Citation Index, Arts&Humanities Citation Index. Lists of indexed journals and forms for search are on open access at: <http://ip-science.thomsonreuters.com/mjl/>.

2.2. *List of monographs and chapters in monographs of the Leading scientist in 2010-2015*

| No | Monograph (authors of monograph, its name, year of publication, number of pages, ISBN, publisher) | Brief annotation to monograph |
|-----|---|-------------------------------|
| 1. | | |
| 2. | | |
| ... | | |
| ... | | |

2.3. *List of patents, know-how, authorship certificates owned by the Leading scientist*

| No. | Object of intellectual property- | Object type | Priority date | Territory (country) and term of validity | Title of protection (patent, registration certificate) | |
|-----|----------------------------------|-------------|---------------|--|--|---------------|
| | | | | | No. | Date of issue |
| 1. | | | | | | |
| 2. | | | | | | |

2.4. *Major international conferences at which the Leading scientist made presentations in 2010-2015*

| No. | Name of conference | Conference place and time and language of presentation | Authors and title of the presentation | Type of presentation (invited/regular oral/poster) |
|-----|--------------------|--|---------------------------------------|--|
| 1. | | | | |
| 2. | | | | |
| ... | | | | |
| ... | | | | |

Section 3. Leading scientist's experience in managing research team

3.2 *Leading scientist's experience in creating world class laboratory and managing its research projects*

3.3 *Laboratory creation and supervision experience*⁹

| Name of the laboratory | Name of the organization where the lab was established | Period of work of the laboratory (YYYY-YYYY) | Number and total amount of grants | Number of published articles |
|------------------------|--|--|-----------------------------------|------------------------------|
| .. | | | | |
| .. | | | | |
| | | | | |

3.3. *Projects implemented or being implemented under the supervision of the Leading scientist*

| No. | Project title | Amount of funding (million rubles) | Source of funding | Project implementation term (start-completion) | Project's principal results |
|-----|---------------|------------------------------------|-------------------|--|-----------------------------|
| 1. | | | | | |
| 2. | | | | | |

Section 4. Leading scientist's experience in training research and academic staff

4.1. *Leading scientist's teaching experience*

⁹ Please list laboratories created by the Leading scientist and research in which the work was done under the supervision of the Leading scientist.

4.2. *Leading scientist's experience in training members with doctoral and habilitation degree*

Section 5. Social and scientific activity of the Leading scientist

5.1. *Membership in editorial and advisory boards of learned and peer-reviewed journals (and their duration)*

5.2. *Leading scientist's memberships in program and organizational committees of international conferences*

5.3. *Leading scientist's memberships in governing and advisory bodies of international academic societies and associations*

Leading Scientist

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Leading Scientist from NUST «MISiS»

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Form 5. Overview of the laboratory to be established under the project

Section 1. Level and status of research studies in the research project area at the NUST «MISiS»¹⁰

Section 2. Anticipated infrastructure for the proposed research project area in the NUST «MISiS»¹¹

Section 3. Overview of the laboratory to be established under the project

3.1. Feasibility basis for creating a laboratory in the proposed research area at NUST «MISiS»

3.2. Anticipated research team

| Types of staff | Total number | Including the University/ scientific structure employees |
|----------------------------------|--------------|---|
| Members with habilitation degree | | |
| Members with doctoral degree | | |
| Postgraduates | | |
| Undergraduates | | |
| Other | | |

¹⁰ Including availability of research structures within NUST «MISiS» (laboratories, departments, collective use centers, etc.) that are working within the proposed research project area.

¹¹ Including availability of premises capable of accommodating a new laboratory; installing necessary equipment, availability of necessary infrastructure, etc. used for implementation of the project (plan of equipment installation and infrastructure in the new laboratory).

Section 4. Anticipated laboratory staff and their professional qualifications

4.1. Anticipated research project staff members

| No. | Full name | Position, academic degree, academic title Specify if student/graduate student | Year of birth | H-index | Number of publications in journals indexed in the Web of Science in 2010 – 2015 ¹² | Place of work | Area of research interests |
|-----|-----------|--|---------------|---------|---|---------------|----------------------------|
| 1. | | | | | | | |
| 2. | | | | | | | |
| | | | | | | | |
| | | | | | | | |

4.2. List of research projects completed by the team members within the proposed research project area in 2010-2015.

| No. | Project title | Funding source | Amount of Funding (million roubles) | Project implementation term (start - completion) | Full name of the project participant from among the proposed team members |
|-----|---------------|----------------|-------------------------------------|--|---|
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |

4.3. Major articles published by the proposed research team members in journals indexed in the Web of Science in 2010-2015¹²

| No. | Name of journal | Authors (in the same order as in the article) | Authors – team members | Title of article | Year, volume, issue | Impact factor |
|------|-----------------|---|------------------------|------------------|---------------------|---------------|
| 1 | | | | | | |
| 2 | | | | | | |
| 3. | | | | | | |
| | | | | | | |

¹² Publications should meet the following requirements: a) be an article or a review; b) be published in academic journals indexed at the time of application submission in Science Citation Index Expanded, Social Science Citation Index, Arts & Humanities Citation Index. Lists of indexed editions and forms for their search are on open access at : <http://ip-science.thomsonreuters.com/mjl>.

4.4. Monographs published by the proposed team members in the proposed research project area in 2010-2015

| No. | Monograph (monograph's authors, title, year of publication, number of pages, ISBN, publisher) | Brief annotation to monograph |
|-----|---|-------------------------------|
| 1. | | |
| | | |

4.5. Major conferences in the proposed research project area at which team members made reports and presentations in 2010-2015.

| No. | Name of conference | Conference place and time and language of presentation | Authors and title presentation | Type of presentation (invited/regular oral/poster) |
|-----|--------------------|---|-----------------------------------|--|
| 1. | | | | |
| 2. | | | | |

4.6. List of intellectual property and protection documents objects authored by the proposed research project staff members and registered in 2010-2015

| No. | Object of intellectual property | Object type | Priority date | Territory (country) and term of validity | Title of protection (patent, certificate of registration) | |
|-----|---------------------------------------|----------------|------------------|---|--|---------------|
| | | | | | No. | Date of issue |
| 1. | | | | | | |
| 2. | | | | | | |

Section 5. Anticipated impact of the created laboratory upon the University innovation development (development strategy)

Leading Scientist

Leading scientist's signature Leading scientist's surname, first name, patronymic

Leading Scientist from NUST «MISiS»

Leading scientist's signature Leading scientist's surname, first name, patronymic

Form 6. Research Project Description

Section 1. General information about the project

1.1 Field of science

1.2 Research area (according to Appendix 1) _____

1.3 Project Title

1.4 Project goal

1.5. Project objectives

1.6. Anticipated project results¹³

Section 2. Project description

2.1. Description of the proposed research project¹⁴

2.2. Description of the scientific approaches and methods proposed to achieve the anticipated project results

2.3. Description of scientific capacity and project-related results achieved by the research team members¹⁵

¹³ Including anticipated inventions, patents, know-how, etc.

¹⁴ Relevance of the research project from the viewpoint of the current status of global science; likelihood of achieving breakthrough world-class research results and their relevance in terms of the global science and economy.

¹⁵ Project-related work already completed by the entire research project group put together by the Leading scientist; productivity, independence, and initiative of the research project group members based on their work outside the research

Section 3. Project funding¹⁶

| | 2016 (mln Rub) | 2017 (mln Rub) | 2018 (mln Rub) | Total (mln Rub) |
|---|----------------|----------------|----------------|-----------------|
| Grant funds | | | | |
| Financial contribution of other sources | | | | |

Section 4. Laboratory vision upon completion of the project (future strategy)¹⁷

Leading Scientist

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Leading Scientist from NUST «MISiS»

Leading scientist's signature

Leading scientist's surname, first name, patronymic

project in question; the research project group's place among the world's best laboratories working within related research areas.

¹⁶ Detailed information about expenditure of the grant funds and from other sources of funding is provided in Forms 9-10.

¹⁷ Laboratory ability to continue its operations upon completion of the research project in question and perform world-class scientific research; laboratory's fundraising plan, diversity of envisioned funding sources, viability and practicability of the laboratory's fundraising strategy; and laboratory's contribution to the development of the University infrastructure.

Form 7. Project Efficiency Indicators

| No. | Effectiveness indicator | Unit of Measure | 2016 | 2017 | 2018 |
|-----|---|-----------------|------|------|------|
| 1. | Number of members with doctoral degree permanently employed by the laboratory ¹⁸ | pax | | | |
| 2. | Number of the NUST «MISiS» postgraduate students permanently employed by the laboratory ¹⁹ | pax | | | |
| 3. | Number of the undergraduate students of NUST «MISiS» permanently employed by the laboratory ²⁰ | pax | | | |
| 4. | Number of articles published in scientific journals indexed in the Web of Science that were written by the Leading scientist in collaboration with or independently by the proposed new laboratory staff on issues related to the proposed research project area ²¹ | pcs | | | |
| 5. | Number of articles published in scientific journals indexed in the Web of Science that were written by the Leading scientist in collaboration with or independently by the proposed new laboratory staff and shall be in the first quartile of impact factor in the proposed project area ²² | pcs | | | |
| 6. | Number of new study courses designed and introduced in the process of education within the proposed research project area | pcs | | | |
| 7. | Number of oral reports by laboratory staff members on the matters of the proposed research area at international (outside the RF) conferences | pcs | | | |

¹⁸ Planned number of members with doctoral degree permanently employed by the research team, but not less than two candidates.

¹⁹ Planned number of the NUST «MISiS» graduate students permanently employed by the research team, but not less than three students.

²⁰ Number of the NUST «MISiS» undergraduate students permanently employed by the research team not less than three students.

²¹ Publications must meet the following requirements: a) they must fall within the «article» or «review» category.

²² Publications must meet the following requirements: a) they must fall within the «article» or «review» category; b) in compliance with Clause 3.9 of «Information about the grant competition» part of articles shall be in the first quartile of impact factor in the proposed project area.

| | | | | | |
|--|--|-----|--|--|--|
| 8. | Number of applications for an international or Russian patent for an invention and/or received patents of the Russian Federation | pcs | | | |
| 9. | Number of habilitation papers defended by the proposed laboratory staff within the proposed research project area | pcs | | | |
| 10. | Number of doctoral papers defended by the proposed laboratory staff within the proposed research project area | pcs | | | |
| 11. | Number of laboratory staff members accepted to postgraduate school within the proposed research project area or approved as candidates for academic degrees | pax | | | |
| 12. | Number of young scientists, specialists, and teachers (scientists with doctoral qualification who are younger than 35 and scientists with habilitation qualification who are younger than 40 years of age, specialists and teachers without academic degrees younger than 30 years) from external organizations who have undergone retraining or qualifications improvement training at the laboratory within the proposed research project area | pax | | | |
| 13. | Number of grants received by the laboratory staff during the project implementation period | pcs | | | |
| 14. | Number of commercial contracts executed and implemented by the laboratory staff during the project implementation period | pcs | | | |
| 15. | Number of foreign specialists employed by the laboratory | pax | | | |
| <i>Other indicators independently identified</i> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Note: All data must be specified by the year (not by accrued total).

Leading Scientist

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Leading Scientist from NUST «MISiS»

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Form 8. Project Implementation Plan

Leading scientist:

Name of Research Project:

| Phase No. | List of activities and measures | Scheduled results of activities and measures | Scheduled scientific publications, results of inventive activities ²³ and conference papers | Implementation period (start -finish) | Grant funds spent for researches during the phase ('000 roubles) | Non-grant budget funds, spent for researches ('000 roubles) |
|-----------|---|--|--|---------------------------------------|--|---|
| 1. | <i>List of activities funded by the grant</i> 1.1. 1.2. | | | 15.07.2016 – 31.12.2016. | | |
| 2. | <i>List of activities funded by the grant</i> 2.1. 2.2. | | | 01.01.2017 – 31.12.2017 | | |
| 3. | <i>List of activities funded by the</i> | | | 01.07.2017 | | |

²³ Articles in the periodicals referenced in the «Web of Science» database, monographs, chapters in monographs, applications for a patent for an invention, utility model, or commercial prototype, receipt of certificates, patents

| | | | | | | |
|----|---|--|--|----------------------------|--|--|
| | <i>grant</i> 3.1. 3.2. | | | 31.12.2017. | | |
| 4. | <i>List of activities funded by the grant</i> 4.1. 4.2. | | | 01.01.2018 – 30.06.2018 | | |
| 5. | <i>List of activities funded by the grant</i> 5.1. 5.2. | | | 01.07.2018 31.12.2018 | | |

Leading Scientist

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Leading Scientist from NUST «MISiS»

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Form 9. Research Project Budget

1. Budget for the research project implemented under the supervision of Leading scientist in 2016 – 2018

2.

| No. | Expenditure line-item | 2016 | | 2017 | | 2018 | | TOTAL | |
|-----|--|------------------------|--------------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|--------------------------|
| | | Grant funds ('000 RUB) | Other sources ('000 RUB) | Grant funds ('000 RUB) | Other sources ('000 RUB) | Grant funds ('000 RUB) | Other sources ('000 RUB) | Grant funds ('000 RUB) | Other sources ('000 RUB) |
| 1. | Compensation payable to the Leading scientist and members of the research project team, including taxes and other social benefits, accrued on compensation of the Leading scientist and members of the research team ²⁴ | | | | | | | | |
| 2. | Research equipment acquisition costs | | | | | | | | |
| 3. | Research equipment parts and supplies costs | | | | | | | | |
| 4. | Business trip expenses of the Leading scientist and research team members ²⁵ | | | | | | | | |
| | TOTAL: | | | | | | | | |

Leading scientist _____

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Leading scientist from NUST «MISiS» _____

Leading scientist's signature

Leading scientist's surname, first name, patronymic

²⁴ Max 35% of the grant fund.

²⁵ Max 7% of the grant.

Form 10. Breakdown of the expenditures

Section 1. Breakdown of the planned expenditure of the grant

1.1. Purchase of research equipment

| No. | Name of equipment ²⁶ | Quantity | Price (mln Rub) | Total amount (mln Rub) |
|---------------|---------------------------------|----------|-----------------|------------------------|
| 2016 | | | | |
| 1. | | | | |
| 2. | | | | |
| 2017 | | | | |
| 1. | | | | |
| 2. | | | | |
| 2018 | | | | |
| 1. | | | | |
| 2. | | | | |
| TOTAL: | | | | |

1.2. Compensation payable to the research team members

| No. | Expenditure | 2016 (mln Rub) | 2017 (mln Rub) | 2018 (mln Rub) |
|------|---|----------------|----------------|----------------|
| 1. | Total compensation payable to the Leading scientist and research team members, including applicable taxes and other social benefits | | | |
| 1.1. | <i>including compensation payable to young researchers, students, graduate students</i> | | | |
| 2. | Total number of research team members | | | |

²⁶ Each research equipment item must be accompanied by a list of specifications and an explanation of its ability to contribute to the achievement of the project goals and objectives.

| | | | | |
|------|--|--|--|--|
| 2.1. | <i>including the total number of young researchers, students, graduate students</i> | | | |
| 3. | Average labor compensation amount payable to a research team member | | | |
| 3.1. | <i>including the average labor compensation amount payable to a young scientist, student, graduate student</i> | | | |

Section 2. Funding from other sources

2.1. Planned sources

| No. | Description of other sources | Other sources details | Amount (mln Rub) |
|-----|---|-----------------------|------------------|
| 1. | Grants | | |
| 2. | Financing provided by Russian and foreign investors | | |
| 3. | Commercial agreements | | |
| 4. | Other | | |
| | Total | | |

Leading Scientist

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Leading Scientist from NUST «MISiS»

Leading scientist's signature

Leading scientist's surname, first name, patronymic

Form A. Application Registration

| Name of competition | Full name of the Leading Scientist | Residence country | Place of work (University, department) | The Leading scientist post | Leading scientist's H-index in «Web of Science» | Number of articles referenced in the «Web of Science» | Citation index in the «Web of Science» | Field of Science | Research Area | Anticipated name of the project | Requested Funding | Person in charge on behalf of NUST «MISiS» (name, telephone, e-mail) |
|---------------------|------------------------------------|-------------------|--|----------------------------|---|---|--|------------------|---------------|---------------------------------|-------------------|---|
| | | | | | | | | | | | | |

APPENDIX 1

| Rank | Research area |
|-------------|--|
| 1 | ACOUSTICS |
| 2 | ASTRONOMY & ASTROPHYSICS |
| 3 | AUTOMATION & CONTROL SYSTEMS |
| 4 | BIOCHEMICAL RESEARCH METHODS |
| 5 | BIOCHEMISTRY & MOLECULAR BIOLOGY |
| 6 | BIOLOGY |
| 7 | BIOPHYSICS |
| 8 | BIOTECHNOLOGY & APPLIED MICROBIOLOGY |
| 9 | CELL & TISSUE ENGINEERING |
| 10 | CELL BIOLOGY |
| 11 | CHEMISTRY, ANALYTICAL |
| 12 | CHEMISTRY, APPLIED |
| 13 | CHEMISTRY, INORGANIC & NUCLEAR |
| 14 | CHEMISTRY, MEDICINAL |
| 15 | CHEMISTRY, MULTIDISCIPLINARY |
| 16 | CHEMISTRY, ORGANIC |
| 17 | CHEMISTRY, PHYSICAL |
| 18 | CLINICAL NEUROLOGY |
| 19 | COMMUNICATION |
| 20 | COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE |
| 21 | COMPUTER SCIENCE, CYBERNETICS |
| 22 | COMPUTER SCIENCE, HARDWARE & ARCHITECTURE |
| 23 | COMPUTER SCIENCE, INFORMATION SYSTEMS |
| 24 | COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS |

| | |
|----|--|
| 25 | COMPUTER SCIENCE, SOFTWARE ENGINEERING |
| 26 | COMPUTER SCIENCE, THEORY & METHODS |
| 27 | CRYSTALLOGRAPHY |
| 28 | ECOLOGY |
| 29 | ECONOMICS |
| 30 | EDUCATION & EDUCATIONAL RESEARCH |
| 31 | EDUCATION, SCIENTIFIC DISCIPLINES |
| 32 | EDUCATION, SPECIAL |
| 33 | ELECTROCHEMISTRY |
| 34 | EMERGENCY MEDICINE |
| 35 | ENDOCRINOLOGY & METABOLISM |
| 36 | ENERGY & FUELS |
| 37 | ENGINEERING, AEROSPACE |
| 38 | ENGINEERING, BIOMEDICAL |
| 39 | ENGINEERING, CHEMICAL |
| 40 | ENGINEERING, CIVIL |
| 41 | ENGINEERING, ELECTRICAL & ELECTRONIC |
| 42 | ENGINEERING, ENVIRONMENTAL |
| 43 | ENGINEERING, GEOLOGICAL |
| 44 | ENGINEERING, INDUSTRIAL |
| 45 | ENGINEERING, MECHANICAL |
| 46 | ENGINEERING, MULTIDISCIPLINARY |
| 47 | ENVIRONMENTAL SCIENCES |
| 48 | GEOCHEMISTRY & GEOPHYSICS |

| | |
|----|---|
| 49 | GEOLOGY |
| 50 | GEOSCIENCES, MULTIDISCIPLINARY |
| 51 | IMMUNOLOGY |
| 52 | LOGIC |
| 53 | MANAGEMENT |
| 54 | MARINE & FRESHWATER BIOLOGY |
| 55 | MATERIALS SCIENCE, BIOMATERIALS |
| 56 | MATERIALS SCIENCE, CERAMICS |
| 57 | MATERIALS SCIENCE, CHARACTERIZATION & TESTING |
| 58 | MATERIALS SCIENCE, COATINGS & FILMS |
| 59 | MATERIALS SCIENCE, COMPOSITES |
| 60 | MATERIALS SCIENCE, MULTIDISCIPLINARY |
| 61 | MATERIALS SCIENCE, PAPER & WOOD |
| 62 | MATERIALS SCIENCE, TEXTILES |
| 63 | MATHEMATICAL & COMPUTATIONAL BIOLOGY |
| 64 | MATHEMATICS |
| 65 | MATHEMATICS, APPLIED |
| 66 | MATHEMATICS, INTERDISCIPLINARY APPLICATIONS |
| 66 | MECHANICS |
| 67 | MEDICINE, RESEARCH & EXPERIMENTAL |
| 68 | METALLURGY & METALLURGICAL ENGINEERING |
| 69 | MICROBIOLOGY |

| | |
|----|---------------------------------------|
| 70 | MICROSCOPY |
| 71 | MINERALOGY |
| 72 | MINING & MINERAL PROCESSING |
| 73 | MULTIDISCIPLINARY SCIENCES |
| 74 | NANOSCIENCE & NANOTECHNOLOGY |
| 75 | NUCLEAR SCIENCE & TECHNOLOGY |
| 76 | ONCOLOGY |
| 77 | OPTICS |
| 78 | PHARMACOLOGY & PHARMACY |
| 79 | PHYSICS, APPLIED |
| 80 | PHYSICS, ATOMIC, MOLECULAR & CHEMICAL |
| 81 | PHYSICS, CONDENSED MATTER |
| 82 | PHYSICS, FLUIDS & PLASMAS |
| 83 | PHYSICS, MATHEMATICAL |
| 84 | PHYSICS, MULTIDISCIPLINARY |
| 85 | PHYSICS, NUCLEAR |
| 86 | PHYSICS, PARTICLES & FIELDS |
| 87 | ROBOTICS |
| 88 | SOCIAL SCIENCES, MATHEMATICAL METHODS |
| 89 | SPECTROSCOPY |
| 90 | TELECOMMUNICATIONS |
| 91 | THERMODYNAMICS |
| 92 | TOXICOLOGY |
| 93 | TRANSPLANTATION |

| | |
|----|-------------------------------------|
| 94 | TRANSPORTATION |
| 95 | TRANSPORTATION SCIENCE & TECHNOLOGY |
| 96 | WATER RESOURCES |