TABLE OF CONTENT

PART 1 (National Research Funding & Grants program)

PART 2 (International Research Funding & Grants program)

1- Pakistan Program For Collaborative Research (PPCR)

   I.   Introduction
  II.   Objectives
 III.   Areas
 IV.   Eligibility Criteria
  V.   Financial Assistance
 VI.   How to Apply
VII.   Contact Details of Concerned Office

2- Pak-France Joint Research Programme (PERIDOT)

   I.   Introduction
  II.   Objectives
 III.   Areas
 IV.   Eligibility Criteria
  V.   Financial Assistance
 VI.   How to Apply
VII.   Contact Details of Concerned Office

3- Pak-US Joint Research Program (with USA)

   I.   Introduction
  II.   Objectives
 III.   Areas
 IV.   Eligibility Criteria
  V.   Financial Assistance
 VI.   How to Apply
VII.   Contact Details of Concerned Office

4- US-Pakistan Knowledge Corridor PhD Scholarship Program

   I.   Introduction
  II.   Objectives
 III.   Areas
 IV.   Eligibility Criteria
  V.   Financial Assistance
 VI.   How to Apply
VII.   Contact Details of Concerned Office

5- Pak-Turk Researchers Mobility Grant Programme (PTRG)

   I.   Introduction
  II.   Objectives

PART 4 (ORIC CONTACT DETAILS)

- Directors contact detail
- Research Mangers contact detail
- Research Associate contact detail

National Research Funding And Grants Program

1. National Research Programs for Universities (NRPU)

Introduction: National Research Programme for Universities (NRPU) is a flagship Research Programme of HEC for funding research grants on competitive merit for high-level and promising scientific research projects that demonstrate strategic relevance and impact to local industry and society.

Objectives: The objective of the NRPU programme is to support university-based researchers for conducting cutting-edge research with an emphasis on tackling needs and challenges that local researchers and end-users face supporting projects with tangible impact focusing on subjects that are highly promising in terms of commercial and technological potential encouraging a more cross-cutting/interdisciplinary approach stimulating scientific excellence and the advancement of knowledge in Pakistan Improving the capacity of Pakistani research institutions to support industry competitiveness

The budgets for NRPU projects are anticipated to range between PKR 5–20 Million, with a maximum project duration of 3 years. Co-financing – including in kind and cash contributions– by industry partners will be considered a merit and an indicator of industry support. The allocation of the overall budget between the two themes will be as follows:

Basic Research – 60%

Applied Research – 40%

Areas: The research grant program provides financial support for research projects in Social Sciences, Management Sciences, Humanities, Basic Sciences, Natural Sciences, Medical Sciences, Engineering & Technology and Agricultural Sciences.

Eligibility Criteria: The research grant programme administered by HEC support the diverse range of faculty research at national level. We hope that full-time, tenured and tenure-track faculty from all disciplines will find a programme that could help advance their scholarly efforts.
The eligibility criteria for the NRPU grant is as follows. The Principal Investigator (PI) must; be employed as a regular faculty member of the HEI (Public or Private) or a contract equivalent to the length of duration of the project. have an advanced academic degree (PhD or MPhil/MS with two years of research experience) have relevant experience of working as a researcher have maximum one research grant at a time for the PI.

Financial Assistance: The NRPU grant awards will be made to the host higher education institution of the lead academic – faculty – associated with the project, and administered through the appropriate ORIC on campus. The project budget can finance the following activities; Salaries for PI and co-PIs based on the amount of time spent on the project Stipends for Bachelor's, Master's, doctoral students and postdoctoral scholars to help in proposed research activities as per scope of the project Travel to national and international conference/workshop to present research results obtained and to support the proposed research Fee for Open Access Journals for disseminating research results obtained Equipment purchase and maintenance as appropriate

and approved to conduct the proposed research Purchase of Research supplies necessary to conduct the proposed research.
University Overhead is permissible to support admin cost and research support.

How to Apply: Applications can be submitted in response to a call for proposal. Submission must be made to the HEC online portal (eportal.hec.gov.pk) according to the guidelines provided in the call for proposals. Please go through the user manual before filling of online application. Once the required details are filled online, please upload all the required documents in .pdf form and submit the application before deadline.
The submitted applications are assessed by other active researchers with great expertise within the field. HEC evaluates the process continuously and has clear guidelines for the assessment of work. The assessment shall be of high quality and be conducted in an objective, impartial and transparent manner.

Evaluation Process: The Evaluation Process for the NRPU comprises a single phase termed as Desk Review comprising of the following steps:
The first step of Evaluation Process is a screening of proposals by HEC. The purpose of the screening is to ensure that submitted proposals:
(i) Are eligible for the competition; and
(ii) Respond to the Call for Proposals.
Proposals that meet the above criteria will have a technical assessment by 3-4 independent expert evaluators with the disciplinary expertise to consider the proposed research programme.

Reviewers will make recommendations to the HEC for the selection of NRPU grants.

Contact Details of Concerned Office : For Current Call (2019-2020) of NRPU
Research and Development Division
Higher Education Commission,
Sector H-9, Islamabad
UAN: 111-119-432
Complaint Portal: onlinehelp.hec.gov.pk
Email: Info-r&d@hec.gov.pk

2. <u>Technology Development Fund</u>

Introduction: The Higher Education Commission aims "to facilitate institutions of higher learning to serve as engines for socio-economic development of Pakistan" as stated in the mission. Along these lines, Higher Education Commission (HEC) of Pakistan took an initiative to finance proposals of completed interdisciplinary applied research projects for prototype development and industrial value addition for technology development. In this way, HEC envisages to help the productive minds of Pakistan to impact economy through new and emerging technologies.
 Any other applied discipline which is inductive or conducive to success of products developed or upscale the process of Industrial level manufacturing.
The proposed funded projects would be expected to develop a product or service which would positively impact, inter alia, the economy, solve a current problem, meet a market need, utilize local raw materials, move current products up the value chain, create large scale employment
The proposals need to be academia-industry joint projects leading to products or services which solve a current problem or identify a new opportunity; are marketable, leading to positive cash-flows.

Objectives: Advancement of Knowledge, Achieve Excellence, Value addition, apply to knowledge.

Areas: The proposals shall be submitted by PhD scholars who have completed their PhD and have a ready research in the following specified areas;
- Telecommunication, Information and Technology/Computers (applications in Govt. services, health, textile, agriculture & dairy etc.)
- Engineering Sciences, Micro Electronics, Water, Power, Energy and Fleet Management
- Biotechnology and Allied fields (in Health, Agriculture, Textile, Leather & Dairy etc.)
- Material Sciences/Man Made Material (Nanotechnology)
- Robotics, Defence and Military needs

Eligibility Criteria: Any researcher having an idea or has done initial research for product development is eligible to apply for this technology development grant. She /He would be required to submit proposal in collaboration with prospective industry, who can take up the product for its commercialization and marketing. Co-PI could be from R&D institutions.
Duration of project**;** life of each project will be for a period of not exceeding two years

Financial Assistance:

How to Apply : The applicants have to submit their research proposals on prescribed forms to the Office of Research Innovation and Commercialization (ORIC) / Research Office/Registrar Office of their respective universities/DAIs. The ORIC/ Research Office/Registrar Office will initially scrutinize the proposals and then send to HEC.

Contact Details of Concerned Office :
Mr. Ghulam Sarwar
P/FC - TDF (R&D)
For any queries please email to
Email : gsarwar@hec.gov.pk
Higher Education Commission, Islamaba

Mr. Tariq Aziz Chaudhry
Match Making Manager TDF(R&D
For any queries related to industry, product commercialization, budget & funds.
Email : tchaudhry@hec.gov.pk
Higher Education Commission, Pakistan

3. <u>Local Challenge Fund (LCF)</u>

Introduction: The LCF is a competitive research grant that supports a portfolio of projects having proposed research ideas for possible solutions to local core issues identified by a university with the help of provincial government and local research centers.

Objectives: To support cross-disciplinary research projects that address any of the 17 Sustainable Development Goals (SDGs) at district level.
To strengthen the local university research capacity and to contribute to the research mission of host institution in solving local issues.

Eligibility Criteria:
- **Lead Principal Investigators (PIs)**
be a faculty member of Higher Education Institute (public and private)
- **Project Team may include**
be a consortia of faculty members from multiple university departments and/or multiple universities
Private sector participants

Financial Assistance:
- **Salaries** for PI and co-PIs based on the amount of time spent on the project
- **Stipends** for Bachelor's, Master's, doctoral students and post-doctoral scholars to conduct the research proposed
- **Travel** to national and international Conference/ workshop/ symposium to present research results obtained
- **Equipment Purchase and Maintenance** of appropriate, approved equipment to conduct the proposed research
- **Purchase** of research supplies necessary to conduct the proposed research
- **Processing fee** for open access journals for disseminating research results obtained

How to Apply: Applications can be submitted in response to a call for proposal. Submission must be made to the HEC online portal according to the guidelines provided in the call for proposals
Proposal Submission Stages
- Project Outline Submission
- Full Proposal Submission

Evaluation Process
- **LCF** awards are made through an open, rigorous, transparent, competitive and merit-based process consistent with international standards
- The Evaluation process consists of three sequential steps:
- Project Outline Review
- Full Proposal Desk Evaluation

Contact Details of Concerned Office:
Research and Development Division
Higher Education Commission,
Sector H-9, Islamabad
UAN: 111-119-432
Email: Info-r&d@hec.gov.pk

4. <u>Technology Transfer Support Fund (TTSF)</u>

Introduction: TTSF supports promising university technological research that has previously developed existing prototype or advanced model and lead to the development of products or services that are marketable and can generate positive cash flows
.

Objectives: To support promising university technological research with existing prototype or advanced model and leading to product development/commercialization
To foster partnerships between academia and industry to facilitate the transfer of technology to industry and the commercial sector.

Areas:
- Telecommunications
- Information Technology and its application in health, textile, agriculture and agribusiness such as dairy and horticulture
- Engineering sciences including microelectronics, water, power, energy and fleet management
- Biotechnology
- Material Sciences e.g. Nano-technology

Eligibility Criteria:
Faculty members (with PhD) and Ph.D students;
- be from public and private sector universities
- co–financing (including in kind or cash contribution) by industry partner is mandatory

Financial Assistance :
- **Salaries** for PI and co-PIs based on the amount of time spent on the project
- **Stipends** for Bachelor's, Master's, doctoral students and post-doctoral scholars to help take the prototype or proposed product to market
- **Travel** to national and international meetings to present research results obtained and to support the proposed research
- **Processing fee** for open access journals for disseminating research results obtained
- **Limited research and development costs**
- **Patent filing**
- **Producing licensing agreements**
- **Legal and financial investment advice**
- **Marketing** of the prototype or proposed product to appropriate investors or stakeholders

How to Apply:
- Application can be submitted in response to a call for proposals

- Submission must be made to the HEC online portal according to the guidelines provided in the call for proposals

Evaluation Process
- The research proposals are assessed by peer reviewers having great expertise in the field
- The assessment is conducted in an objective, impartial and transparent manner and is of high quality.

Contact Details of Concerned Office:
Research and Development Division
Higher Education Commission,
Sector H-9, Islamabad

UAN: 111-119-432

Complaint/Query Portal:onlinehelp.hec.gov.pk
Email: Info-r&d@hec.gov.pk

5. Grand Challenge Fund

Introduction: The Grand Challenge Fund (GCF) is a key element of the Higher Education Development in Pakistan Project supported by the World Bank and implemented by the Higher Education Commission (HEC). The GCF is anticipated to promote research excellence in strategic sectors of the economy and will provide funds to selected institutions based upon a competitive, peer-reviewed evaluation of proposals.
GCF will support large, multisectoral/multidimensional research projects. Successful GCF projects are anticipated to be collaborative in scope, with research teams working cooperatively to accelerate research progress for societal impact. Projects are expected to use a systems-type approach in developing the research agenda, where separate projects come together to achieve a broad-based thematic research advance. Projects should include relevant and cutting-edge research activities and postgraduate student training. Further detail regarding research on Grand Challenges around the world can be found in HEC-GCF 2020 - History, Approach, Thematic Areas.

Objectives: The Grand Challenge Fund is focused on supporting research and innovation in priority thematic areas of national interest, including following. Further detail regarding research on Grand Challenges around the world can be found in HEC-GCF 2020 - History, Approach, Thematic Areas

- Food Security, including but not limited to agricultural productivity and resilience; exploitation of agricultural value-chains; Nutrition, Maternal and Child Health(MNCH); and sustainable food eco-systems for rural and urban consumers and producers.

- Water Management and Sustainability, including but not limited to, food, energy, water nexus, and focusing on grant challenges such as large-scale, low cost, and scalable waste water treatment systems; significant reduction in irrigation related water losses; and innovative socio-technical approaches to water conservation.

- Sustainable Energy, including but not limited to energy efficiency, battery and storage Technologies, efficient and smart grids focusing on grand challenges such as low cost electric mobility solutions; sustainable platforms for urban, rural, and intercity mobility; smart and sustainable energy solutions for urban, rural, and remote areas; innovation mechanisms for reduction in transmission and grid losses in legacy infrastructures.

- Sociology and Philosophy, which may include identity politics, gender, population, and work ethic focusing on grand challenges such as preservation of our intellectual heritage and material culture, developing our literary canon in the wider context of world culture; barriers to gender participation in the workforce and in national development; future of work and family; and cultural and sociological impact of CPEC.

- Development Economics, including but not limited to, export competitiveness, skills and labor market interventions, interventions for healthy life (such as antimicrobial resistance, non-communicable diseases) and focusing on grand challenges such as transformational innovation and enhancement of global competitiveness of Pakistani export value-chains; indigenous development of high-end textile value chains; industrial performance and productivity,

competitiveness, and re-location (particularly in the context of CPEC); future of work; and the interplay between population growth and economic development.

- Urban Planning, including but not limited to, sustainable urban design, low-cost housing, mobility, and transport and focusing on grand challenges such as planning for and preservation of urban space and life; economic, sociological, and cultural triggers for the planning and creation of second tier (and new) cities and towns; provision of quality of urban life such as issues related to transportation and congestion, waste collection and disposal, water and sanitation, healthcare and education, and law and order.

- Climate Change and Environment, including but not limited to, climate mitigation, adaptation and disaster management and focusing on grand challenges such as metro-scale pollution reduction technologies and solution (such as Lahore smog or Karachi's waste); enhancement of the capacity to carry out climate modelling and evidence based policy and planning; addressing and mitigation of large climate change impacts on marginal communities; climate and disaster surveillance and management systems, etc.

- Information Technology and Telecom, including but not limited to Artificial Intelligence, Cybersecurity, Cloud Computing and Big Data, and education and health-related information and communication technologies and focusing on grand challenges such as exploitation of economic and technological impacts of mobile broadband and 3G/4G networks particularly for less literate and largely illiterate populations; addressing the disparities in access of of technology; development, deployment, and exploitation of 5G networks; 4th Industrial Revolution (4IR) within the Pakistani context; scalable models of education and healthcare delivery through the use of ICT.

- Innovative Governance and Reforms, including but not limited to healthcare governance, policy and delivery; educational governance and reforms; judicial reforms; and civil services reform and focusing on grand challenges such as the use of technology in bringing transparency and responsiveness to citizen services; effective use of open data (OD) in evidence-based policy making; use of Right to Information (RTI), citizen scorecards, or similar mechanisms for holding the government to account; mechanisms for creating local capacity to provide policy advice in areas of critical national importance.

Eligibility Criteria:
Lead Principal Investigators (PIs) must:
- Be university faculty members (with PhD) from **research intensive institution** (The list of research intensive universities is provided at https://www.hec.gov.pk/english/services/faculty/GCF/Documents/Notification%20 of%20 esearch%20Intensive%20Universities%20for%20GCF-2020.pdf)

Project Team may include:
- A consortia of faculty members from multiple university departments and/or multiple universities
- Private sector participants, particularly when they bring prior IP or capability to the consortium and/or significant deployment, implementation, or scale up capability
- International partners

International collaborations are encouraged:

- When the international partner brings a unique added value to the project team

Financial Assistance:
- **Salaries** for PI and co-PIs based on the amount of time spent on the project
- **Stipends** for bachelors, masters, doctoral students, and postdoctoral scholars to conduct the research proposed
- **Travel to national and international meetings** to present research results obtained
- Travel to consortia members' institutions in support of the research proposed
- **Processing fee for open access journals** for disseminating research results
- **The purchase and maintenance** of appropriate, approved equipment to conduct the research proposed.
- **The purchase of research supplies** necessary to conduct the research proposed
- **Grants to attract visiting researchers** from outside Pakistan to conduct research that contributes to the grant objectives. These visiting researchers can be either expatriate Pakistani scientists or foreign scientists.
- A component of the grant will be earmarked for the **problem solving** (i.e., it will be released only if there is a demonstrable evidence of success in solving a problem).

How to Apply: Applications can be submitted in response to a call for proposal. Submission must be made to the HEC online portal (eportal.hec.gov.pk) according to the guidelines provided in the call for proposals document under "Downloads" section. Please go through the user manual before filling of online application. Once the required details are filled online, please upload all the required documents in .pdf form and submit the application before deadline.
Note: An application once submitted can not be edited/resubmitted

Proposal Submission Stages
- Project Outline Submission
- Full Proposal Submission

Evaluation Process
- GCF awards are made through an open, rigorous, transparent, competitive and merit-based process consistent with international standards
- The Evaluation process consists of three sequential steps:
- Project Outline Review
- Full Proposal Desk Evaluation
- Presentation to High Level Expert Panel by the project team and Institutional leadership of short-listed full proposals

Contact Details of Concerned Office:
Research and Development Division
Higher Education Commission,
Sector H-9, Islamabad
UAN: 111-119-432
Complaint/Query Portal:onlinehelp.hec.gov.pk , Email: Info-r&d@hec.gov.pk

6. Innovative & Collaborative Research Grant (ICRG)

Introduction: Innovative & Collaborative Research Grant (ICRG) supports research partnerships between Pakistani and UK universities, research bodies and existing centers of excellence that focus on any of the emerging disciplines/priority areas.

Objectives: To support collaborative research between Pakistan and UK for cutting-edge research and innovation in emerging disciplines of knowledge

Eligibility Criteria:
Principal Investigator (PI) must be a faculty member of Higher Education Institutions (public and private) in Pakistan collaborating with U.K partner institution and non-academic partner.
The Consortia may include:
- Centre of excellence in related field
- Research partner from third country (with ready financial contribution)

Financial Assistance:
- Salaries for PI and co-PIs based on the amount of time spent on the project
- Stipends for Bachelors, Master's, doctoral students and post-doctoral scholars to help take the prototype or proposed product to market
- Travel to national and international meetings to present research results obtained and to support the proposed research
- Equipment purchase and maintenance as appropriate & approved to conduct the proposed research
- Purchase of research supplies necessary to conduct the proposed research
- Processing fee for open access journals/ publications for disseminating research results obtained
- Doctoral fellowship for six months
- Prototype/ Product Development Cost (If applicable)

How to Apply:
- Joint proposals by Pakistani and UK partners can be submitted in response to a call for proposals. Submission must be made to the HEC and British Council through online portal (http://eportal.hec.gov.pk).
- Guidelines for Call for proposal and Online application are available under "Downloads" section.

Contact Details of Concerned Office:
Research and Development Division
Higher Education Commission,
Sector H-9, Islamabad
UAN: 111-119-432
Email: Info-r&d@hec.gov.pk

7. Problem Based Applied Interdisciplinary Research Programme (PBAIRP)

Introduction: The Higher Education Commission aims "to facilitate institutions of higher learning to serve as engines for socio-economic development of Pakistan" as stated in the mission. In line with the statement, Higher Education Commission (HEC) of Pakistan took an initiative to finance proposals of interdisciplinary applied research projects on a specific theme addressing local issue/problem. In this way, HEC envisages to help the productive minds of Pakistan to impact economy through new and emerging technologies.

Interdisciplinary as a means to address complex problems that cannot be dealt with from a single disciplinary perspective alone. Such problems require people from different disciplinary perspectives to work together, sharing ideas, theories and practice to reach appropriate solutions.

Interdisciplinary research and effective collaboration between people from different disciplines provide substantial benefits to scientists, policy makers and other stakeholders to maximize the potential benefits of interdisciplinary for future research activity.

Objective: To foster interdisciplinary and generate space to develop more innovative and high-impact research that delivers solutions to the challenges facing Pakistan, Higher Education Commission (HEC) initiated an Interdisciplinary research grant program- Problem Based Applied Interdisciplinary Research Programme (PBAIRP) that is especially designed to address the contemporary issue of the country and to come up with better and more relevant answers to face present-day problems of the country through interdisciplinary approach.

Eligibility Criteria:
- Proposal submitted under PBAIRP must not be meant for establishment of laboratory or for only development purpose.
- **Research** Proposal must be **interdisciplinary**, integrating methodological or theoretical approaches from at least three academic disciplines (departments or **programs**). **Interdisciplinary** work may be comparative, historical, regional, **thematic**, or **problem**-focused.
- Proposal submitted under PBAIRP must not have any portion that had been submitted and /or funded by HEC or any other funding agency.
- Proposal must be genuinely novel and must not have any plagiarized material including self-plagiarism.
- The Principal investigator (PI) has to be a full-time regular faculty member (BPS or TTS) of any public sector university/DAIs or private sector university/DAIs eligible for public funding (list of 29 private sector universities/DAIs is given below:).
- If PI is a contractual employee of the universities mentioned above, he/she must have at least 3 years valid contact period.
- The PI must not been ever blacklisted by HEC.
- The PI must not neither currently executing two projects (ongoing) nor had already submitted two projects or not had one submitted plus one ongoing project simultaneously under any of HEC grants program, e.g. NRPU or UITSP or TDF or TRGP or Pak-US etc.

- The PI can execute or submit only two (2) research projects simultaneously under any of HEC funded research grant programs either under NRPU or UITSP or TDF or TRGP or Pak-US etc. (either ongoing, submitted, under review, etc).
- The PI must not been executing any HEC project whose completion is delayed by three (03) years.
- The PI must have an advance academic degree (PhD or M.Phil./MS: at least 18 year of inline schooling) & relevant experience working as academician/researcher but not as administrator.
- Lecturer, Assistant Professor, Associate Professor, Professor and Meritorious Professor may apply under the program provide having relevant qualification and experience.
- Period of execution of the Research project should not be exceeding three (02) years.
- Maximum funding under NRPU may be up to Rs. 10 million.
- If a university teacher is working as PI or Co-PI in more than one project, he/she may get only one month's Initial Basic Pay under any one of his/her project as honorarium.

Any application will not be considered if
- Incomplete filled application form (hard and/or soft copy).
- Either PI does not submit original hard copy of proposal via his/her respective ORIC Office/Research Office/Registrar Office or ORIC/Research offices to Director R&D, HEC on or before the closing **date.**
- Applications are directly submitted to HEC, bypassing ORIC/Research Office/Office of the Registrar of the respective university.
- The PI is already executing any NRPU project whose completion is delayed by three (03) years.
- Application forms are not signed/countersigned/endorsed by head of institution, vice chancellor/Rector/Director of DAIs.
- Detailed and duly signed CV of PI is not attached.
- Detailed and duly signed CV of Co-PI(s) is/are not attached.
- Quotations of required equipment, worth over Rs. 0.1 Million are not attached.
- Report generated by **Turnitin** is not attached.
- A clearance certificate from Institutional Bioethics Committee (IBC) of the university/DAI concerned (if required) is not attached.
- Industrial support letter (if required) is not attached.
- Copy of appointment letter is not attached.

How to Apply: The applicants will submit their research proposals online through email at pbairp@hec.gov.pk on PBAIRP Application Form. In addition, the Principal Investigator (PI) has to submit four complete set of original hard copy of PBAIRP Application Form duly singed from all relevant authorities of the university along with soft copy via Office of Research Innovation and Commercialization (ORIC)/Research Office/Office of the Registrar of respective university to Director (R&D) on.
PBAIRP Application Form must accompanied by all mandatory documents listed below:
- Duly singed detailed CVs of PI
- Duly singed detailed CVs of all Co-PI.
- Duly attested copy of appointment letter of PI.
- Letter of Support for Industry Problem.
- A Letter of Consent from Collaborating Partner/Agency Expressing Willingness to Collaborate to be uploaded? (Section-7)
- Turnitin Report of the Proposal.

- Clearance Certificate from Institutional Bioethics Committee (IBC) Of the University/Dai Concerned if required.
- One Page Summary of Each Project of PI Already Completed/ Ongoing/ Submitted to any Funding Agency/HEC. (Section-9).
- Original invoices / quotations for permanent equipment costing over rs.0.1 million or more to be uploaded? (Section-10B).
- Tentative and detailed schedule of local visits (annual plan) with justification and rates be provided (if study involves field survey/field work). Please note that TA/DA is not allowed, however, estimated expenditure as per original may be demanded? (Section-10D).
- Project activities on Gantt chart.
- Year-Wise Cost and Quantities of Each Expendable Item Demanded With Full Justification (Section-10C)?
- Page (Section H. of cover sheet for proposal "H. Declaration/Certificate") after Getting Signed from relevant university authorities with date & stamps on the declaration certificates.
- Page "head of institution duly endorsed the application (section-14) of the application form?
- Any other document that you need to be mandatory. Optional
-

Financial Assistance:

Entitlement:

HEC provides funds as per the following details:

Sr. #	Items	Total Allocation
1.	Equipment (with full justification) if any of equipment is already provided to university, same can not allowed to request	As per requirements of the project
2.	Chemical/Glassware (with full justification and details of quantity required for the project)	As per requirements of the project
3.	Accessories (with full justification)	As per requirements of the project
4.	Journal Publication fee/online material	As per requirement of the project but maximum up to Rs. 50,000/-
5.	Honorarium for PI One month initial basic pay of scale per year on mentioned rates either PI is working on BPS or TTS	Lecturer @ Rs. 38350/-; Assistant Professor @ Rs. 59210/-; Associate Professor @ Rs. 69090/-; Professor @ Rs. 76720/- Meritorius Professor @ Rs. 82380/-
6.	Honorarium for Co-PI (if justified) One month initial basic pay of scale once in entire project life on mentioned rates either Co-PI is working on BPS or TTS	Lecturer @ Rs. 38350/-; Assistant Professor @ Rs. 59210/-; Associate Professor @ Rs. 69090/-; Professor @ Rs. 76720/- Meritorius Professor @ Rs. 82380/-

7.	Studentships · MS/M.Phil. students · PhD students	@ Rs. 20,000/- per month @ Rs. 25,000/- per month
8.	Local Travel (if required and fully justified) (Tentative schedule of visits for all the years of project life along with full justification and rates/calculations as per actual expenditure). Note: TA/DA is not allowed, PI and students will reimburse their expenditures as per actual.	Maximum 0.2 million per year per project calculated as per actual expenditure if field work/survey is involved; Moreover, students/PI will be allowed only to reimburse actual expenditures incurred during their field visit if any.
9.	Secretariat Staff (if required and justified)	Rs. 18,000 per year
10.	Stationary/Contingencies	Rs. 10,000 per year
11.	Any type of entertainment	Not Allowed
12.	Audit/Accounts	Rs. 20,000 (maximum)
13.	Other specific requirements	Depending upon the nature of the project if fully justified
14.	University overhead	
a.	If ORIC is fully functional & notified by HEC as per its established criteria	15% of total direct cost to meet office support and utilities etc. of ORIC
b.	If ORIC is not established/notified by HEC	2% of total direct cost to meet research office support and utilities, etc.

Note: - If a university teacher working as PI or Co-PI in more than one project, he/she may get only one month's Initial Basic Pay under any one of his/her project.

For closure of a Project/to received project completion letter, Principal Investigator has to submit following document in the end of the final year of the project. That is mandatory for release of final payments (retained amount by HEC) as well:

a. Final Annual Progress Report (specimen is available under download page).

b. Project Completion Performa (Codal Formality Performa)-(specimen available in download page).

c. Consolidated Expenditure Statement duly Audited by the Resident Auditor of the Respective University (specimen is available under download page).

PBAIRP Policy Points

1. No foreign payments may be made neither to any foreign firm for the purchase of any item/equipment etc. nor to any foreigner (as Co-PI)/consultant etc. Hence no LC may be got opened.

2. International travel is not allowed under PBAIRP. However, PI may go abroad if he/she is funded/supported by a collaborating partner without any financial liability on part of HEC/PBAIRP.

3. Proposal submitted under PBAIRP must not be meant for establishment of laboratory or for only development.

4. TA/DA is not allowed to any of the PI, Co-PI and student etc.

5. However, travel expenditure as per actual may be reimbursed under head local travel but maximum up to 0.2 million per year per project.

6. Any type of food/entertainment expenditure may not be demanded/reimbursed out of any budget head of PBAIRP grant released.

7. The only studentship is allowed (M. Phil./MS/M.Sc.(Hon .)/PhD students or having inline 18 year schooling).

8. No research associate/research assistant/field assistant/field surveyor/ or any supporting staff etc. can be engaged other than studentship in the project.

9. No coordinator/consultant is allowed to be hired as it is responsibility of PI/Co-PI.

10. However daily paid labor (DPL) can be demanded for a specific time period and may be hired at university rates if justified and approved under the proposal.

11. Secretariat Staff (if required & justified by PI) is allowed @ Rs18, 000 per year.

12. The total amount of the project would never be exceeded 20 million in any case if PI, s impact factor allowed.

13. Next instalment is released after deducting previous unspent amount reflected by PI in his/her annual audited expenditure statement submitted to HEC. There is no provision of any committed amount. Principal Investigator have to submit his/her annual expenditure statement after paying their all due payments of expenditures. Specimen of annual expenditure statements (1st, 2nd, & final) is available on HEC-PBAIRP web site under download option. All PIs are requested to please use same.

14. PI must make all expenditure in accordance with the Government rules/regulations such as PPRA rules.

15. All accounts of these funds shall be maintained as per Government rules and are subject to audit.
If a university teacher is working as PI or Co-PI in more than one project, he/she may get only one month's Initial Basic Pay under any one of his/her project as honorarium.

Contact Details of Concerned Office:
Ms. Afeefa Irshad
Deputy Director (R&D)
HEC, H-9 Islamabad
Ph# 051-90401919
E-mail: airshad@hec.gov.pk

Mr. Aijaz Ahmed
Assistant Director (R&D)
HEC, H-9 Islamabad
Ph# 051-90401945
E-mail: aiahmed@hec.gov.pk

8. Outstanding Research Awards (ORA)

Introduction: The HEC Outstanding Research Awards program aims to recognize and reward the achievements of Pakistani researchers/scholars for research, innovation and publication in all fields of study. The objectives of these awards are to acknowledge the high performance of the Pakistani faculty and researchers and thus promote a competitive research culture in higher education and R&D institutions.

Objectives: The program awards individuals in the following categories every year:

Award Category	No. of Awards / year
Best Research Paper*	37
Best Young Research Scholar	9
Best Innovator	1
Best Book	9
Total	56

*Cash award for "Best Research Paper" will be distributed equally among all Pakistani authors of the paper.

Areas:
The Awards are given for the following disciplines:
Natural Sciences
Biological Sciences
Agricultural Sciences
Health Sciences
Pure Engineering
Computer Science/ Engineering
Social Sciences
Management Sciences
Arts / Humanities / Languages
Winners Announced - 7th HEC Outstanding Research Awards

Eligibility Criteria:
- Applicant must be resident citizen of Pakistan.
- For "Best Research Paper Award" applicant should be the principal author (first and/or corresponding author).
- In case of foreign collaborative research, affiliation of the applicant on the paper must be with Pakistan.
- For "Best Book Award" applicant must be first or sole author of a Book published by a reputed publisher.
- For Best Book and Best Research Paper Award, the material must have been published in 2017
- For "Best Young Research Scholar Award" the maximum age is 40 years on the date of submission deadline. Those who have received this award in the last 5 years are not eligible to apply.
- An applicant can't submit more than one application under the same category.

- An undertaking on stamp paper of Rs.100 duly endorsed by the Head of Institution, ensuring that none of the publications on applicant's credit is plagiarised as per HEC plagiarism policy, must be attached with application form.

How to Apply: Application forms can be downloaded from website.

Contact Details of Concerned Office:
Ms. Noshaba Awais
Director, Research & Development
Higher Education Commission
Sector H-9 Islamabad.
E: nawais@hec.gov.pk

9. RAPID Research & Innovation Initiative (RRII)

Introduction: The COVID-19 **RAPID Research and Innovation Initiative (RRII)** invites researchers to use the RAPID Research and Innovation funding mechanism, which allows HEC to receive and review proposals dealing with topics and issues of severe urgency with regard to the availability of or access to data, facilities or specialized equipment as well as quick-response research on COVID-19. There is an urgent and immediate need for research in order to gain a better understanding of the epidemic, to understand and contain the patterns of spread, develop diagnostics and improve patient care and the public health response. The said fund is supported by the World Bank and implemented by the Higher Education Commission (HEC). The RRII will provide funds to selected institutions based upon a competitive, yet swift peer-review of proposals.

Objectives: The priority themes for RRII support include:
- Development of Infectious Diseases Surveillance Systems using big data analytics and artificial intelligence: Including integrating the response into the entire medical system, from primary to secondary to tertiary
- Disease Epidemiological Modelling: Data systems and evidence-informed modelling for disease prediction, outcome prediction and impact assessment of interventions
- Immune Patterns of COVID-19: Immune Mechanisms of COVID-19 infections and recovery, implications for diagnostics and therapeutics, including understanding localized factors and responses (such as ethnic, genetic, social, behavioral, and climatic factors, etc.)
- Treatment modalities and strategies including concentration on local and traditional medicine
- Diagnostics kits: Rapid diagnostics based on antigen detection vide RTPCR systems, Gene EXPERT systems or alternatives
- Indigenous manufacture of Low cost Intensive-care equipment: Oxygen supply and monitoring equipment, Intravenous fluid devices, Ventilators/CPAP units, Cardio-respiratory monitors etc.
- Development of disinfectants particularly using indigenous herbal ingredients: low-cost sterilization and sanitation material for hospitals, general-purpose consumer hand sanitization material
- Personal Protective Equipment: N-95 Masks, other Personal Protective Gear (clothing gowns, goggles, and gloves), preferably reusable materials
- Information Collection and Dissemination IT platforms: Identify hotspots and growth patterns, Contact tracing modeling of affected people
- An additional priority area for the funding instrument RAPID Innovation Seed Fund (RISF) is Education Technology to facilitate learning at the basic and secondary education levels in a COVID-19 environment

Financial Assistance: Each applicant seeking funding through the RAPID Research and Innovation Initiative can propose an idea based on one of the above-mentioned priority themes and can apply through one of the following three funding instruments:
- RAPID Research Grant (RRG)
- RAPID Technology Transfer Grant (RTTG)
- RAPID Innovation Seed Fund (RISF)

RAPID Research Grant :

The RAPID Research Grant will support multidimensional research projects of strategic importance related to the above-mentioned priority themes. The present call is for research proposals that have the potential to contribute to the understanding of coronaviruses, including the Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) and Coronavirus disease 2019 (COVID-19), in order to improve the clinical management or public health response. Projects should include relevant and cutting-edge research activities and should ensure WHO alignment. Research conducted in RRG projects must address specific challenges associated with the targeted priority theme and must clearly demonstrate a solution or significant progress in addressing a grand challenge.

Budgets for RRG awards will be up to a maximum of Rs. 15 million (USD 100 000), with a maximum project duration of 12 months. Principal Investigators are encouraged to seek co- and complementary financing from other sources.

Rapid Research Grant Proposals must be designed to include milestones and key performance indicators that should (ideally) begin providing valuable information and advice right from the start of the project and not wait for all the results at the tail end of the proposed project. To the extent possible, the project must also be designed in a manner that research teams can begin working right away rather than waiting for lengthy procurement or hiring. Those projects that have a steady stream of high-value immediate outputs and outcomes will be preferred. The Project Steering Committee may review progress on a bi-monthly or quarterly basis.

Funding Details
- RRG funding may be used for:
- Salaries for PI and co-PIs based on the amount of time spent on the project
- Stipends for bachelors, masters, doctoral students and postdoctoral scholars to conduct the research proposed
- The purchase and maintenance of appropriate approved equipment to conduct the research proposed
- The purchase of research supplies necessary to conduct the research proposed
- Limited research and development costs
- Patent filing
- Grants to attract visiting researchers from outside Pakistan to conduct research that contributes to the grant objectives. These visiting researchers can be either expatriate Pakistani scientists or foreign scientists.
- A component of the grant will be earmarked for the problem solving (i.e., it will be released only if there is demonstrable evidence of success in solving the chosen problem).

Eligibility Criteria
Lead Principal Investigators (PIs) must:
- Be university faculty member (PhD or FCPS/MCPS/FRCS) from medical institute or research-intensive institution as specified for GCF-2020 call (The VC/Rector shall ensure that max. two exceptional proposals per HEI will be submitted)

Project Team may include:
- A consortia of faculty members from multiple university departments and/or multiple universities
- Private sector participants, particularly when they bring prior IP or capability to the consortium and/or significant deployment, implementation, or scale up capability
- International partners

International collaborations are encouraged:

- When the international partner brings a unique added value to the project team

RAPID Technology Transfer Grant (RTTG) :
The RAPID Technology Transfer Grant (RTTG) seeks to support university-industry technology transfer of a previously developed an existing prototype or an advanced model (or equivalent). Owing to the nature of the COVID-19 crisis, the RTTG shall be ideally utilized to quickly transition science or technology to an actual industrial partner (or partners) that will result in significant and qualitative improvement in the latter's capacity to meet the emerging challenge of COVID-19.

Budgets for RTTG awards will be up to a maximum of Rs. 7.5 million (USD 50 000) with a maximum project duration of 6 months. Principal Investigators are encouraged to obtain co-financing – including in-kind and/or cash contributions – from the industry collaborators. The requested amount of RTTG funding for the academic institution cannot exceed the co-financing committed by the industry collaborators.

The RTTG Proposals must be designed to include milestones and key performance indicators that should (ideally) begin delivering an impact right from the start of the project and not wait for all the results at the tail end of the proposed project. To the extent possible, the project must also be designed in a manner that teams can begin working right away rather than waiting for lengthy procurement or hiring. Those projects that have a steady stream of high-value immediate outputs and outcomes will be preferred. The Project Steering Committee may review progress on a bi-monthly or quarterly basis.

Funding Details
- Budget requests should be consistent with the proposed research and development activities. RTTG funding may be used for:
- Salaries for PI and co-PIs based on the amount of time spent on the project
- Stipends for bachelors, masters, doctoral students and post-doctoral scholars to help take the prototype or proposed product to market.
- Limited prototype development costs
- Laboratory tests or access to data
- Patent filing
- Producing licensing agreements
- Legal and financial investment advice
- Marketing of the prototype or proposed product to appropriate investors or stakeholders.

Eligibility Criteria
Principal Investigator (PI) must;
- be a regular faculty member (PhD or FCPS/MCPS/FRCS) of universities (Public or private sector) (The VC/Rector shall ensure that max. two exceptional proposals per HEI will be submitted)
- Co-financing (including in kind or cash contribution) by the industry partner is mandatory

RAPID Innovation Seed Fund (RISF) : The RAPID Innovation Seed Fund (RISF) will be implemented through the existing BICs located at HEIs. Within the RISF competition, the Higher Education Commission aims to support a portfolio of entrepreneurial teams that, as a whole, will lead to successful start-ups addressing the COVID-19 national response. To take full advantage of the national research and innovation capacity in Pakistan, the portfolio of awards will reflect the diversity of potential entrepreneurs in Pakistan, including current students, recent graduates, and faculty members.

The budgets for RISF projects will be Rs. 5 million (USD 35,000) for a period of 6 months. The project budget will finance the following activities:

- Working capital or initial order costs
- Certification, registration or endorsement
- Laboratory testing
- Marketing costs or arranging demonstration
- Funds to scale the venture
- Financial management, or other (please specify)

Eligibility Criteria

Students, recent graduates and/or faculty from universities (Public or private sector) (The VC/Rector shall ensure that **max. two exceptional proposals per HEI will be submitted**)

How to Apply: Applications can be submitted in response to a call for proposal. Submission must be made to the HEC online portal (eportal.hec.gov.pk) after 25.3.2020 according to the guidelines provided in the call for proposals document under the "Downloads" section.
Create an account on eportal.hec.gov.pk
Login on eportal and start your application under Research & Development tab
Select the type of research grant to apply
Fill the online required details including budget section
Upload project proposal on the specified template (available under Downloads section) and other necessary documents . Click on submit

Contact Details of Concerned Office:

Research and Development Division
Higher Education Commission,
Sector H-9, Islamabad
Complaint/Query Portal:onlinehelp.hec.gov.pk
Email: Info-r&d@hec.gov.pk

10.Post-Doctoral Research (HEC)

Introduction: Proposed project will provide total 1000 fellowships in all the disciplines, over a period of five years. The project has been designed for the PhD degree holders to equip them with advanced technologies from top notch universities/institutions of the world.

Objectives:
- To provide an opportunity to work in well-equipped research laboratories of the world and to work in new/ emerging fields.
- To address the issues of retention of qualified faculty members, by the capacity building of the faculty.
- To develop further foreign linkages through placement of PhD students and other researchers at the host institution.
- To enhance the quality of learning and teaching across the institutions

Eligibility Criteria:
- Must hold a PhD Degree from an HEC recognized local or international university.
- Maximum Age: 45 years on the closing date.
- Applicant must have acquired the requisite academic qualification on or before the closing date.
- Must not have availed any Post-Doctoral Fellowship either sponsored by HEC or any other organization/university (the candidate will submit an affidavit in this regard).

Financial Assistance:
The maximum Fellowship amount per scholar for total duration of Scholarship (Including Living Allowance, Health Insurance, Research/Lab Cost and Air Ticket).

i	Average Living Allowance*	USD 1,600 per month
ii	Average Health Insurance**	USD 2,000 Once
iii	Average Research Lab/Experimentation Cost***	USD 6,000 Once
iv	Average Air Ticket (Return)****	PKR 250,000 Once

* The stipend to the scholars will be paid according to the host country. The list for stipend rate for various countries is given at Annexure-3(A).
**Health Insurance will be paid upon providing documentary evidence/receipt of payment.
***Average Research/Lab Experimentation Cost has been estimated @ US$6000. However, this will be paid as per need on the basis of research/lab work experimentation/procurement of data/survey etc. mentioned in the research proposal submitted at the time of application. This has been estimated for 60% of the fellowships.
****Actual economy class air ticket will be paid. National airline will be preferred on the routes where they operate.

Contact Details of Concerned Office:
HEC Call Center UAN: 051-111-119-432 OR 0334-111-9432
Ms. Sara Siraj Abbasi
Assistant Project Manager
HRD Division
Higher Education Commission, Pakistan
H-8, Islamabad.
Email: postdoc3@hec.gov.pk

11. NCAI Research Fund (RF)

Introduction: The Research Fund (RF) is a project supported by HEC and implemented by NCAI to promote research excellence and novel ideas in AI and related technologies, and will fund to selected institutions/organizations/individuals based on competitive peer-reviewed evaluation of proposals.

Objectives:
- Fund the novel ideas and projects in AI and related technologies
- Provide public services and stimulate the research and development creating an impact in the society support initiatives, innovative research, and many other related programs
- Stimulate collaborative/ inter-disciplinary research
- Provide researchers with a platform to lead the nation in growing AI industry
- Follow international trends in AI and seek solutions to the indigenous problems

Areas:

- Sectors covering UN SDGs
- Machine vision
- Computer vision
- AI in Embedded Computing
- Data Science/Mining
- AI in Market Analysis & Data Mining
- AI tackling COVID 19
- Medical Diagnosis using AI
- AI in Disease Treatment
- AI chip design/development
- AI in Business Intelligence
- AI in IoT
- Information Extraction
- Natural Language Processing
- AI in Security
- AI in Academics/Education Sector
- AI to Predictive Analytics
- AI in Aviation
- Deep Neural Network
- Cognitive AI
- AI in e-commerce
- AI for Social Media Surveillance
- Game theory & Strategic Planning by AI
- Hybrid Intelligent Systems
- AI in Control Systems (Industry/ Intelligent Control)
- AI to solve Social Problems (Population management & control/intelligent ballots etc.)
- AI in Environment Management
- AI in Robotics & Cybernetics

Financial Assistance:

1. RF is a PSDP project, all of its objectives are linked to strict time lines, thus all stakeholders are expected to respect these time lines and achieve targets within given time frame which is otherwise considered as violation against contract agreement signed by all parties.
2. Read the contract agreement carefully, any violation to any clause of this agreement is not allowed unless approved by the competent authority (NCAI Sect) through RF team.
3. Any action which effect the scope of project is not allowed unless approved by the NCAI RF steering committee.
4. Any re-appropriation in approved budget is not allowed unless the competent authority approve that re-appropriation and communicated to team RF in writing through ORIC, VC & Industry Partner (means all signatory of contract agreement). Before sending re-appropriation request ORIC is advised to analyze and recommend if in house solution is possible to avoid wastage of time in approvals etc. Re-appropriation within a specific head i.e. equipment or extendable supplies must be requested through proper channel (ORIC) but within heads might not be possible or refused.
5. Project start date is calculated from the date NCAI release funds to university, extension in these dates is not possible in any case. In case of unforeseen circumstances causing delay, inform TDF Team through ORIC well in time through proper request (letter) which is endorsed by VC & Director ORIC of concerned university keeping in loop Industry Partner.
6. Industrial partners of RF projects are expected to commercialize the outcome of these projects. PIs must have to keep their industrial partner in loop during the execution of their projects.
7. There will be annual monitoring visit during execution of the project, this monitoring will be conducted at both university and Industry ends, PIs, ORICs & Industry Partners are requested to fully cooperate during these visits.
8. Due date of first year progress report is mentioned against each project (RF 1ST & 2ND CALL PROGRESS REPORTS DEADLINES & FUND DETAILS in downloads of NCAI-RF webpage), there must be no delay in submission of these reports as RF Team have to submit these reports to federal audit after expert evaluation. The due date is calculated from the date of issuance of 1st installment cheque to VC of the University of the Awardee.
9. For financial reporting in annual progress report, a format is available at RF web page. All PIs are expected to report their expenditures on given format dully endorsed by internal auditors. Any yearly progress report without endorsement and on any other format will not be accepted.
10. Progress report without financial expenditure dually audited by University treasury/finance will not be accepted.
11. PIs are not allowed to avail ex-Pakistan leaves during project execution. In case the ex-Pakistan leaves are essential so application endorsed by VC (concerned) must be sent for approval of PD NCAI. PIs will nominate CO-PI as care taker of his project and properly inform RF Team through university ORIC / VC office.
12. In case any PI leave the project un-attendant, full recovery will be made from the PI as per contract agreement.
13. For any kind of communication regarding any matter related to RF projects, PIs are advised to keep university ORIC and VC office in CC.
14. For any kind of technical or financial issue regarding re-appropriation, extension etc. request must have to come in written through university ORIC with supporting evidences. Any of request letter coming in emails will only be treated to save time but hard copy in original will be required to ensure the decision of authorities at NCAI.

15. PI and team must cooperate with RF Team for effective promotion of project objectives i.e. Introductory Video, Facebook page, press releases as success stories and any other.
16. PI, ORIC, University and industry partner must look into project objectives and must strive for successful commercialization of proposed product/prototype.
17. ORICs must facilitate patent filling, finalizing license agreement with current and future commercialization partners. On such communication NCAI RF Team will be kept on board.
18. Sign Non-Disclosure (NDA), Material Transfer Agreement (MTA) (mandatory to submit with 1st progress report)
19. Licensing Agreements as per university policy with partner industries (mandatory to submit with or before 2nd (final) progress report)
20. Filling patent, copy rights, trade mark etc. (preferably in 1st year but mandatory in 2nd year of project & must be part of final (2nd year) progress report)
21. Follow the deadlines of projects awarded i.e. deadlines of submission of progress reports, funds details and progress status (satisfactory or not)

How to Apply:
- DOWNLOADS contain documents Research Framework/ Guidelines, Policy Guidelines and proforma for the research/project proposal, and budget
- Read the framework and policy guidelines file thoroughly
- Fill the research/project proposal form and budget sheet and email at research.fund@ncai.nust.edu.pk

Contact Details of Concerned Office:
For any further queries, please feel free to contact at research.fund@ncai.nust.edu.pk
Cell No. 03005805298

12. National Centre Of Robotics And Automation

Introduction: The National Centre of Robotics and Automation is a consortia of 11 labs over 13 universities of Pakistan with its centre headquarter at NUST College of E&ME. The centre will serve as a leading technological hub within the domain of Robotics and Automation.

Objectives:
1. Build national capacity to carry out R&D in the emerging field of Robotics and Automation by solving at least a small number of 'hard' problems identified and mutually agreed by a scientific committee comprising of local and international experts
2. Solve local problems and take solutions to market through technology commercialization and licensing
3. Provide high-value shared services to academia, startups and industrial partners
4. Human Resource Development in Robotics and Automation

Eligibility Criteria:
- Faculty Members & Researchers holding full time positions at a university or R&D organization are eligible to apply.
- Preference shall be given to the submissions with relevance to Pakistan's Socio-Economic needs and proposals with industrial collaboration within the domains of robotics and automation.

Areas: Proposals shall be welcomed under domains of robotic and automation. However, following domains are already being covered under the current PC-1 and NCRA Partner labs, therefore any proposal having significant overlap with these fields will not be considered for the research fund:
i. Electrical/Mechanical Design Services
ii. Manufacturing Facility
iii. Unmanned / Autonomous Ground Vehicles
iv. Path Planning of Robots
v. Upper/lower Limb Prosthetics and Orthoses
vi. Aerial Platforms and Associated Services
vii. Exoskeletons / Gravity Compensators
viii. IoT Based Industrial health Monitoring
ix. Motor Characterization and Improvement
x. Air Quality Monitoring Systems
xi. Mems Physical Sensor Designing, RF MEMs, Energy Harvesters and Micro Robotic manipulators and open cell libraries
xii. IoT Based Agricultural Monitoring
xiii. Crop Monitoring Services
xiv. Water Availability / Contamination Monitoring Devices
xv. Hardware / Software in loop Testing of Aerial Platforms
xvi. Swarm Robotics
xvii. Tele-Robotics
xviii. Condition monitoring of Locomotives
xix. Search and Rescue Robots
xx. Automated Seed Planters and harvesters

xxi. Intelligent Spray Systems
xxii. Robotics / STEM training facility

Financial Assistance:

- Total grant for each proposal: (Maximum up to) Rs15.00 Million
- Proposals with partner industry contribution (in cash or kind) will be preferred
- Please summaries the estimated costs (PKRs in Million) over the 1.5-year period of the project and present this information in prescribed M.S excel spreadsheet and same will be mentioned in the main application form.
- You are also required to complete the shorter table in the application form. Note that funds cannot be employed to contribute towards the salaries of staff other than allowed nor for administration, estate costs, infrastructure development or other institutional overheads.
- Air fares should normally be the most reasonable economy class fare.
- Please justify your requests for staff, Salaries Allowances, expandable Supplies and permanent equipment in background of the existing facilities available at the host Institute.

Contact Details of Concerned Office:
National Centre of Robotics and Automation, College of Electrical and Mechanical Engineering, Peshawar Road Rawalpindi

Phone Number
051-54444458
Email Address
research@ncra.org.pk

International Research Funding And Grants Program

1. Pakistan Program For Collaborative Research (PPCR)

Introduction: Pakistan Programme for Collaborative Research allows for university faculty working in Pakistan to go abroad or for researchers from technological advanced countries to come to Pakistan. Preference is given to faculty members visiting foreign institutions that have recognized excellence in the relevant research area. The visits can last between one to four weeks but can be extended to more than four months in case of sabbaticals. The visits are limited to one person (the visiting fellow) going to one institute/department in the host institution. The visiting fellow and a person from the host institution (the host) are co-applicants of the proposal.

Objectives:

1. Initiating or consolidating international collaborations on the basis of short research activity between the host institution and the visiting fellow supposed to be carried out during the stay.
2. To having exchange of knowledge during execution of multiple activities

Area: The activities which are promoted through this program are:
1. Submission of papers to peer-reviewed scientific journals (co-authored by the visiting fellow and the host). The paper must be an effort of the joint research work being carried out by the applicants.
2. Preparation of joint research proposals to be submitted to funding bodies. There must be previous communication with the applicant on the matter.
3. Training for lab techniques in Pakistan for postgraduate students.
4. Scientific or academic sabbatical in Pakistani universities.
5. Curriculum review by the Pakistani universities and/or HEC.
6. DURATION OF STAY

The maximum duration of stay under the program is 4 weeks except for the academic sabbaticals which is for one semester.

Eligibility Criteria:

- Faculty members working in HEC recognized public sector universities/DAIs may submit the application either to visit the foreign universities/institutions or to invite an expert or faculty member from foreign institution to Pakistan for above mentioned activities.
- HEC for hiring experts/faculty members from foreign university/institution for above mentioned activities.

The visiting fellow must meet the following eligibility criteria:

i.   Must hold PhD degree (or equivalent) in the relevant field from HEC recognized universities/ institutes.

ii.   Must be employed as faculty member in HEC recognized university/ institute and must have at least three (03) year post-PhD experience.

iii.   Special waiver of PhD degree to the visiting fellow belonging to clinical medical sciences (who hold terminal degree of MRCP, FRCS or Diplomat American Board) and also to the professionals of Fine Arts, Architecture, Law, and Theatre disciplines with the condition that the fellow must have served as a

faculty member in HEC recognized university or worked at reputable foreign organization at least for five (05) years.

iv   Must have good academic and publication record.

v.   Must have excellent verbal and written English language skills.

vi.   Aim to initiate or consolidate an on-going collaboration between both institutions based on the visit

vii.   Not already have received grant within the last two years. Even after two years, applications can be subjected to restrictions.

General eligibility criteria for the Host:

i.   Must have the approval from the competent official or forum of the host institution to invite the visiting fellow.

ii.   Must hold a research/faculty position at the host institution.

iii.   Must guarantee having the needed capacities (e.g. working space) to accommodate the visiting fellow.

iv.   Must not have had a guest financed by this funding within the last two years.

Financial Assistance:

The Higher Education Commission will pay at the following rates:

S#	Budget Head	Budgetary Limit
1.	Living Allowance For Short Visit (Max: 4 weeks) For Academic Sabbatical	US$100 per diem up to maximum of US$2000 US$2000 per month
2.	Airfare (Economy class return airfare from origin to destination)	Canada Rs. 185,000 USA Rs. 175,000 Europe & Africa Rs. 134,000 Australia, Japan & Far East Rs. 115,000 Turkey & Middle East Rs. 80,000 India, Iran & Bangladesh Rs. 50,000 China & Russia Rs. 100,000 Thailand, Singapore, Rs. 100,000

		Malaysia & Nepal
3.	Visa application fee	As per actual
4.	Health insurance	As per actual

Reimbursement

Reimbursement will be made after the visit subject to submission and acceptance of following:

1. Satisfactory joint scientific report (details below)
2. Audited Expenditure Statement (Sample Expenditure Statement)
3. Copy of Research Proposal/Paper
4. Proof of Submission: Research Proposal to foreign funding agency/ Research Paper to peer-reviewed scientific journals
5. Used air ticket/e-ticket bearing cost of the ticket
6. Invoices of Payments (Airfare, visa cost etc)
7. Original boarding pass counterfoil
8. Copy of HEC award letter for ready reference.

The reimbursement claim, completed in all respects, must reach HEC within 60 days after the stay has ended. If the length of stay is shorter than the foreseen period, the payment will be adjusted accordingly. Upon approval, the funds will be transferred to the university/institution in Pakistan for onward transfer to the visiting fellow.

Contact Details of Concerned Office:

National Centre of Robotics and Automation, College of Electrical and Mechanical Engineering, Peshawar Road Rawalpindi
Phone Number
051-54444458
Email Address
research@ncra.org.pk

2. Pak-France Joint Research Programme (PERIDOT)

Introduction: PERIDOT is the Franco-Pakistani Hubert Curien Partnership (PHC) Program providing opportunities to Pakistani and French researchers to interact for joint research activities. The program is implemented in Pakistan by the Higher Education Commission (HEC) and in France, jointly by the Ministry of Foreign Affairs & International Development (MAEDI) and the Ministry of Higher Education and Research (MESRI).

Objectives: The objective of this program is to develop new scientific and technological cooperation between French and Pakistani higher education institutions/research laboratories by supporting the mobility of researchers from both sides.

Areas:

The priority areas in this programme are:
(a) Environmental Sciences (including but not limiting to, Water, Climate Change, Pollution,
(b) Health
(c) Energy (including but not limiting to, sustainable alternate energy)
(d) Human and Social Sciences

Eligibility Criteria:

Following is the eligibility criteria for this programme.

1. Applicant (PI) must hold a full time faculty position at public/HEC-approved private university for research funding.
2. The major cost of the project will be borne by the participating universities from Pakistan and France.
3. The program will support only mobility of the researchers to and from Pakistan.
4. Mobility of young researchers, especially doctoral students (enrolled under supervision by the PI) is one of the key objective.
5. Project must be submitted online on Campus France website: http://www.campusfrance.org/fr/peridot
6. The hard copy (04 sets) of the same be submitted via surface mail to focal person from Pakistan side and by email at given addresses "How to Apply" section.
7. The host institution must guarantee having the needed capacities (e.g. working space) to accommodate the visiting fellows
8. Project life will be for 03 years.

Financial Assistance:
- The funding (for mobility) will be shared equally by the HEC and French counterpart.
- The funding for the core research project will be borne by the concerned Pakistani and the French Universities/Institutes.
- HEC and the French counterpart will provide funding only for travel and living expenses to the researchers involved in the projects for visiting Pakistan and France

The HEC Pakistan will cover;
Travel expenses of Pakistani Researchers to foreign: round trip including inland travel:
@Rs.200,000
Living allowance in Pakistan for Foreign Researchers:
@Rs.5000 per diem for short stay <= 10 days
@Rs.3000 per diem for long stay > 10 days up to 3 months

Visits:	How many times in a year?	Number of visitors	How long?	Total visits
Faculty Member (applicant)	Year 1 = 1 Year 2 = 0 Year 3 = 1	1	Maximum 10 days per visit	2
Students	Year 1 = 1 Year 2 = 2 Year 3 = 1	4	Maximum 90 days per visit	4

- Contribution by the France will cover;
- Travel expenses to French Researchers
- Living allowance in France for Pakistani Researchers:
    - @ € 110 per diem for short stay <= 10 days
    - @ € 65 per diem for long stay > 10 days up to 3 months
- The funds will be provided on an annual basis, for maximum three consecutive years (till the life of project), according to the approved budget.
- The renewal/release of the annual funding is subject to the submission of scientific and financial progress report at the end of each year.

How to Apply:

- Joint project (single application) will be submitted on Campus France website: http://www.campusfrance.org/fr/peridot

- The hard copy (04 sets) of submitted online application be sent by the Pakistani PI to Focal Person from Pakistan side.
- The Online Application procedure is in French language. The PIs should develop a single joint application in English. The application will be submitted by the French PI on Campus France website http://www.campusfrance.org/fr/peridot (Direct link)
- Outlines of french online application version in English (only for guidance)
- Maximum one research project can be submitted by one principal investigator for funding.

Contact Details of Concerned Office

Focal contact personnel
Pakistan Side

Pakistan side: (apply via postal mail & email)
Assistant Director (BMP-R&D Division)
Higher Education Commission, H9 Islamabad.
Email: infoperidot@hec.gov.pk
Phone No: 051-90401927
French side:
Mr. Sébastien CARTIER
Higher Education Attaché
Cultural and cooperation Department
Embassy of France in Pakistan
Diplomatic Enclave G-5, PO Box 1068 -Islamabad - PAKISTAN
Email: sebastien.cartier@diplomatie.gouv.fr

3. Pak-US Science and Technology Cooperation Program (PAK-US STCP)

Introduction: In 2003, the Governments of Pakistan and the United States signed a comprehensive Science and Technology Cooperation Agreement that established a framework to increase cooperation in science, technology, engineering and education for mutual benefit and peaceful purposes between the science and education communities in both countries. In 2005, the United States Agency for International Development (USAID) joined with the Ministry of Science and Technology (MOST) and the Higher Education Commission (HEC) of Pakistan to support the joint Pakistan-United States Science and Technology Cooperation Program. Beginning in 2008, the United States Department of State (DoS) joined USAID as a U.S. co-sponsor of the program.

This program is implemented by the National Academy of Sciences (NAS) in the U.S. and by the Higher Education Commission (HEC) in Pakistan. It is intended to increase the strength and breadth of cooperation and linkages between Pakistani scientists and institutions with counterparts in the United States. Within NAS, the Pakistan - U.S. Science and Technology Cooperation Program is administered by the Development, Security, and Cooperation unit in the Policy and Global Affairs Division.

Objectives: Projects funded under this solicitation should contribute to building research capacity in Pakistan while strengthening U.S.-Pakistan cooperative relationships in one or more of the following ways:

1. Enhancing the ability of the science and technology community to spur human and economic development in Pakistan.

2. Improving the quality, relevance, or capacity of education and research at Pakistani institutions of higher education in science and technical fields.

3. Improving the capacity of Pakistani research institutions to support industry competitiveness.

Areas:
1. Science
2. Technology
3. Engineering and
4. Education

Eligibility Criteria:

Principal Investigator (PI) Eligibility: Proposals are to be developed by partnerships that should include at least one Pakistani partner and one U.S. partner.

Pakistani partners must be based at a HEC-recognized public sector university or a HEC-recognized private sector research funding eligible university (click on following URL to view list) http://hec.gov.pk/english/services/universities/Pak-Us-stcp/Documents/Private-Universities-eligible-for-Public-Funding.pdf.

Each PI and each co-PI may only submit one proposal. Previous sub-awardees (PIs) from Phases 1-6 of the program are ineligible to apply.

Projects involving participants from only one country (Pakistan or the United States) are ineligible and will not be reviewed. In developing proposals, proposing partners are urged to take advantage of the widest range of Pakistani talent capable of contributing to the achievement of objectives. In particular,

partners should explain in their proposals how they will encourage the participation of women and ensure that they are provided equal opportunities for involvement in the proposed projects, whether as principal investigators, co-investigators, post-doctoral researchers, students, trainees, or workshop participants.

2. Topical Eligibility Limit: Due to U.S. government regulations, the program cannot fund research involving "testing or breeding, feasibility study, variety improvement or introduction, consultancy, publication, or training in connection with the growth or production [of a crop] in a foreign country for export if such export would compete in world markets with a similar commodity grown or produced in the United States."

Anticipated Type of Awards: Requests for funding can vary in amount and length but should not exceed three years. In order to achieve significant progress towards one of the program objectives, proposals are generally expected to involve multiple individuals (including women and students) and contribute to building strengths of key institutions in Pakistan. U.S. and Pakistani budgets may vary but the total combined budget request should not exceed $500,000 for the life of the project. Capital costs for the construction of new buildings, renovations, and/or purchase of vehicles will not be covered. Quarterly as well as annual narrative and financial progress reports will be required. Continuing-year funding of multi-year projects will be contingent upon a merit-based annual evaluation of progress.

Proposals should include all activities and costs necessary to achieve the results stated in the application. Leveraging of resources is encouraged; therefore, the entire cost of the project should be included. Applicants are required to disclose any other funding received or applied for from other sources that would support the proposed project.

Projects funded through this solicitation shall not receive any preference for funding under future USAID and/or Department of State-supported programs.

Financial Assistance: Capital costs for construction and cost of purchasing a vehicle for the project are not allowed. Overall, the program administrators are flexible in allowing most costs within reason as long as the expenses can be justified as necessary to carry out your project objectives.

Salary costs for senior individual participants are expected to be covered from other sources, however if necessary the amount should not exceed more than 10% of total cost of the US budget. Salary support for junior team members and technical support staff may be included as appropriate. For Pakistani budget guidelines, refer to HEC's standard financial guidelines

Both scenarios are allowed although in a majority of previously funded projects, each side paid for its own travel and stay. However, we strongly advise that all travel costs of Pakistani counterparts be covered by Pakistani funds when USAID is the funding sponsor of your grant. USAID funds, of any amount, used to support host country nationals, i.e. Pakistani, for U.S.-based training must follow a complex and lengthy (min 6 months) visa process as outlined in ADS Chapter 252. Having the Pakistani side fund their travel to the US removes that requirement.

Although a joint project, the funding stream is separate. Funds from the National Academy of Sciences will be disbursed to the U.S. institution and in Pakistan, the Higher Education Commission (HEC) will disburse funds.

Contact Details of Concerned Office: Director, Research & Development
Higher Education Commission
Sector H-9 Islamabad.
E: nawais@hec.gov.pk

4.Us-Pakistan Knowledge Corridor Phd Scholarship Program

Introduction: In June 2015 the United States and Pakistan established an Education, Science and Technology Working Group (ESTWG) under the Bilateral Strategic Dialogue. During the official visit of the Prime Minister of Pakistan to meet with President Obama and other US officials on October 22, 2015 the two leaders discussed the proposal to establish US-Pakistan Knowledge Corridor and directed their respective governments to intensify their cooperation in this important framework to achieve the ambitious priority targets of developing high level human capital envisioned in Pakistan's policy document Vision 2025.
According to the Plan, ten thousand (10,000) Pakistani scholars will join US universities in next ten years as an effort of the Government of Pakistan to train its faculty resources in identified subject areas.
As Phase-I, 1500 scholarships will be financed through Public Sector Development Program (PSDP) and the project has been approved in ECNEC, held on Jan 25, 2017.

Objectives:

- To enable the academically qualified, 10,000 Pakistani students/faculty to continue Ph.D. studies in US Universities in the selected fields.
- As a Phase-I, 1500 scholarships will be financed through Public Sector Development Program (PSDP).
- To enhance the research and academic capacity of the Higher Education Institutions of the Pakistan by providing trained manpower in selected fields who will improve quality of instruction and innovative research.
- To train 2000-3000 potential candidates annually for admission in US universities through preparatory classes for English language, GRE or others under "Talent Farming Process" as per admission requirements of US universities.
- The program will develop a collaboration between Pakistani and renowned US institutions to transfer new research techniques focused on Pakistani needs.

Areas: Below is the list of critically needed thrust areas and disciplines of studies based on the HEC survey and planned growth priorities of Vision 2025:
Arts & Humanities; Design & Media; Water Resources & Energy, Social Sciences, Physical Sciences, Business Sciences, Agriculture & Food security, Veterinary Sciences, Engineering & Technology, Emerging Technology, Nano-Technology, Computers, Medical & Allied Health Sciences, Bio-Technology.

Eligibility Criteria: Pakistani citizens/nationals with strong academic histories, committed to returning and serving Pakistan are welcome to apply. Applicants are especially encouraged in the following fields, *Arts and Humanities, Design & Media, Social Sciences, Engineering, Basic Sciences, Medical & Allied Health Sciences, Agriculture, Veterinary Sciences, Computer Science, Emerging Technologies, Water Resources, and Energy.*
To be eligible, you must:
- Pakistani/AJK nationals

- Candidates having an MS/M.Phil. Degree (18 years of education) from HEC recognized universities
- Candidates with 4-years Bachelor Degree (16 years of education), eligible for direct admission in Ph.D. programs at US Universities
- Age limit: maximum 40 years for regular faculty & researchers of public sector universities/R&D organizations, and 35 years for all others
- Has acquired valid & acceptable GRE & TOEFL scores required for admission in US Universities
- Scholars who have already secured admission or those enrolled in PhD program in top *235 US Universities & 23 University Systems* may also apply for scholarship
- Has an active commitment to serve universities/R&D organizations in Pakistan after the completion of studies.

Academic criteria:
- Academic merit based on HEC-AEF calculator will be applicable
- Have maximum of 2 Second Divisions throughout the academic career
- Have no 3rd Division or grade D in his/her career
- Not less than 50% marks in academic career.

Important:
- The grant will be offered for maximum period of 4/5 years.
- The scholarship covers living expenses and return airfare; however, it does not cover Tuition Fee. Candidates need to secure admission with complete Tuition Fee waiver, from a university among the selected 235 US Universities or from a university falling under any of the 23 university systems – mentioned on 'US-Pakistan Knowledge Corridor' segment of HEC website.
- Higher Education Commission (HEC) has negotiated tuition fee waivers for Pakistani students, with different ranked US Universities. HEC shall refer potential candidates – who meet the basic eligibility criteria for award of HEC scholarship – to partnering US Universities, for consideration of admission and tuition fee waiver. Candidates selected by the host US University after satisfying respective admission criteria shall be offered HEC scholarship under 'US-Pakistan Knowledge Corridor' project.

Please note that HEC attested documents are not required with the application. Only send the printout of duly signed online application form, to:
Project Management Unit (PMU)
US-Pakistan Knowledge Corridor
Higher Education Commission
Sector H-8,Islamabad.
Hard copy of the pre-requisite documents will be required after initial shortlisting & PMU HEC will intimate successful candidates accordingly.
Plagiarism in an application can lead to disqualification at any stage of the program.

Contact Details of Concerned Office:
HEC Call Centre UAN: 111-119-432
Or, 0334-1119432
Project Management Unit at the following email address.
Email: pmu@hec.gov.pk
https://onlinehelp.hec.gov.pk/

5. Pak-Turk Researchers Mobility Grant Programme (PTRG)

Introduction: Pak-Turk Researchers' Mobility Grant Program 2017 is one of the upshot of Turkish-Pakistani cooperation within the scope of internationalization effort of higher education systems. It is implemented in Turkey by the Council of Higher Education (CoHE) and in Pakistan by the Higher Education Commission (HEC).

Objectives : The objective of this program is to develop new scientific and technological cooperation between Turkish and Pakistani higher education institutions by supporting the mobility of graduate students and academic staff.
The program aims at provision of only mobility grant for any research project to be initiated at HEIs, supported by the own institution or by other donors. HEC and the Turk counterpart will provide funding for travel and living expenses to the researchers for their approved projects.

Areas:
- The priority areas in 2019-20 are;
- Energy Technologies
- Food Technologies
- Sustainable Environmental Technologies
- Material Science
- Smart Transportation Systems
- Robots and Smart Systems

Eligibility Criteria: Projects are invited in the following priority fields only (for 2019 entries)
- Energy Technologies
- Food Technologies
- Sustainable Environmental Technologies
- Material Science
- Smart Transportation Systems
- Robots and Smart Systems
- The major cost of the project will be borne by the participating universities from Pakistan and Turkey.
- The program will support only mobility of the researchers to and from Pakistan.
- Active participation and mobility of young researchers, especially doctoral students (enrolled under supervision by the PI) is one of the key objective.
- Applicant must hold a regular faculty position at public/selected private sector university eligible for HEC research funding.
- Each project must be submitted simultaneously in Pakistan and Turkey.
- The proposals must be signed by the head of institutions as well.
- The host institution must guarantee having the needed capacities (e.g. working space) to accommodate the visiting fellows.
- Partner universities are required to sign Mevlana Exchange Programme Protocol for Turkey side.
- Maximum One research projects can be submitted by one PI for funding.

- Project life will be for one to three years.

Financial Assistance: The funding of the projects will be shared equally by the HEC and Turkey counterpart.

The funding for the core research project will be borne by the concerned Pakistani and the Turkey Universities/Labs/Institutes.

HEC and the Turkey counterpart will provide funding only for travel and living expenses of the researchers involved in the projects for visiting Pakistan and Turkey

The HEC Pakistan will cover;

Travel expenses of Pakistani Researchers to foreign: round trip including inland travel: @Rs.100,000

Living allowance of Pakistani Researchers in Turkey: @Rs.3000 per diem

Visits	How many times?	How long?
Graduate Students	1 max / per year	1 semester min. / 2 semesters max.
Academics	1 max / per year	15 days min. / 3 months max.

- Contribution by the Turkey will cover;
- Travel and Living expenses of Turkish researchers
- The funds will be provided on an annual basis, for maximum three consecutive years (till the life of project), according to the approved budget.
- The renewal of the annual funding is subject to the submission of scientific and financial progress report at the end of each year.

How to Apply: Projects will be submitted on prescribed application form (download)

Partners will have to submit the project simultaneously in Pakistan and Turkey.

Maximum one research projects can be submitted by one P.I. for funding.

CVs of Turkish and Pakistani researchers participating in the project should be attached to the application form.

Completed application (4 sets/copies) should reach at the following contacts.

Pakistan side: (apply via postal mail & email)
Assistant Director (BMP-R&D Division)
Higher Education Commission, H9 Islamabad.
Email: infopkturk@hec.gov.pk
Phone No: 051-90401927
Turkey side: (Apply online on the CoHE website: https://yoksis.yok.gov.tr

Ms. Aysegul Kutay Gundogan
Director, Academic Exchange and Support Programmes Division,
Council of Higher Education (CoHE)
Yükseköğretim Kurulu Başkanlığı, 06539 Bilkent / ANKARA
Email: aysegul.kutay@yok.gov.tr

Contact Details of Concerned Office:
Ms. Uzma Naz

Deputy Director, R&D Division
Higher Education Commission, H9 Islamabad.
unaz@hec.gov.pk

Mr. Muhammad Asif
Assistant Director, R&D Division
Higher Education Commission, H9 Islamabad.
051-90401927
muasif@hec.gov.pk

6. Pak-US Joint Research Program (with USA)

Introduction: In 2003, the Governments of Pakistan and the United States signed a comprehensive Science and Technology Cooperation Agreement that established a framework to increase cooperation in science, technology, engineering and education for mutual benefit and peaceful purposes between the science and education communities in both countries. In 2005, the United States Agency for International Development (USAID) joined with the Ministry of Science and Technology (MOST) and the Higher Education Commission (HEC) of Pakistan to support the joint Pakistan-United States Science and Technology Cooperation Program. Beginning in 2008, the United States Department of State (DoS) joined USAID as a U.S. co-sponsor of the program.

This program is implemented by the National Academy of Sciences (NAS) in the U.S. and by the Higher Education Commission (HEC) in Pakistan. It is intended to increase the strength and breadth of cooperation and linkages between Pakistani scientists and institutions with counterparts in the United States. Within NAS, the Pakistan - U.S. Science and Technology Cooperation Program is administered by the Development, Security, and Cooperation unit in the Policy and Global Affairs Division.

Objectives: Projects funded under this solicitation should contribute to building research capacity in Pakistan while strengthening U.S. - Pakistan cooperative relationships in one or more of the following ways:

- Enhancing the ability of the science and technology community to spur human and economic development in Pakistan.
- Improving the quality, relevance, or capacity of education and research at Pakistani institutions of higher education in science and technical fields.
- Improving the capacity of Pakistani research institutions to support industry competitiveness.

Areas : The program welcomes proposals across a wide range of topics, including but not limited to: Health Security Environment / Climate Change / Biodiversity Education Energy and Renewable Energy Health/Public Health/Medicine Social Sciences Nutrition Economic Development Water and Sanitation Democracy and Governance Agriculture Food Security

- The new addition of Health Security to the range of topics this year includes action package targets of the Global Health Security Agenda (GHSA) related to National Laboratory Systems, Real-Time Surveillance, Reporting, Biosafety and Biosecurity, Emergency Operations Centers, and Linking Public Health with Law and Multisectoral, Rapid Response. Applicants are encouraged to reference the Pakistani Joint External Evaluation at https://ghsagenda.org/assessments.html when developing proposals under these topics.

As part of the current call for proposals, we are pleased to offer a special opportunity for proposals focused on technology transfer, entrepreneurship, innovation, and commercialization. Proposals submitted in response to this special focus area should be designed to build the capacity of university and public sector researchers and technology entrepreneurs to:

- Connect with the private sector to support technology commercialization;
- Identify new technologies with potential market value;
- Scale up a prototype or process for full-scale production;
- Provide training and mentorship on technology transfer, administration, and other relevant functions related to technology development and commercialization.

Special consideration will be given to proposals in the field of education that advance knowledge on how:

- To increase the quality of education in Pakistan especially as it concerns early grade reading; and
- To increase the participation and education attainment of underrepresented populations in the Pakistan education system, including girls and persons with disabilities.

Eligibility Criteria: (i) Principal Investigator (PI) Eligibility: Proposals are to be developed by partnerships that should include at least one Pakistani partner and one U.S. partner.

Pakistani partners must be based at a HEC-recognized public sector university or a HEC-recognized private sector research funding eligible university (click on following URL to view list) http://hec.gov.pk/english/services/universities/Pak-Us-stcp/Documents/Private-Universities-eligible-for-Public-Funding.pdf.

Each PI and each co-PI may only submit one proposal. Previous sub-awardees (PIs) from Phases 1-6 of the program are ineligible to apply.

Projects involving participants from only one country (Pakistan or the United States) are ineligible and will not be reviewed. In developing proposals, proposing partners are urged to take advantage of the widest range of Pakistani talent capable of contributing to the achievement of objectives. In particular, partners should explain in their proposals how they will encourage the participation of women and ensure that they are provided equal opportunities for involvement in the proposed projects, whether as principal investigators, co-investigators, post-doctoral researchers, students, trainees, or workshop participants.

(ii) Topical Eligibility Limit: Due to U.S. government regulations, the program cannot fund research involving "testing or breeding, feasibility study, variety improvement or introduction, consultancy, publication, or training in connection with the growth or production [of a crop] in a foreign country for export if such export would compete in world markets with a similar commodity grown or produced in the United States."

Financial Assistance: APPENDIX I. HEC STANDARD FINANCIAL GUIDELINES (PAKISTAN).

SR. #	Items	Total Allocation
1.	Equipment	As per requirements of the project
2.	Chemical/Glassware (with full justification and details of quantity required for the project)	As per requirements of the project
3.	Accessories	As per requirements of the project (with full justification)
4.	Journal Publication fee/on line material	As per requirement of the project up to Rs. 50,000/-
5.	Honorarium for PI	Rs. 100000/- each year

6.	Honorarium for Co-PI (if justified) One month initial basic pay of scale once in entire project life on mentioned rates either Co-PI is working on BPS or TTS	Rs. 100000/- Final year (once in project's life)
7.	Studentships • MS/M.Phil. students • Ph.D. students	@ Rs. 20,000/- per month @ Rs. 25,000/- per month
8.	Local Travel (if required and full justified) (Tentative schedule of visits for all the years of project life along with full justification and rates/calculations as per actual expenditure)	Maximum 0.2 million (02 lac) per year or as per actual expenditure if field work/survey is involved; Moreover, students would be allowed only to reimburse actual expenditures incurred during their field visit if any.
9.	Secretariat Staff (if required)	Rs. 18,000 per year
10.	Stationary/Contingencies	Rs. 10,000 per year
11.	Any type of entertainment	Not Allowed
12.	Audit/Accounts	Rs. 20,000 (maximum)
13.	Other specific requirements	Depending upon the nature of the project if fully justified
14.	University overhead	
	If ORIC is fully functional as per HEC criteria	15% of total direct cost to meet office support and utilities etc. of ORIC
	If ORIC is not established	02% of total direct cost to meet research office support and utilities, etc.

How to Apply: The text of the proposals should be in single-spaced 12-point type font. Type density, including characters and spaces, must be no more than 15 characters per inch. Type may be no more than six lines per inch. Use standard paper size (8 1/2" x 11). Use at least one-half inch margins (top, bottom, left, and right) for all pages. No information should appear in the margins. Tables and lists in the project description may be in smaller but readable type.

Proposals must be submitted using the required format. Instructions for completing each section of the application form are included below, and the application packet (in Word format) may be downloaded at:

http://sites.nationalacademies.org/PGA/Pakistan/PGA_167383 or PAKUS-STCP-Proposal-Template.

The proposal must include the information requested. Successful proposals will address the Selection Criteria listed in Section VII and will include clear statements of the project goals and explanations of how these goals will be addressed.

(1.) Cover sheets. Complete all pages making sure all the required signatures are obtained. For planning purposes, August 2017 should be shown as the start date.

(2.) Project summary (500 words max). The summary should be succinct and clearly state the goals and resulting outcomes of the project. It should be informative to specialists in the same or related fields as well as understandable to a well-informed, non-technical reader. Include the title of the project, the names of the co-principal investigator(s), and the names of the U.S. and Pakistani partner institutions at the top of the page. Include a clear description of the project, stating its specific aims and long-term goals. Briefly indicate the unique aspects of the project and interdisciplinary composition (if any).

(3.) Project description (ten pages max). The project description (sections 3.a through 3.j described below) is limited to the equivalent of 10 printed pages including all figures, tables, and charts but not including lists of additional participants, advisors, and supporters (if any). All applicants must use the standard proposal forms provided. The project description should be prepared with reference to the review criteria and the guidance provided in this and the preceding sections of this solicitation. Incomplete proposals, those not submitted on the standard forms, and those exceeding the established page limits may not be considered.

(3.a) Background and rationale. Provide the background of, and context for, the proposed activity. Where relevant, present a critical and comparative summary review of pertinent literature, justifying the activity proposed.

(3.b) Problem statement. Describe accurately the problems to be addressed and/or opportunities to be pursued by the proposed project.

(3.c) Team experience/capability. Describe relevant prior efforts by applicants to address the problems identified. If you and/or your team have preliminary results, please discuss them in this section. Illustrate how the proposed work will build upon existing expertise, if applicable. Proposals intended to improve the capacity of Pakistani institutions to support technology commercialization or industry competitiveness should also explain the role that industry representatives played in developing the proposal and articulate how the proposed project builds upon other measures undertaken by industry to improve competitiveness.

(3.d) Scope and objectives. Specify the scope of the project accurately and list the specific aims of the project. It is important that the specific aims be compatible with the requested proposal duration. The proposal should demonstrate that a project's objectives are feasible to achieve within the requested project duration.

(3.e) Methods. Describe the project design, conceptual framework, procedures, and analyses to be used to accomplish the specific aims of the project. The proposals should describe a methodology for determining the degree to which a project meets its objectives, both while the project is underway and at its conclusion. If relevant, include how the data will be collected, analyzed, and interpreted as well as any data-sharing plan. Describe any new methodology and its advantage over existing methodologies. Describe any novel concepts, approaches, tools, or technologies for the proposed activity. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. Describe proposed strategy for encouraging and ensuring the participation of women in the project. As part of this section, provide a tentative sequence or timetable for the project.

(3.f) International cooperation. Explain in detail which elements of the project will be carried out by which counterpart involved and why such a division of labor is appropriate both for the project and for the overall program goals of promoting capacity building in Pakistan. Activities should be designed to develop expertise, advance scholarship and teaching, promote reliable, long-term research collaboration between partner institutions. Where appropriate and to the extent possible, applicants are strongly

encouraged to include participation by underrepresented groups. Applicants are encouraged to reflect all relevant forms of diversity. "Diversity" should be interpreted in the broadest sense and encompass differences including but not limited to ethnicity, race, gender, sexual orientation, caste, religion, geographic location, social-economic status, and physical challenges. This criterion should be equally important for the U.S. side and the Pakistani side. To be competitive, proposals should demonstrate that the participating institutions are committed to mutual support and cooperation in project implementation. If the proposed partnership would occur within the context of a previous or ongoing project, the proposal should outline distinct objectives and outcomes for the new project and should explain how new funding would build upon the previously funded activities.

(3.g) Relevance. Indicate which of the three (may be more than one) program objectives listed in Section IB will be addressed through the project. Discuss the potential for uptake of research outputs through policy decisions, commercialization, or other means.

(3.h) Results statement. Clearly and concisely state the final results expected from the activity. The ability of the project to positively impact the goal area should be obvious.

(3.i) Additional benefits. Explain any other anticipated scientific, technological, or economic benefits that will accrue to Pakistan besides those already articulated in the Results Statement.

(3.j) Executive matters/Budget requirements. Provide a timetable for execution of the project and budget justification. The proposal should explain how project activities will be administered both in Pakistan and the U.S. in ways that will ensure that the project maintains a focus on its objectives while adjusting to changing conditions, assessments and opportunities.

Please ensure sections of your budget are well justified. Value for the investment will be an important consideration in proposal evaluation and selection.

Equipment: Provide a detailed justification for each piece of equipment or service to be purchased for which the expected cost is more than US $2,000. In other words, why is the equipment needed and how many users do you anticipate for the equipment? Also include plans for on-going maintenance of purchased equipment.

Travel: Provide the duration, location, timing, and justification for any project-related trips planned by project participants on either side. Travel costs for U.S. participants may be included on the U.S. side of the budget only. It is strongly recommended that travel costs for Pakistani participants be included on the Pakistani side of the budget only. The strategy for achieving project objectives could include exchange visits in both directions, but no single formula is prescribed for the duration, sequence, or number of these visits. Although strong budgetary and programmatic emphasis may be given to visits in one direction over another, the benefits of all these visits to the sending as well as the receiving sides should be clearly explained. Exchange visits for the purpose of attending conferences are not allowed except in combination with other grant activities and in support of specific educational objectives at one or more of the participating institutions. Any U.S. funds used for international travel should abide by the Fly America Act http://www.omegatravel.com/government-travel/fly-america-act.asp. Pakistani travelers should adhere to Government of Pakistan travel guidelines.

Construction: As noted above, capital costs for building construction and renovations are not to be included.

Compensation: Remuneration for PIs and co-PIs on the two sides is discouraged; however if necessary U.S. PI and Co-PI salary costs must not exceed 10% of the total U.S. budget and must be thoroughly justified if requested. Remuneration for other researchers, technical personnel, and students working on the project is allowed. For Pakistani PIs, renumeration cannot exceed US $1000 per year and for Pakistani co-PIs, renumeration cannot exceed US $1000 total (all project years combined).

Administrative/Overhead: In addition, contingency costs are not allowed as line items on either side of the budget. U.S. institutions with a federal Negotiated Indirect Cost Rate Agreement (NICRA) can use this rate when calculating indirect costs. U.S. institutions without a federally-negotiated NICRA may elect

to charge a de minimus rate of 10% of modified total direct costs (MTDC). On the Pakistani side, indirect costs are limited to 15 percent if the applicant's university has an Office of Research, Innovation and Commercialization (ORIC) functional as per HEC criteria, or 2 percent if the university has no ORIC. (Indirect costs, also known as overhead expenses, are costs supporting overall operations and management of an institution—for example accounting and auditing fees and general institutional management.) For further details on allowable costs on the Pakistani side of the budget, Pakistani applicants are advised to refer to HEC's standard financial guidelines (Appendix I, p. 11 of this RFP).

(3.k) Budget forms (four pages max). Provide an itemized budget for the project separately for U.S. and Pakistani partners, using the budget forms provided. Projects may last no more than three years. The total combined budget should not exceed $ 500,000 for a maximum of 3 years. Proposals for multi-year projects must provide separate budgets detailing the resources required for each year of implementation. Failure to do so will result in the proposal being returned without review.

Co-funding, Fund Leveraging, In Kind Donations, etc.: If applicable: please indicate any other sources of funding for the project. Please discuss if these funds are provided as co-funding, in kind contributions, or as leveraged funds to ensure the funding for this research does not duplicate other efforts.

(3.l) Facilities and Other Resources (two pages max). This information is used to assess the capability of the organizational resources available to implement and/or develop your project. Identify the facilities to be used (Laboratory, Animal, Computer, Office, Clinical and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work.

(3.m) Curricula vitae (one to two pages per investigator max). Provide brief CVs (no more than 2 pages each) for all Pakistani and U.S. Principal Investigators, co-Principal Investigators, and project personnel. Please do not include extended CVs, lengthy publications lists, or copies of publications as they will not be forwarded to reviewers. Failure to comply with this may result in your proposal being disqualified from funding considerations.

(3.n) Bibliography and References Cited (as needed). Provide a bibliography of any references cited in the Research Plan. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. Make sure that only bibliographic citations are included. Be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application.

(4.) USAID Environmental Compliance Checklist

USAID must ensure that environmental factors and values are integrated into the decision making process to make awards and fund development activities. USAID procedures for reviewing environmental impacts of Agency actions are detailed in Title 22 of the Code of Federal Regulations Part 216 (22 CFR 216). All proposed funded actions in the Pakistan - U.S S&T program must undergo an environmental review pursuant 22 CFR 216 and may also be reviewed under the National Environmental Policy Act for USAID funded activities that occur domestically.

USAID undertakes an environmental compliance review of all program-funded activities. The environmental consequences of the proposed activities will be considered in the decision to grant an award for an activity. All applicants must complete the USAID Assessment of Environmental Consequences form included in the application packet, regardless of the proposed area of study as part of the request for award package.

(i) Environmental Assessment Projects that result in an adverse environmental impact may require environmental mitigation in order to compensate for the environmental impact. Environmental mitigation may include measures that protect and enhance the natural and human environment. Monitoring of environmental mitigation measures is required to assess the progress and efficacy of any required environmental mitigation measures. Explanations of anticipated environmental consequences

and impacts as well as proposed mitigation and monitoring measures must be included in the USAID environmental compliance checklist included as part of the application packet.

Applicants are encouraged to budget for proposed mitigation activities, including environmental monitoring and generation of monitoring reports as they may incur additional costs. These additional costs must be included in the budget justification and reflected in the overall budget.

Projects that (a) incur large, substantial, and/or significant environmental impact; (b) involve the procurement or use of pesticides; and (c) involve genetically modified organisms will undergo special internal review procedures requiring more substantial environmental review in order to assess environmental impact. Such projects will undergo supplemental Environmental Assessment, and specific conditions will be developed for specific activities as appropriate including a requirement for compliance with applicable Pakistan and U.S. environmental laws and policies.

Contact Details of Concerned Office:

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7. Innovative & Collaborative Research Grant (ICRG)

Introduction: Innovative & Collaborative Research Grant (ICRG) supports research partnerships between Pakistani and UK universities, research bodies and existing centers of excellence that focus on any of the emerging disciplines/priority areas.

Objectives: To support collaborative research between Pakistan and UK for cutting-edge research and innovation in emerging disciplines of knowledge

Areas:

- Medical and allied health sciences
- Energy (generation, distribution and conservation)
- Climate Change
- Artificial Intelligence
- Robotics
- Nanosciences
- Big Data – Cloud Computing
- Social Sciences

Eligibility Criteria:

Principal Investigator (PI) must be a faculty member of Higher Education Institutions (public and private) in Pakistan collaborating with U.K partner institution and non-academic partner.
The Consortia may include:
Centre of excellence in related field
Research partner from third country (with ready financial contribution)

Financial Assistance :
- **Salaries** for PI and co-PIs based on the amount of time spent on the project
- **Stipends** for Bachelors, Master's, doctoral students and post-doctoral scholars to help take the prototype or proposed product to market
- **Travel** to national and international meetings to present research results obtained and to support the proposed research
- **Equipment purchase and maintenance** as appropriate & approved to conduct the proposed research
- **Purchase of research supplies** necessary to conduct the proposed research
- **Processing fee** for open access journals/ publications for disseminating research results obtained
- **Doctoral fellowship for six months**
- **Prototype/ Product Development Cost** (If applicable)

How to Apply: Joint proposals by Pakistani and UK partners can be submitted in response to a call for proposals. Submission must be made to the HEC and British Council through online portal (http://eportal.hec.gov.pk).
Guidelines for Call for proposal and Online application are available under "Downloads" section.

Contact Details of Concerned Office:

Research and Development Division
Higher Education Commission,
Sector H-9, Islamabad

UAN: 111-119-432
Email: Info-r&d@hec.gov.pk

8. International Foundation for Science

Introduction: This is similar to the former IFS granting programme, although with some revisions to criteria for eligibility.

Individual early career researchers in both the natural and social sciences may apply for a Basic Grant to undertake research that is innovative and/or relevant to local or national development needs and problems, and that aims to generate fundamental and/or applicable scientific knowledge.

While IFS continues to emphasise the quality and development relevance of the increasing amount of research it funds, the 2021-2030 Strategy sets out the case for better focusing of its resources on supporting promising early career scientists (no longer defined by age), who are fundamental to increasing science capacity in LLMICs and essential to addressing both national and global challenges.

Objectives: IFS believes that scientists acquire their skills by conducting research in an enabling environment that includes access to resources and mentorship, both of which are in short supply in LLMICs. As scientists gain experience over time in planning, conducting and publishing their research, they establish a reputation in their field. This helps improve their abilities to identify and prioritise researchable constraints, collaborate with others, develop and lead successful research groups, and influence policy. Scientists who acquire such skills also help to empower the institutions in which they work and build science literacy in their home countries.

Individual early career researchers in both the natural and social sciences may apply for a Basic Grant (up to $15,000, one per successful applicant) to undertake research that is innovative and/or relevant to local or national development needs and problems that aim to generate fundamental and/or applicable scientific knowledge.

Areas: Research proposals may be submitted within these three thematic clusters, but applications may as well integrate or cut across them:
- Biological Resources in Terrestrial Systems
- Water and Aquatic Resources, and
- Food Security, Dietary Diversity and Healthy Livelihoods

To secure IFS support, applicants must submit a sound research project application on a self-selected topic that is innovative and/or relevant to her or his local or national development needs. The research proposal must demonstrate knowledge of the subject area, identify knowledge gaps, elaborate testable hypotheses and research objectives, develop a convincing, doable and appropriately costed research plan and research dissemination plans. Proposals must be written in English.

Eligibility Criteria:
Personal Eligibility
Applicants for IFS grants:
must be citizens of eligible countries (see below), and must carry out their research in an eligible country (which does not have to be the country of citizenship), and
must either be enrolled in a PhD program or have recently (within five years) completed a PhD degree.
must write their proposals in English

Eligibility exceptions

Eligibility exceptions can be considered under proven special circumstances, such as maternity / paternity leave, ill health, and caring commitments. Your eligibility will be calculated by deducting the total time of leave from the total time you post PhD. Email proof of leave with a brief description of your circumstances to applications@ifs.se .

Institutional Affiliation
Applicants must be attached to a national or regional research institution (eg, university, non-profit research center, or research-oriented NGO) in an eligible country (see below). The institution is expected to administer the grant, guarantee that the applicant has a source of income, and provide basic research facilities.
Researchers employed at international research institutions are NOT eligible for IFS grants. However, researchers doing part of their project at an international institution can apply for an IFS grant if their principal affiliation is with a national institution.
Country Eligibility
Eligible for IFS support are low and lower income countries and the IFS cut off point for country eligibility is the middle income GNI threshold (for 2018, USD 4,905) plus 5%, USD 5,150
For details see: Gross national income per capita 2017, Atlas method and PPP - World Bank, July 1, 2018

Formerly eligible G-20 countries which are no longer eligible include Argentina, Brazil, China, India, Indonesia, Mexico and South Africa.
Countries that were once part of the former Soviet Union are also not eligible.

Financial Assistance: The global population is growing at a rate of about 1% per annum and is expected to exceed ten billion by 2050. The challenges facing our growing global population are those of poverty, economic inequality, climate change, environmental degradation, dwindling water resources, need for employment opportunities, land and water conflicts, injustices and threats to democracy. Particularly the challenges are great in Sub-Saharan Africa, which is expected to double its population by 2050 from today's 1.3 billion.
It is documented by research that humankind is profoundly changing the planet, creating numerous and prescient problems. We live in a world that is more economically integrated and unequal and where the profound challenges posed by climate change are emerging on a global scale. While the relative number is decreasing, the absolute number of those needing to be lifted out of hunger and poverty, in particular in South Asia and Sub-Saharan Africa are increasing.
These challenges and problems must be addressed by evidence-based research and development. Along with other regional and international organizations committed to increasing investment in science, technology and innovation (STI) to ensure a sustainable planet, IFS is contributing to the understanding and resolution of national and global problems by enhancing the science capacity of early career scientists in the IFS-eligible countries.

How to Apply: Applying for grant funding is very competitive and professional in its approach; the 'funding bar' is continuing to rise. IFS has prepared a list of documents that can assist you in preparation for your next application:
Clarification of application sections
Common reasons for rejection of your application
How to fill out the application in the IFS community

IFS Review Guidelines
IFS Review form_template

NOTE: IFS no longer accepts paper form application you can only complete and submit your application through the IFS community.

Contact Details of Concerned Office

The IFS Secretariat is located in Stockholm, Sweden. A complete list of staff members is further down this page.
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