

# HBKU Flagship Research Grant Program

## **HBKU Research**

Office of the Vice-President for Research

**Application Guidelines** 

3<sup>rd</sup> Cycle

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#### 1- Program Description

Designed to advance HBKU's institutional research priorities, the Flagship Research Grant (FRG) Program fosters interdisciplinary collaboration by bringing together colleges and research institutes to conduct impactful, strategically aligned research through integrated, cross-cutting approaches. The Flagship research areas are unique because they draw on HBKU's well-established domain knowledge and a broad range of competencies to deliver multidisciplinary and outcome-driven research.

The 3rd Cycle of the FRG program will fund projects within the FRG focus areas— selected through a rigorous review process— to deliver practical solutions to real-world problems and produce scholarly outcomes. Importantly, it is envisioned that these projects will evolve through internal and external funding and strong stakeholder engagement. The projects are also expected establish significant research capability and deliver tangible impact at a local, regional and international levels.

The FRG program promotes cohesiveness and engagement across multiple key dimensions including:

- 1. **Research:** joint projects that cut across multidisciplinary themes, engage multiple entities, and have the potential to evolve to deliver tangible impact and build significant capacity
- Resources: efficient use of shared research infrastructure (facilities, research equipment), utilization of joint research funding, as well as collaborative workshops and stakeholder engagement.
- 3. **Academic:** opportunities for development of co-taught courses based on the project topics, and student engagement in interdisciplinary research projects.

#### 2- Program Objectives

- 1. Launch FRG within HBKU that bring together colleges and research institutes to foster interdisciplinary collaboration and pursue innovative research aligned with shared strategic goals.
- 2. Maximize collaboration and ensure effective partnership across HBKU entities through targeted investment.
- Advance impactful research in clearly defined research areas by uniting faculty, researchers, and students from across HBKU disciplines and entities to address complex societal and scientific challenges.

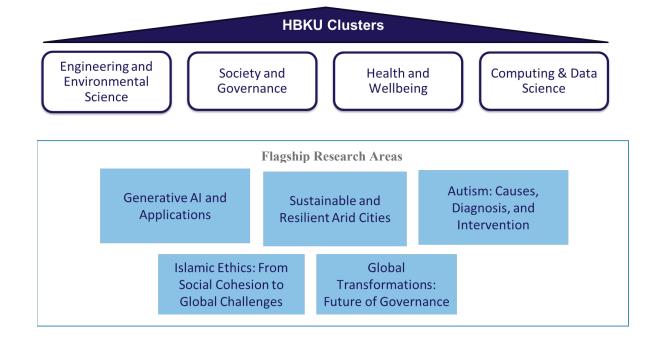
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- 4. Produce high-quality scholarly outputs (e.g., journal articles, books), develop practical solutions to real-world problems, and build human capital through mentoring, training, and collaborative research experiences.
- 5. Support multidisciplinary research initiatives with the potential to scale over time to build differentiated institutional capacity that can deliver significant impact.

#### 3- Program Focus Areas

HBKU researchers are invited to form multidisciplinary cross-entity teams and submit proposals on one of the following flagship areas (see the Annex for detailed description of these areas):

- Generative AI and Applications
- Sustainable and Resilient Arid Cities
- Autism: Causes, Diagnosis, and Intervention
- Islamic Ethics: From Social Cohesion to Global Challenges
- Global Transformation: Future of Governance



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#### 4- Collaboration

- The proposal should reflect a strong partnership between HBKU entities (colleges, research institutes). The proposal should clearly describe the contribution of each participating entity.
- To ensure strong multidisciplinary collaboration and alignment, the project should have team members and clear significant contributions from at least 3 key entities (colleges, research institutes)
- Collaboration with other QF entities is encouraged.
- Collaborations with external entities outside Qatar are encouraged, given reasonable contribution by these collaborators.

#### 5- Project Duration

- The duration of the project will be for a period of two years. Project activation is marked by the time funds are made available.
- No procurement of any kind is allowed during the last 3 months of the project lifecycle.

#### 6- Budget

- 1- Total budget up to 500K QAR per year.
- 2- The final awarded amount will depend on the VPR's review and approval of the proposal, subject to budget availability.
- 3- Budget movement from project YR1 to YR 2 will be restricted based on the carryover and OVPR budget availability.
- 4- The research team must plan budget expenditures carefully and align them with the fiscal year. Accordingly, the budget allocated for the first year must be fully committed by **December 2025**.
- 5- All project funds must be spent within Qatar. Exceptions of up to 10% of the total budget may be permitted for expenditures outside Qatar, provided they are fully justified and receive prior approval.
- 6- The budget categories:
  - I. Personnel:

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Freelancers including Research Assistants, Research Associates, and Postdocs. Please refer to the daily rates below.

Freelancer Position	Daily Rate (working days)
Research Assistant	1,117 QAR
Research Associate	1,270 QAR
Postdoc	1,584 QAR

- Graduate Students For payment rate, please refer to the Graduate Student Employment Uder Sponsored Research Grants (on <a href="https://www.hbku.edu.qa/en/research/sro/post-award">https://www.hbku.edu.qa/en/research/sro/post-award</a> under Award Management Procedures and Guidelines).
- All HBKU applicants need to participate with no personnel cost (daily fee= 0)
- II. Equipment (capital equipment above 12,000 QR requires a strong justification and is contingent on finance approval)
- III. Materials and Consumables (stationery is not an eligible cost)
- IV. Professional services: a justification and description of the service is required.
- V. Travel is not to exceed 10% of the total awarded budget. Ticket and per diem rates should be as per QF policy and rates.
- VI. Miscellaneous (workshops, etc.)

#### 7- Submission

The submission process will consist of two stages:

- Stage 1: Proposal Submission
  - Project teams are required to submit a brief Proposal (not to exceed 4 pages; template is provided) outlining the team members, team lead, project overview, work packages, and budget. The proposals must be submitted to <a href="https://documents.org/learning-submitted-numbers-n
  - → The research team must plan budgets carefully and outline a clear mobilization plan to ensure personnel are onboarded by September 15th, thereby minimizing the risk of underspending by the end of the fiscal year.
- Each application should include short CVs (1-2 pages) of the research team members. Submissions will be reviewed by the OVPR, and funding decisions will be communicated to the applicants. Teams with approved proposals will proceed to Stage 2.
- Stage 2: Submission of Detailed Research Plan

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Upon approval of the proposal, project teams will receive access to the approved budget and may initiate hiring. Simultaneously, they prepare a detailed research plan after 4-6 weeks of receiving the Stage 1 approval. The full detailed research plan should describe the work packages, timelines, and expected deliverables.

#### **Additional Requirements:**

- All proposals must be reviewed and endorsed by the respective Deans and/or Executive Directors.
- Each HBKU entity is permitted to participate in **up to three** applications during this cycle as a key contributor. Other minor participation from HBKU entities in other proposals is permitted.

**Note**: Applications for the continuation/expansion of the previously awarded projects in FRG's 1st and 2nd cycles are highly encouraged.

#### **Details of Research Plan Submission in Stage 2:**

The submission of the detailed research plan is online through the Portal by using the Proposal Internal Approval form via the following link: <a href="https://iprocess.hbku.edu.qa/workspace.aspx">https://iprocess.hbku.edu.qa/workspace.aspx</a>

- The research plan and all supporting documents should be uploaded on the "Supporting Documents" Tab in the Proposal Internal Approval (PIA) form.
- Please start your PIA form before the deadline to allow sufficient time to obtain team and dean/ED approvals.
- The detailed project plan should be prepared according to the template provided, with a maximum of 8 pages (excluding Table of Contents, Reference and Appendix)
- The applicants are required to attach, in the same PDF file of the proposal, letters of support from collaborators and letters of commitment from co-funders, if any.

For any questions about this call, please send a ticket via Portal Ticketing: https://iprocess.hbku.edu.qa/workspace.aspx

#### 8- Project Review and Approval

- The proposal will be reviewed by the Review Committee assigned by the OVPR.
- The Review Committee may require additional information or amendments to the research proposal and/or budget.
- The funding decisions are expected to be made within 3 weeks of the submission of the proposal.

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Proposals will be evaluated based on the following criteria:

- The plans of the project to address:
  - Research: Engage multiple HBKU entities to make an impact through scholarly outcomes as well as the development and deployment of solutions, services, or policies in one of the defined Flagship Research Areas.
  - o Resources: Promote efficient use of shared research infrastructure, if applicable, and organize collaborative workshops and stakeholder engagement activities.
  - Education: Develop collaborative academic activities such as courses, educational modules, and student co-supervision
- Plans for the project activities to expand over time and build significant institutional capacity that can attract external funding and engage external stakeholders.
- The expertise of the research team to carry out the proposed research.
- The ability to mobilize the research team (postdocs, graduate students) and securing material/data needed for the project.

#### 9- Post Award Management

- 1- The awarded grant will be supported by HBKU OVPR. Below are the major post-award activities:
  - a. Legal agreements as applicable
  - b. Financial account setup & fund transfer
  - c. Activation of the project (project start date will depend on the full execution of items a and b)
  - d. Project management and reporting
  - e. Project closure
- 2- The FRG team is required to submit a report every six months that describes the progress achieved, using the progress report template.
- 3- The FRG team is required to present their progress every 6 months in bi-annual review meetings coordinated by the OVPR.
- 4- Given the strategic importance of the Flagship Research Projects, the OVPR will explore mechanisms to provide targeted strategic support—such as stakeholder engagement, strategic marketing, and identification of potential external funding opportunities for project expansion at later stages

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5- Continuity of funding as per installment plan is contingent on FRG Review Committee's endorsement and VPR's approval of the progress report.

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#### **Annex**

#### **Flagship Research Areas**

#### 1. Generative AI and Applications

Artificial intelligence (AI) is both a domain for curiosity-driven research introspection and an enabling technology with transformative potential. Although AI has undergone many hype cycles before, there is an emerging consensus that it will touch and possibly reshape the human experience.

Generative AI (GAI) is rapidly transforming our world, potentially addressing some of humanity's most pressing challenges, including sustainable development, precision medicine, and personalized education. However, GAI also poses new challenges, such as the potential for bias, misuse, and unintended consequences. The focus of this flagship area will include:

- Actively investigating profound questions related to the interpretability of AI systems, their efficiency, and safety across the entire software and hardware stack.
- Advancing Arabic-language artificial intelligence by developing cutting-edge models tailored to
  the linguistic, cultural, and contextual nuances of the Arabic-speaking world. HBKU has already
  pioneered the advancement of AI for Arabic language processing and understanding. By
  leveraging Generative AI, Fanar aims to bridge the gap in Arabic AI research, enabling highquality content generation and equitable AI Solutions.
- Conducting translational research to advance strategic domains, including Education, Health, and Humanitarian applications.

As an enabling technology, AI will diffuse into all aspects of human activity. Therefore, HBKU will advance its vital role in advising Qatar's leadership on AI policy and regulatory matters, ensuring the country remains at the forefront of global AI governance.

#### 2. Sustainable and Resilient Arid Cities

The future of cities depends on their ability to balance growth with environmental health, resource efficiency, and climate resilience, particularly in arid regions where extreme conditions pose unique challenges. This research area focuses on developing sustainable urban environments that safeguard human health, optimize resource management, and enhance adaptability to climate change. By integrating scientific research, technological innovation, and policy-driven strategies, it addresses critical challenges such as air and water pollution, extreme heat, and the sustainability of interconnected energy, water, and food systems.

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The focus of this flagship area will include the following topics:

- Environmental health is a key area of concern in urbanized arid regions, focusing on the impact
  of poor air and water quality on human health and well-being. Urban emissions, natural dust,
  microplastics, and climate-induced health risks—such as heat stress and the spread of vectorborne diseases—require urgent attention, especially in arid regions where such threats are
  exacerbated.
- Sustainable urbanization, where cities adopt a nexus approach that recognizes the
  interdependence of energy, water, and food security. Efficient resource use and sustainable
  urban planning are critical to ensuring long-term resilience in water-scarce and climatevulnerable environments like Qatar.
- Climate Adaptation is central to building sustainable cities. This includes designing infrastructure
  that can withstand extreme temperatures, implementing nature-based solutions to mitigate
  environmental risks, and leveraging smart urban planning to reduce pollution and optimize
  resource consumption.
- Policy and Governance to enable the development of strong legal and policy frameworks are essential to supporting sustainability transition and enhancing resilience.
- Smart and Connected Infrastructure and associated technology enablers are needed to support
  the evolution towards connected, electric and automated mobility which will have an impact on
  environment, human health and quality of life in general. Aspects related to ICT technologies,
  AI, human interactivity, ethics, policy and regulations are critical for supporting this transition
  especially in rapidly emerging and arid environments like Qatar.

This research area aims to create livable and resilient cities by integrating environmental health research, sustainable resource management, and climate adaptation within a nexus-driven framework. This is particularly important given the growing challenges posed by climate change in arid regions.

#### 3. Autism: Causes, Diagnosis and Intervention

Autism Spectrum Disorder (ASD) is a developmental condition characterized by challenges in social interaction, communication, and restricted or repetitive behaviors. The spectrum nature of autism means that it affects individuals differently and to varying degrees. Autism research is multifaceted, with several key focus areas aimed at unraveling the complexities of the disorder, improving early diagnosis, and developing effective interventions. The focus of this flagship area will include:

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- Identifying Autism-Risk Genes: Genetic research aims to pinpoint specific genes that increase the likelihood of developing autism.
- Investigating Molecular and Immune Causes: Researchers explore how molecular and immune system dysfunctions may contribute to the development of autism.
- Studying Neuronal Changes: Cellular and animal models are used to study the neuronal changes
  in autism. These models help researchers understand how neurons in the brain function
  differently in individuals with autism, providing insights into the underlying mechanisms of the
  disorder.
- Screening Potential Drugs for Autism Treatment: Developing and testing potential drugs that
  could alleviate the symptoms of autism. High-throughput screening methods are employed to
  evaluate the efficacy and safety of various compounds and to find targeted treatments that
  address specific aspects of the disorder.
- Technologies for Rapid and Early Diagnosis: Developing Al-driven screening tools using statistical analyses, machine learning, and natural language processing to identify autism early, analyzing data across infants, toddlers, and school-aged children in collaboration with psychology, neuroscience, and education experts.
- Personalized Intervention and Education: Creating personalized AI-based autism interventions
  addressing therapist shortages, diverse autism presentations, and generic therapeutic methods
  through customized approaches and technologies such as virtual reality, augmented reality, and
  e-learning tailored to individual needs and characteristics.
- Legal and policy aspects of diagnosis and treatment: Investigating regulatory frameworks and policies governing autism diagnosis, early intervention, treatment, and access to care.

#### 4. Islamic Ethics: From Social Cohesion to Global Challenges

This research examines the dynamic intersections between Islamic thought, ethics, contemporary global challenges, and social cohesion. The initiative brings together scholars from various fields (e.g., Islamic studies, humanities, social sciences, law, international relations, health sciences, engineering, and artificial intelligence) to examine how Islamic intellectual traditions and cultural practices engage with and respond to global contemporary issues. By exploring how Islamic ethical traditions can contribute to the global discourse, we can contribute to the ethical implications and impact across various industries and sectors such as healthcare, security, finance, artificial intelligence, urban design, education, and the workforce, offering a unique perspective.

At the core of Islamic ethics lie public values that aim to cultivate harmonious social relations, encourage collective responsibility, and affirm the dignity of all members of society. Concepts such as Tawhid (the unity of God and, by extension, the unity of humanity), Salaam (peace), Ikhtilaf (constructive difference),

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Qist (justice), and Rahma (compassion) serve as guiding principles for interpersonal and institutional engagement. These values promote moral conduct and are tools for building inclusive and resilient communities.

The focus of this flagship area will include:

- Studying Islamic ethics as a framework uniquely characterized by (1) the multiplex epistemology (sense perception, reason, divine revelation), (2) the multiplex normative domains (the domain of universal values (qatiyyat or faraid), the domain relative values (ijtihadiyyat) and the unregulated value-free (mubah) domains), and (3) the multi-valued logic (e.g. haram, makruh, mubah, wajib and fard) rather than binary logic based on the simple distinction between ethical and unethical, or moral and immoral.
- The integration of Islamic ethics to address global challenges and offer unique contributions to
  pressing issues such as artificial intelligence, public health, biomedicine, education, sustainable
  development, youth, family, and economic justice.
- The role of Islamic tradition in supporting inclusive innovation, social equity, and global solidarity, particularly when combined with efforts to strengthen the social fabric and maintain a balance between individualism and collectivism.
- Examining global best practices through an Islamic lens to adapt solutions suitable for Qatar and the region.

#### 5. Global Transformations: Future of Governance

This research examines systems, institutions, and mechanisms shaping cooperation and decision-making in an interconnected world. It addresses how State and non-State actors collaborate to tackle transnational challenges such as climate change, cybersecurity, migration, public health, economic stability, and conflict resolution.

Over the last several decades, more than 500 international governmental organizations, alongside thousands of non-state actors- including NGOs, foundations, think tanks, regional forums, and even businesses- have developed policies and frameworks to address issues that transcend the State. Emerging geopolitical tensions, great-power rivalries, and regional instabilities, however, have put governance mechanisms, whether international, such as the United Nations, or regional, such as the Gulf Cooperation Council, under strain, even as collective action challenges persist.

This research explores governance challenges and region-specific issues, ensuring a nuanced understanding of policy and legal coordination at multiple levels. The policymakers of tomorrow must navigate domestic policy regimes while maintaining a comprehensive grasp of global issues, institutions, and laws.

Key areas of focus include:

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- Technology and Societal Transformation Addressing technological governance, cybersecurity, and digital security issues.
- Regional and International Security Cooperation Exploring strategies for conflict mediation and security collaboration among states.
- Energy Transition Governance and Sustainable Development Developing policies for managing energy transitions in the face of climate change and global sustainability goals.