Path Towards Precision Medicine (PPM) 4th cycle

Jointly Funded

Dr. Said Ismail, QGP Director
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Joint Funding Calls
Thematic & Grand challenges Research Program (TGRP)

Path towards Precision Medicine 4th Call
(Jointly funded with Qatar Genome Program)

Smart Cities Call
(Jointly funded with TÜBİTAK)

Food Security 1st Call
(Jointly funded with Ministry of Municipality & Environment)

Towards Sustainability of Soils and Groundwater for Society
(Jointly funded with Belmont Forum)

OSRA 5th Call
(Jointly funded with DIFI)
This call advances research that provides tailored medical treatment for the individual characteristics of each patient based on their genetic profile.

This call will support genomic research in Qatar by utilizing the samples and data collected and generated by QBB and QGP.
Proposals are required to be aligned to at least one of the Research Priorities

1. Immunogenomics and precision immunotherapeutic approaches

2. Clinical implementation of pharmacogenomics

3. Multi-omics analysis of common chronic diseases such as cardiovascular diseases, neurological disorders and cancer

4. Precision medicine digital e-solutions and applications
I. Immunogenomics and precision immunotherapeutic approaches

Specific research priority areas (preferred but not limited to):

- Utilizing genomic and other -omics analysis of Qatari-based samples to manage and to understand disease trends.

- Development/validation of disease gene panels and clinical exome sequencing for immunotherapeutic treatments of diseases affecting public health in Qatar.

- Utilizing cross cutting research platforms technologies such as gene editing, iPSCs, bioinformatics, imaging etc.
2. Clinical implementation of pharmacogenomics

Specific research priority areas (preferred but not limited to):

- Identification of predictive biomarkers for different pharmacogenomics approaches and using such information to match patients with molecularly targeted therapies in clinical trials.

- Explore the complexity of the genotype–phenotype associations and role in to identify gene functionalities and therapy
3. Multi-omics analysis of common chronic diseases such as cardiovascular diseases, neurological disorders and cancer

Specific research priority areas (preferred but not limited to):

- Utilizing multi-omics analysis of Qatari patients leading to innovative discoveries of disease trends in this population.

- Development/validation of disease gene panels for diagnostic and preventive approaches of such disorders.
4. Precision medicine digital e-solutions and applications

**Specific research priority areas** (preferred but not limited to):

- Empowering patients with lifestyle management based on their genetic makeup.

- Facilitating the work of health care professionals in hospitals and clinics to provide a more efficient care utilizing genomic information.

- Ethically approved easier delivery of personal genomic reporting to participant’s utilizing QGP generated precision genomic reports.
Expected Deliverables

✓ Providing insights into the genomic landscape of the local population in health and disease that would guide QGP future plans to help in implementing precision medicine in Qatar

✓ Building local research networks between teams working in genomics across various research and academic institutes in Qatar

✓ Transfer of cutting edge genomic research practices and methodologies to Qatar through international collaborations

✓ Translating research into clinically relevant outcomes whether diagnostic, preventive or therapeutic in nature

✓ Producing high impact publications giving visibility to Qatar as a hub for genomic research
QGP and QBB Samples and Data

- Focus on analyzing big data sets (Genomic and other OMICs)

- PPM LPIs will have access to:
  - Whole genome sequences
  - Comprehensive phenotypic data
  - Various biological samples

**By June/July 2020: data for 15,000 participants will be available (including 15,000 whole genomes, > 70 MQR worth of data)**

✓ LPIs are required to check the availability of the data and samples within QBB.
✓ In case the sample or data is not available or the sample size is not representative, LPIs are strongly encouraged to collect their new samples and data through QBB, as deemed fit.

LPIs will be:
- be given a QBB supporting letter
- fill QBB data access application
- sign an MTA if they request biological samples

Application Types

- New
- Resubmission
Eligibility

**LPI**

- The LPI must be affiliated with a submitting institution inside Qatar.
- The LPI must hold a research-oriented doctorate or any of the approved terminal degrees.
- The LPI should have at least five single- or co-authored peer-reviewed publications.

**PI**

- The PI must hold a research-oriented doctorate or any of the approved listed terminal degrees.
- The PI must be affiliated with an institution from inside or outside Qatar.
Team Members

• Post-doctoral scholars, graduate students, technologists, research associates, research assistants, undergraduate students and lab technicians are considered Research Team Members.

• The consultant services cannot be considered as scientific or intellectual contribution to the project.
Number of Roles

- The LPI can submit only **one** application per cycle.

- The count of an individual participation in all ongoing PPM projects as a key investigator (LPI and PI) must not exceed **three** roles.
The grant may not exceed **US$ 250,000** in any year for projects lasting two years and longer.

- At least **50%** of the proposed funded research effort must be conducted inside Qatar by the research team and at least **65%** of the total annual budget must be expended inside Qatar.

<table>
<thead>
<tr>
<th>Project duration</th>
<th>Maximum Basic Grant (US$)</th>
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<tbody>
<tr>
<td>One-year project</td>
<td>200,000</td>
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<tr>
<td>Two-year project</td>
<td>400,000</td>
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<td>600,000</td>
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Budget

Components
- Personnel
- Equipment & Consumables
- Travel (Up to 10% of the annual direct budget)
- Miscellaneous (Up to 5% of the annual direct budget)
- Indirect Cost (Up to 20% of the annual direct budget)

Private institutions as submitting or collaborative institutions are not eligible for personnel and indirect costs
Co-Funding

✓ Research end-users are eligible to act as co-funders (Private, Public, Others (Non academic/research institutions))

✓ **Two types of co-funding:**

1- Cash

2- In kind

✓ Commitment letter(s) will be required from the co-funder(s)
Pre-Award Stage

Proposal registration and submission
Main Proposal Components

- Proposal Summary
- Priority Themes
- Institutions
- Personnel
- Research Plan
- Budget
- Ethical Compliance
- IP
All policies and templates are available on QNRF website (www.qnrf.org)
### PPM4 Research Plan

**PPM ID**

<table>
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<th>Project title in English</th>
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<tbody>
<tr>
<td>Project title in Arabic (optional)</td>
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**Type of Application**

- [x] Non
- [ ] Resubmission

**Type of research**

- [ ] Basic Research
- [ ] Applied
- [ ] Experimental development / Translational

**Specific Research Priority**

- [ ] Undiagnosed and precision immunotherapeutic approaches
- [ ] Clinical implementation of pharmacogenomics
- [ ] Multi-omics analysis of severe stress diseases, such as cardiovascular, neurological disorders, and cancer
- [ ] Precision medicine digital solutions and applications

**Submitting Institution**

<table>
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<th>Lead PI (title, name, position)</th>
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**List of participants (PIs’ names, collaborative institutions; PI’s residency)**

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<tr>
<th>PI name</th>
<th>PI Inclusion</th>
<th>PI Residency</th>
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**Co-Funding**

- [x] Yes
- [ ] No

**Total funding requested**

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<th>USD</th>
<th>Project duration</th>
<th>months</th>
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</table>
Grant Application Guide (GAG) showing step by step instructions on Q-Grants is online.
Pre-Award Stage

Proposal registration and submission

Vetting
Pre-Award Stage

Proposal registration and submission

Vetting

Screening

Peer Review

Peer Reviewer’s Evaluation Criteria:

- Intellectual Merit (25%)
- Expected Impact (35%)
- Work plan (20%)
- Qualifications of team (20%)
- Budget
- Research Compliance
Programmatic Review Evaluation Criteria:

- The strength of the alignment with the PPM4 call objectives and the specific research priority area(s)
- The quality of the collaboration
- The potential impact on Qatar and the Qatar Genome Program
- The past performance of the LPI and participating PIs
- Previous QNRF funding in this area of research
- The composition of the local research team
- Budget
Pre-Award Stage

Proposal registration and submission → Vetting → Screening → Peer Review → Programmatic Review → Funding Recommendation → Award Announcement
Available Support to Researchers

Image of Robotic Hand Designed based on Origami, by Soroush Kamrava QU (NPRP7-882-2-326), BRIO 2017/2018
To apply for any of the programs please register on [www.qgrants.org](http://www.qgrants.org) and follow the steps and instructions in the download center.

### Download Center
Each program and call has its download center with their guidelines for applications (RFP or CFP), and templates [http://www.qnrf.org/en-us/Funding/Research-Programs/National-Priorities-Research-Program-NPRP](http://www.qnrf.org/en-us/Funding/Research-Programs/National-Priorities-Research-Program-NPRP).

### Asset Management Portal
Search engine for equipment that were obtained through QNRF grants and are available for use, the portal provides details on the accessibility and contact details of the focal point for each equipment. [https://rd.qgrants.org/Public/AssetSearch.aspx](https://rd.qgrants.org/Public/AssetSearch.aspx)

### QNRF Researcher Network (QRN)
Internal search network for awarded researchers and sponsored capacity, to make use of existing local capacity in research and establish collaborating network.

### QNRF Support System
Queries about any program can be communicated via [https://support.qnrf.org/conversation/new](https://support.qnrf.org/conversation/new).
Thank you!

✓ For further information, please visit our website at: http://www.qnrf.org/en-us/Funding/Research-Programs/Thematic-Program/PPM

✓ For information regarding using QBB/QGP resources please use (http://www.qatarbiobank.org.qa/research).

✓ For any further enquiry regarding using QBB/QGP resources, please use qbbresearch@qf.org.qa

Our upcoming webinar on Thursday, **20/2/2020 at (2:00 pm)**
Questions?
Research Priority Areas

Discovery
- Continue comprehensive -omics analysis of Qatar Biobank (QBB) samples for discovery of disease biomarkers.
- Development/Validation of diagnostic disease gene panels.
- Identification of genomic and environmental interactions utilizing comprehensive -omic analysis
- Studies related to parental and sibling genome analysis (family genome analysis).

Clinical and Translational Research
- Building on QGP pilot phase to identify disease biomarkers and match patients with targeted therapies.
- Research approaches that explore the complexity of the genotype–phenotype associations.
- Developing clinical research into advanced phases and participating in multi-centre clinical trials.

Community Engagement, Ethics and Policies in Precision Medicine
- Behavioural analysis research of awareness campaigns targeting the public towards precision medicine.
- Comparing different genome interpretation solutions and reporting formats to be used by health care providers.
- Identifying best practices of precision medicine policies and delineating the best regulatory and ethical approaches to genomic technologies and implementation.
- Identifying effective strategies to engage the public in supporting the Qatar Genome Program.
The pilot phase of the Qatar Genome Project will comprise sequencing the full genomes of 2,500 Qatari nationals. Each of these individuals is deeply phenotyped by the Qatar Biobank and each individual has available over 60 biological specimens stored for research.

This research priority is focused on;

• exploit the QBB pilot study samples and data available through devising intriguing biological questions to identify biomarkers in association to specific diseases, their biological functionality, signalling pathway, and bioinformatics.
This research priority is focused on:

- determining which of these diseases the strongest genetic factors versus those have influenced by environmental pressures.
- feed into public health programs
- allow the genome committee to prioritize secondary and tertiary phases to target individuals from certain demographics or environmental milieus for priority enrolment.
- facilitate stratification of population into disease-related cohorts
- identify interesting sub-cohorts for detailed analysis from within the already-sequenced genome program participants.
This research priority is focused on; delivering the meaning of the genetic data to the different parties involved in the program. This purpose has two components:

• Clinicians
• Public

Overall, this will enhance the image and acceptance of genomics by the general public, and enable precision medicine to be applied throughout Qatar’s hospitals and public health outlets.
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