## Aga Khan University- FHS-PhD Programme List of funded projects for potential PhD Candidates

Biological Sciences Stream							
Sr. No.	Name, Email address and Department of Primary Supervisor	Supervisory Team	Title of Project/ Source of funding	Research Funding available	Funds available until	Key Objectives of research project	
1	Prof Shahid Baig <u>shahid baig20</u> <u>02@yahoo.co</u> <u>m</u> Dept of Biological and Biomedical Sciences	Drs Kulsoom Ghias, Rashida Ahmed, Sadaf Khan, Munira Moosajee and Muhammed Murtaza	Molecular characteristics of colorectal cancer in Pakistani population	~\$1500/year available from a research endowment (no end date) with ~\$20,000 accrued/availa ble currently Grant submitted to Mark Foundation for ~US\$75,000	no end date 2020 - 2022	<ul> <li>CRC can be both sporadic and hereditary. It has been hypothesized that early onset sporadic colon cancer is a biologically and clinical distinct entity from for typical onset sporadic colon cancer. Accordingly, the key objectives of the research project are to: <ul> <li>Determine genetic mechanisms underlying early onset sporadic CRC</li> <li>Identify epigenetic mechanisms and drivers of early onset sporadic CRC</li> <li>Most cancer patients present with metastatic disease due to lack of access to diagnostic and therapeutics and care is often further hindered due to lack of infrastructure for treatment response monitoring. Therefore, another key objective will be to:</li> <li>Develop accessible and low-cost liquid biopsies to monitor treatment response in CRC patients</li> </ul> </li> </ul>	
Pre-requisites of PhD candidate applicants (graduate qualification requirement): Cancer Biology or Molecular Biology or Genetics or Biochemistry							
2	Dr Zahra Hasan <u>zahra.hasan@</u> <u>aku.edu</u> Professor, Dept. of Pathology and Laboratory Medicine	Drs Kiran Iqbal (AKU) Martin Rottenberg (Karolinska Institute)	Host transcriptome based approach to study immunity in tuberculosis and diabetes	USD 20,000	2019 – 2021	<ul> <li>To investigate modification of protective mechanisms due to diabetes that impact pathological immunity against <i>Mycobacterium tuberculosis</i> (Mtb), studying human compared with murine models of TB.</li> <li><i>in vitro</i> studies will investigate clinically defined cohorts of TB patients with and without type 2 diabetes mellitus (DM), Mtb infected healthy individuals (LTBi) with and DM</li> <li>Training of PhD student between AKU and Karolinska Institute, Sweden</li> <li>The approach: Cellular immune responses of the study subjects will be associated with regulatory pathways such as SOCS3/ STAT3 and</li> </ul>	

						HIF1. This will be collaborative work between AKU and Karolinska		
						Institute, Stockholm.		
Pre-re	equisites of PhD ca	ndidate applicai	nts (graduate quali	fication requireme	ent): Microbiolog	y or Biotechnology or Genetics or Immunology		
3	Dr Zahra Hasan <u>zahra.hasan@</u> <u>aku.edu</u> Professor, Dept. of Pathology and Laboratory Medicine	Dr Rumina Hasan	Next generation sequencing based personalized diagnosis of drug resistant Tuberculosis and development of new resistance predictions	USD 150, 000	2020	<ul> <li>The key objectives of the research project are:</li> <li>To conduct whole genome sequencing of M tuberculosis strains</li> <li>To identify novel resistance associated variants associated with resistance to anti-tuberculous new drugs</li> <li>To identify key molecular mechanisms responsible for drug resistance to new TB drugs</li> <li>To develop new bioinformatics pipelines for drug resistance prediction</li> </ul>		
Pre-requisites of PhD candidate applicants (graduate qualification requirement): Microbiology or Biotechnology or Genetics								
4	Dr Saara Muddasir Khan <u>saara.muddasi</u> <u>r@aku.edu;</u> Dept of Biological and Biomedical Sciences	Drs Arfa Azhar, Humera Saeed and Hasan Salman Siddiqi,	Co- administration of saffron and chamomile: to determine the efficacy as an adjuvant therapy for mild to moderate depression in human subjects	PKR 7,129,252	2021	<ul> <li>The key objectives of research project are:</li> <li>Determine the effect of chamomile and saffron tea administration as an adjuvant therapy in patients with mild to moderate depression using PHQ9 scale.</li> <li>To determine the levels of serum tryptophan, the precursor of serotonin in brain, for evaluation of the effects of these herbs on brain neurotransmitters.</li> <li>To determine the serum biochemical profile as lipid profile and HbA1-c in the patients before and after the adjunctive treatment, for evaluation of the effects of these herbs on serum lipid profile and blood glucose (Hb A1-c) levels</li> </ul>		
Pre-requisites of Prio candidate applicants (graduate qualification requirement): Biochemistry or Neuro- sciences ,-pharmacology, -endocrinology								
Ρορι	Population and Public Health Sciences Stream							
5	Dr Romaina Iqbal <u>romaina.iqbal</u> <u>@aku.edu</u>	Dr Aysha Almas	School health education program in pakistan (shepp);	PKR 953,193	The term of the project is over. However, the said amount	The main aim of this PhD research programme is to evaluate an intervention programme, which aims at incorporating a healthy lifestyle in children in terms of increasing physical activity and healthier dietary habits. The hypothesis is that the programme will increase the level of physical activity not only during school time but also at leisure time,		

Pre-re	Associate Professor; Dept of Community Health Sciences	ndidate applica	impact on lifestyle and cardio- metabolic risk factors (Data Collection complete)	fication requireme	is still with supervisory team.	<ul> <li>increase the number of fruit and vegetable servings, decrease use of sweetened beverages and snacks and that this will have effect on cardiovascular risk factor.</li> <li>To compare the effect of a 12 months school health education program in Pakistan (SHEPP): vs routine on physical activity levels (in school, out of school, moderate to vigorous physical activity and sedentary time) in school children</li> <li>To compare the effect of a 12 months school health education program in Pakistan (SHEPP) vs routine intake of fruits and vegetable, sugar sweetened beverage and snacks taken/day in school children</li> <li>To compare the effect of a 12 months school health education program in Pakistan (SHEPP) vs routine intake of fruits and vegetable, sugar sweetened beverage and snacks taken/day in school children</li> <li>To compare the effect of a 12 months school health education program in Pakistan (SHEPP) vs routine on cardio metabolic risk factors systolic blood pressure, diastolic blood pressure, body mass index and waist circumference and body fat percentage in school children</li> </ul>		
6	Dr Rozina Nuruddin ( <u>rozina.nurudd</u> <u>in@aku.edu;</u> Dept of Community Health Sciences	Mr Saleem Sayani and Dr Nuruddin Mohammed	Promotion of exclusive breast feeding and young child feeding practices through m- Health: an intervention trial	Letter of Intent has been accepted by the Nestle Foundation. Full Proposal submitted in January 2020 for US \$ 50,000.	Appx. 2020 - 2022	<ul> <li>The project will involve development of m-health application and will have two phases: formative research and intervention trial.</li> <li>The study objectives would be: <ul> <li>To assess the effectiveness of m-heath coaching in improving rates of exclusive breast feeding and young child feeding practices compared to the standard counseling.</li> <li>To assess the effectiveness of m-heath coaching in improving rates of early initiation of breast feeding and continuation of breast feeding till one year of age compared to the standard counseling.</li> <li>To determine the effectiveness of m-heath coaching on improvement in anthropometric measurements and on overall health of the child compared to the standard counseling.</li> </ul> </li> </ul>		
Pre-re	Pre-requisites of PhD candidate applicants (graduate qualification requirement): Background in nutrition would be preferred							
Nurs	Nursing Stream							
7	Dr Tazeen Saeed Ali <u>tazeen.ali@ak</u> <u>u.edu</u>	Ms Samina Vertejee & Dr Amina Hooda	Fall Prevention Program in Karachi Pakistan for	PKR 800,000	2020 - 2022	<ul> <li>Study questions (qualitative)</li> <li>What are the study participants' perception about falls and related injuries?</li> </ul>		

MPI/GJ/January 2020

Pre-re	Associate Professor, SONAM	ndidate applica	community dwelling older people: acceptance and effectiveness in local context	fication requireme	ent): Nursing	<ul> <li>What measures are taken to prevent falls amongst older people at the community levels.</li> <li>What factors are associated with delayed response to fall amongst the community dwellers?</li> <li>How do community perceive balance exercises in fall prevention?</li> </ul>
8	Dr Tazeen Saeed Ali <u>tazeen.ali@ak</u> <u>u.edu</u> Associate Professor, SONAM	Ms Zohra Kurji & Dr Shelina Bhamani	Effectiveness of Lactation Consultation in a private tertiary care hospital in Karachi, Pakistan	PKR 1.7 million	2020 - 2022	<ul> <li>There are 6 objectives of the study however the for the core research we would only like to address 2 questions in the PhD project</li> <li>To measure the self-efficacy of postnatal mothers pre and post consultation with LC (Qualitative or Mix Methodology approach).</li> </ul>
Pre-requisites of PhD candidate applicants (graduate qualification requirement): Nursing						
Clini	cal Sciences St	ream				
9	Dr Tashfeen Ahmad <u>tashfeen.ahma</u> <u>d@aku.edu</u> Assistant Professor, Dept of Surgery	Drs Laila Ladak and Babar Hasan	Assessing the feasibility of Implementatio n and benchmarking of ICHOM standard sets in congenital heart disease patients in a low middle income country, Pakistan.	USD 10,000 – 12,000	2023	<ul> <li>ICHOM mission is to unlock value based health care (VBH) by defining global standard sets of outcome measures that matters most to patient. As a working group we have developed "standard sets of outcome" for patients with congenital heart disease. The study aims to assess the feasibility of the implementation and benchmarking of ICHOM standard sets for CHD in a low middle-income country, Pakistan. The feasibility will be evaluated with stakeholders such as patients, families, clinician and administrators. With decisions based on outcomes, patients are more likely to receive high quality care.</li> <li>Assess the feasibility of ICHOM standard sets in congenital heart disease patients in LMIC in Pakistan</li> <li>Defining global Standard Sets of outcome measures that really matter to patients with congenital heart disease</li> <li>To establish an outcome culture through "implementation and benchmarking" of outcome measures data</li> <li>Validation of tools recommended by ICHOM standard sets for CHD in our settings</li> </ul>