



COMSATS University/Institute of Information Technology (CIIT)
Islamabad Campus, Pakistan.

Awareness Seminar on EU Research and Innovation Programme Horizon-2020

Sharing Successful Grant Experience at CIIT

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Outline

- Introduction-I & 2
- Proposal Submission
- Review Process
- Biosciences Project Details
- EE Project Details
- Q&A



Intro_1/1 Policy priorities

Economic and social impact

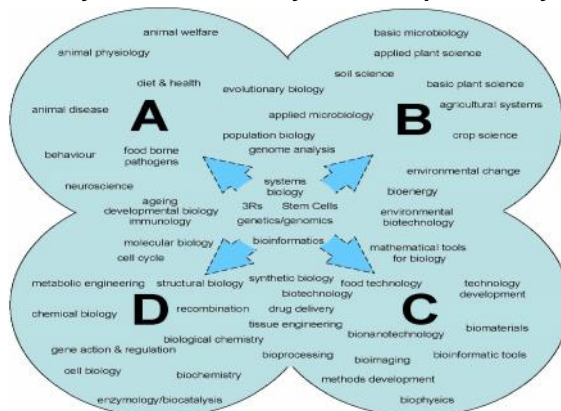
Impact on public policy

Increased international collaboration

1. Translational Research

2. Importance of topic and relevance to all partners– low priority & not required e.g. synthetic biology

3. Preliminary data vital but only has to be preliminary



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CHALLENGES/IMPETUS/HYPOTHESIS/PROBLEM-ORIENTED-RESEARCH



Demand for meat has tripled in the developing world in four decades, while egg consumption has increased sevenfold, driving a huge expansion of large-scale animal operations.



Bumper-crop-corn_Brazil: China and South Korea alone import ~80% to feed their pigs and chickens. The demand for more crops to feed livestock is one reason experts say we'll need to double crop production by 2050.



By 2050 we'll need to feed two billion more people. How can we do that without overwhelming the planet?

FOOD SECURITY
Halal Product Industry: 3-trillion US\$
Halal Meat Sector: \$600 Billion
Pakistan's Contribution: \$115 Million

HEALTH SECURITY (VACCINES)
Global Market by 2020
>20 Billion US\$
North America & Europe: ~68%



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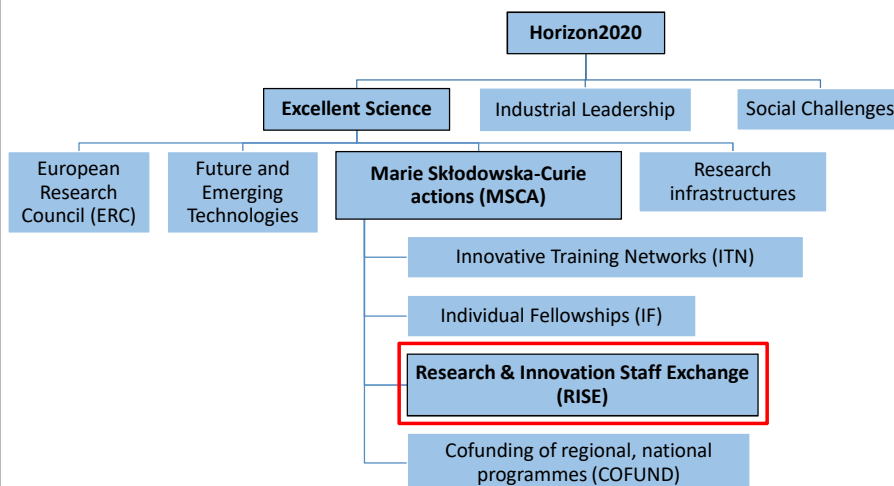
Introduction (1/2)

Horizon2020

- European Union's largest *multinational* funding programme for innovation and research
- Universities & research organisations world-wide can participate in Horizon2020 activities by responding to *calls for proposals*
- Provides opportunities to researchers and innovators in third world countries to jointly work with EU counterparts



Introduction (2/2)



Proposal Submission

- I. Obtain participant identification code (PIC) for your organization to access EU participant portal:
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>
- II. Find your partners
- III. Respond to call by Submitting proposal before deadline
- IV. Evaluation by experts
- V. Grant agreement



Review Process

Grants submitted to appropriate panel

↓ **Nominate referees carefully, use overseas**

Referees (between 2 to 12)

↓
Response

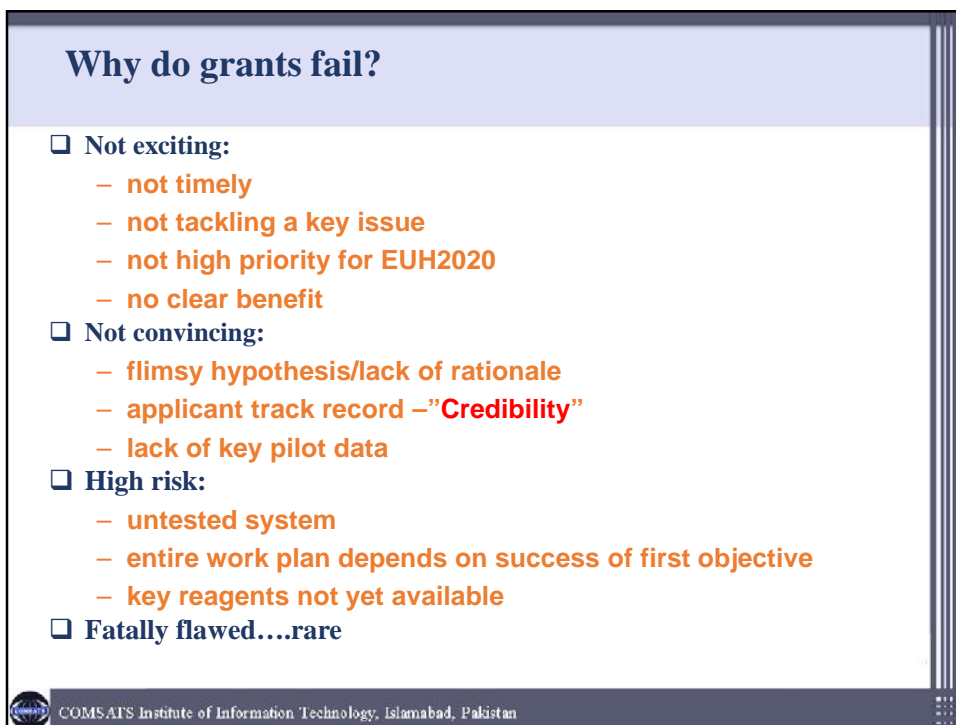
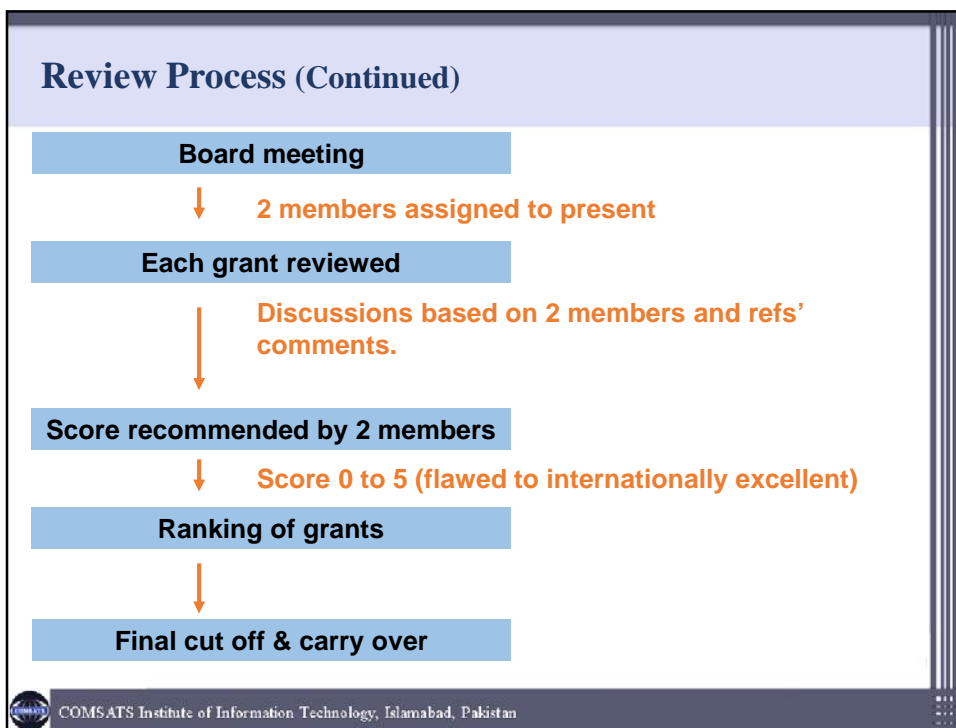
↓ **Grants scored**

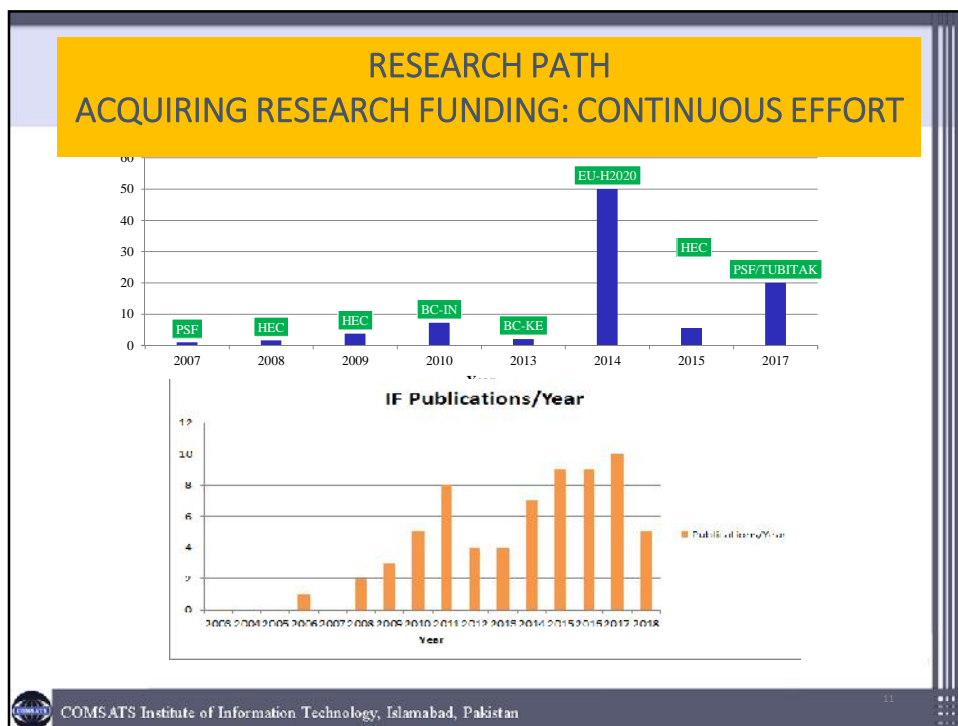
Triage (cut off 70%)

↓ **Board can rescue/relegate e.g. anomalous reviews**

Board meeting







EU-H2020

- **LIST OF PARTICIPANTS: FINDING APPROPRIATE PARTNERS**
- **Specific objectives and the relevance of the research and innovation project to the scope of the call and in relation to the "state of art". Methodological approach highlighting the types of research and innovation activities proposed and their originality.**


Inter/multidisciplinary types of knowledge involved, if applicable

- **Work Package List**
- **Impact**
- **Implementation**









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EU-H2020
Work Package Description

- **Activity Type**
- **Participant Name**
- **Objectives: O1-O?**
- **Description of Work: Tasks T1-T?**
- **Deliverables D1-?**








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Project - 645693 – MeTABLE–Advanced Bioinformatics for Genome and Metagenome and Discovery of Novel Biocatalist from Extremophiles: Implications for Improving Industrial Processes-2015



European Partners				NON-EU Partners	
Univ. Cambridge	Univ. Milano Bicocca	Biomolecular Research Genomics SRL	Univ. Camerino	COMSATS Institute of IT	Sabancı Univ./Epigenetiks
United Kingdom	Italy	Italy	Italy	Pakistan	Turkey
					
Total Project Budget: € 621,000.00					
 Weblink: http://www.metable.eu/project/node/6  Prof. Dr. Habib Bokhari (habib@comsats.edu.pk)					


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Project - 690750 –Advancing the state of the art MIMO: The key to the successful evolution of wireless networks (ATOM)

European Partners			NON-EU Partners			
Lancaster University	University of York	University of Cyprus	COMSATS Institute of IT	University Technology Malaysia	University Putra Malaysia	University of Peradeniya
United Kingdom	United Kingdom	Cyprus	Pakistan	Malaysia	Malaysia	Sri Lanka
						
16.92%	11.44%	12.94%	15.42%	15.42%	15.42%	12.44%

Researcher Months Division Total Project Budget: € 904,500.00
Share of COMSATS IIT: € 97,200.00


 Weblink: <http://www.lancaster.ac.uk/scc/sites/atom/index.html>
 Dr. Shurjeel Wyne (shurjeel.wyne@comsats.edu.pk)
 Dr. Syed Junaid Nawaz (junaidnawaz@comsats.edu.pk)

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Thank you.

Questions?

Emails: habib@comsats.edu.pk

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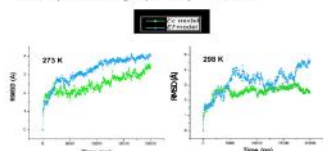
SOME RESEARCH OUTPUTS

Characterization of biocatalysts of interest, Antifreeze proteins from Antarctic ciliates, Bioremediation potential

e.g.- Lipases : Thanks to the secondments from UNIMIB to EPI, new lipase sequences have been characterized from the genome and transcriptome from the psychrophilic ciliate *Euplotes focardii*. These sequences were analysed by bioinformatics tools (molecular modelling, molecular dynamics). (Figure)

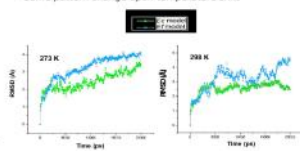
Molecular dynamics simulations

- Backbone RMSD fluctuations are higher for *E. focardii* model
- Same pattern change upon temperature shift



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Molecular dynamic simulation of the lipases from the Antarctic ciliate *Euplotes focardii* and the mesophilic congeneric species *Euplotes crassus*. This analysis demonstrated that the lipase from *E. focardii* is more flexible than that from *E. crassus*.

b- Superoxide dismutases

C-Esterases

