COMSATS International Thematic Research Groups

- Information and Communication Technologies (ICTs)
  *Lead Institution: CIIT, Pakistan*
- Natural Products Sciences (ICCBS Pakistan)
- Climate Change and Environmental Protection (ICCES China)
- Mathematical Modeling (NMC Nigeria)
- Renewable Energy (IROST Iran)
- Agriculture, Food Security and Biotechnology (IRCC, Sudan)
Flow of Presentation

1. Research Themes
2. Projects and Progress
3. Way Forward

Research Themes

- Big Data and IoT
- Cloud Computing
- e-Solutions
- Cyber Security
A. National Center for Artificial Intelligence

- Approved by Government of Pakistan
- Worth PKR 1023.3 Million (USD 10 Million)
- 9 labs to be established across the country
  - Computer Vision lab to be established at CIIT, Islamabad (funding approved for lab PKR 100 Million/ US 1 Million)

Focal Person: Dr. Ahmad Raza Shahid
Assistant Professor, Computer Science

B. Innopedia: Innovation Network for connecting Pakistani researchers with industry

- State of the art knowledge management system is being developed to facilitate collaboration between academia, industry and funding agencies.
- Funded by Government of Pakistan
- Status: in progress

Focal Person: Dr. Khalid Latif
Associate Professor, Computer Science
C. ICT4CoP: Levering ICTs for community policing

- Horizon 2020 project with Norwegian University of life sciences as lead institute
- Partners from 8 different European and Non-European countries
- Another proposal under submission to Higher Education Commission
- A prototype for field testing is being developed

Focal Person: Dr. Sajjad A. Madani
Director Virtual Campus CIIT

D. Cyber Security

- Data Analytics in Network Security
- T-Eye (threat intelligence platform) in collaboration with Trillium Information Security Systems
- SHEPERD (Container Security Platform) in collaboration with WANClouds Inc. US
- Project worth PKR 120 Million (USD 1.2 Million)

Focal Person: Dr. Masoom Alam
Associate Professor, Computer Science
E. IoT-Cloud for Big Data Analytics in Agriculture

- Application-oriented R&D Lab to design and develop implementable solutions to solve Agricultural Issues in Pakistan
- Aimed for technology development and commercialization leading to sustainable economic growth.
- Status: Proposal to be submitted to funding agency

Focal Person: Prof. Dr. Sohail Asghar
Computer Sciences Department

GENERAL INFORMATION
Conferences/Workshops

- Frontiers of Information Technology was held December 18–20, 2017 in Islamabad with the theme “connecting with industry”.
- International Symposium on Conflict, Peace and Development at CIIT Abbottabad on October 16th-17th, 2017 [relevant theme ICT for community policing]
- Hands on Workshop on Data Science, March 17–21 2018 with trainers from Pakistan, Germany, and Netherlands
- Frontiers of Information Technology technically co-sponsored by IEEE Industrial electronics society and IEEE computer society is planned for December 17–19, 2018 in Islamabad.
Hybrid Learning Initiative for e-Education: **Digitize or Die**

- Flexibility in time, space, and pace
- A tailor-made MOOCs, is being developed
- A customized *learning management system* developed that supports online randomized quizzes, discussion boards, automatic assignment submissions, live sessions, and video lectures
- Report writing skills course was offered at all campuses where 2300 students registered the course
- Two courses offered in the current semesters with enrollment of around 6000 students

**Focal person:** Dr. Sajjad A Madani

Director Virtual Campus CIIT

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**Publications around the themes [1]**

Publications around the themes [2]


Publications around the themes [3]

Way Forward

• Solicitation of focal persons from each member country to effectively organize the thematic area

• Meeting cum workshop on the sidelines of FIT 2018 of the thematic area members in December subject to availability of funds

• Establishment of center of excellence in cyber security (Lab proposal already submitted but a large scale center needs to be established for COMSATS member countries. Relying on cyber security solutions from external sources is not advisable)

• Establishment of CoE in IoT and Cloud and Data Science needs consideration

Thank you for your attention!

Dr. Arshad Salim Malik
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