

Revisions proposed to CySeck Research Development Programme (RDP)

Government of Karnataka's K-Tech Centre of Excellence in Cybersecurity (CySeck) issued a call for research and development project proposals in the area of Cybersecurity on 18 March 2021.

In total, 53 proposals were received against the call for which last date was 10 May 2021. Based on scientific merit, value and relationship of the project to the society and complementarities of the project objectives, scientific strengths of the project coordinators, the CySeck RDP Panel of Experts shortlisted 20 proposals for the 2nd round of evaluation.

The Project investigators (PI) and Co-Investigators (Co-PI) of the shortlisted proposals were required to prepare and deliver a 10-minute presentation to the CySeck RDP Panel of experts. The 2nd round of evaluation was conducted on 21st and 23rd June 2021.

The presentations delivered by the applicants covered the below mentioned aspects:

- Value and relationship of the project to the society
- Research design and methodology
- Objectives, targets and milestones
- Potential for application
- Value - Estimate of infrastructure (HR, finance, time, policy, management) that would be required to scaleup, test and implement a usable solution.

A meeting of the RDP panel of experts was convened on 24-June-2021 to discuss observations recorded by the panel from the 2nd round of evaluation (presentation round) and finalize selection of the projects for funding and mentoring.

The Panel felt that none of the proposals can be approved for grant in its' current form. However, with the objective of encouraging passionate researchers and supporting them to conduct high quality research work, the Panel has recommended introducing a Pre-project phase during which the Project Investigators will be provided mentorship support and asked to submit a revised proposal at the end of the Pre-project phase.

The RDP panel of experts have recommended a total of **seven (7)** proposals for mentoring and award of CySeck Research Development Programme grant.

In addition, the panel has made the following suggestions in terms of next steps:

1. Pre-Project Phase

The first six months of the CySeck Research Development Programme would constitute the pre-project phase, within which the Project Investigators are required to submit revamped project proposals, failing which the project will cease to be a part of the CySeck RDP.

The Pre-Project Phase offers the PIs/Co-PIs the opportunity to be paired with a mentor who would be an expert from industry or academia. The panel members or the CySecK Technical Committee members will guide in identification of the mentors for each of the 7 projects.

The mentors would act as a sounding board and offer support and guidance to the respective projects in outlining the project, framing problem statements, research methods, identifying issues of proposed research etc.

At the end of Pre-project phase, the mentors will provide their feedback to the panel, and the panel will make the final decision on selection of the proposal for the grant, as well as the grant to be provided for each milestone.

2. **Funding**

CySecK will provide a seed fund of Rs. 60,000 for the shortlisted projects, that will be transferred to the account of the institute, and the institute will be required provide an Utilisation Certificate for the same. Any unutilised fund amount would need to be transferred back by the institute.

A token honorarium of Rs.25,000 per mentor, for interactions with mentees over 6-month has been suggested by the RDP panel of experts.

The honorarium to the mentors will be in addition to the honorarium already planned for the panellists.

3. **Communication during pre-project phase**

The PIs are required to establish a method of communication that suits both parties including the frequency and mode of interaction. It is the responsibility of the PI to drive forward the partnership.

4. **Actual project phase**

The process for monitoring and reviewing the projects during the actual project phase has been defined below:

- The PIs are required to submit quarterly project progress reports to CySecK and the project review committee, comprising of the CySecK RDP panel of experts.
- A detailed report is to be submitted by the PIs at the end of each milestone based on which the project review committee assesses alignment to research objectives, monitor progress and recommends the project for additional grant.
- The project investigators are advised to take necessary action on the recommendations of the reviewers.
- Grant utilization reports are to be shared with the project review committee on completing each milestone.
- On the completion of the project, project completion reports are to be sent to panel of experts for feedback and comments.

The final list of the 7 project recommended by the RDP panel of experts, along with the mentors for them, is provided below:

Sl No	Project Title	Subject Area	PI's Institute Name	Mentor
1	A Secure Lightweight distributed framework for auditing shared data of Smart applications using Fully Homomorphic Encryption in Cloud Storage	Cryptography, Cloud computing	M S Ramaiah Institute of Technology	Prof. Srinivas Vivek
2	Design and Development of model for Deepfake video detection by eye blinking rate detection using CNN & RNN	Multimedia Forensics	Sahyadri College of Engineering & Management	Dr. Raghu Krishnapuram
3	Quantum Key Distribution Scheme For Securing Smart Grid Communications	Cyber Security	R V College of Engineering	Prof. Urvashi Sinha (RRI)
4	Design and Implementation of Security Service in 5G wireless Networks	Computer Network and Web Security	Basaveshwar Engineering College (Autonomous), Bagalkot	Prof. Joy Kuri
5	Hardware Implementation of Network Intrusion Detection System using Artificial Intelligence.	Machine Learning and Deep Learning Techniques	Rao Bahadur Y Mahabaleswarappa Engineering College,	Mr. Srikanth Nalluri
6	Trust Based Context Aware User Access Control System for IoT Application Security	Authentication and Access control for IoT Application	New Horizon College of Engineering	Dr. Arun Babu
7	Cyber Security Threat Detection in Smart Agriculture Using Machine Learning Approaches	Computer Network and Web Security	Basaveshwar Engineering College (Autonomous), Bagalkot	Mr. Ravi Trivedi