

National Education Society (R.) Jawahar al Nehru National College of Engineering, Shivamogga (Approved by AICTE, New Delhi, Certified by UGC 2f & 12B, Accredited by NAAC –'B', UG programs:CE,ME,EEE,ECE,CSE,ISE,TCE acredited by NBA:1.7.2019 to 30.6.2022, Recognized by Govt. of Karnataka and Affiliated to VTU, Belagavi) Department of Electronics & Communication Engineering



19.2.2020

2020

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Submitted to Principal:

Sub: National Workshop on Cryptology – NWC 2020

The Department of Electronics & Communication is happy to propose to organize National Workshop on Cryptology – NWC 2020, in association with Cryptology Research Society of India (CRSI), Indian Statistical Institute, Kolkatta during August 2020. Cryptology Research Society of India (CRSI) was founded in 2001 as a non-profit scientific organization to support research and development in Cryptology and Data Security in India.

The National Workshop in Cryptology is organized by CRSI every year, in co-operation with an Indian institution, to expose the participants to the cutting-edge frontiers of research and development in Cryptology and Data Security.

The workshop includes invited lectures by eminent researchers and practitioners of Cryptology on the latest developments and also features sessions, on contributed paper presentation on original research in Cryptology and allied disciplines.

It is to be noted that our institution is organizing this prestigious event for the third time. First time, it is organized by Information Science & Engineering Dept. in August 2005 and second time by Department of Electronics & Communication in August 2016.

This time this workshop is sanctioned in the annual general body meeting of CRS on 15.12.2019. The sanction letter is attached herewith for your reference.

The detailed budget estimate for organizing the workshop is enclosed. CRSI will provide the travel expenses of Invited speakers and delegates. Also, the funds can be raised by the organizations like NBHM, Mubai, DRDO, New Delhi, CSIR, New Delhi, AICTE, New Delhi. We request you to kindly permit to organize the workshop and approve a budget of Rs. 1.0 Lakhs.

20102/202 Dr. P Manjunatha Dr. S. V. Sathyana HOD, ECE Professor, ECE 19.25 Organizing Secretary – NWC 2020 2020 NO: NES/JUNCE/693/2019-20 D/20/02/2020. Head of the Department to servetor, NEL Electronics and Communication Forwarded J.N.N. College of Engineering SHIMOGA-577 204. Principal Jawaharlal Nehru innal Education Society Nene of Engineering



National Education Society (R.) Jawahar'al Nehru National College of Engineering, Shivamogga (Approved by AICTE, New Delhi, Certified by UGC 2f & 12B, Accredited by NAAC –'B', UG programs:CE,ME,EEE,ECE,CSE,ISE,TCE acredited by NBA:1.7.2019 to 30.6.2022, Recognized by Govt. of Karnataka and Affiliated to VTU, Belagavi) Department of Electronics & Communication Engineering



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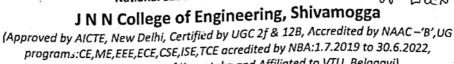
201022020 Dr. S. V. Sathyanarayana Dr. P Manjunatha or 26/19-5 Professor, ECE HoD, ECE p.20 2020 Organizing Secretary – NWC 2020 D/20/02/2020 Head of the Department Electronics and Communication J.N.N. College of Engineering SHIMOGA-577 204. ecretary Hanal Education Society Principal Jawaharlal Nehru Mene of Engineering





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Recognized by Govt. of Karnataka and Affiliated to VTU, Belagavi) Department of Electronics & Communication Engineering

Date: 29-11-2021

Submitted to the Principal

The Department of Electronics and communication Engineering has organized the event "National Workshop on cryptology NWC 2021" during 18-11-2021 to 20-11-2021 in association with CRSI Kolkata. Twenty-eight participants from various institutions have registered to the workshop. A total amount of Rs 12,750 (Twelve thousand seven hundred and fifty only) has been collected as registration fee from the participants. The list of participants and their fee details are listed in the below table. This is for your kind information and further processing.

SI	Name	College	Designation	Registration Fee In Rs	UTR Reference Number
1	Chakrapani D S	J N N College of Engineering, Shimoga	Assistant Professor	500	132828126257
2	Shwetha B	J N N College of Engineering, Shimoga	Assistant Professor	500	132712135658
3	Dr.C.Emilin Shyni	East Point College of Engineering and Technology	Professor	1000	132111280676
4	Mr. Murthy D H R	Presidency University, Bangalore	Research Scholar		
5	Ms. Sunitha B J	Presidency University, Bangalore	Research Scholar		
6	-Mr. Riyaz Ulla Rehaman	Presidency University, Bangalore	Research Scholar		
7	Mr. Krishna Mehar P	Presidency University, Bangalore	Research Scholar		
8	Mr. Sunil Kumar R M	Presidency University, Bangalore	Research Scholar	2250	132196497526
9	Mr. Vishwanath Desai	Presidency University, Bangalore	Research Scholar		
10	Ms. Thasni T	Presidency University, Bangalore	Research Scholar		
11	Dr. Manujakshi B C	Presidency University, Bangalore	Research Scholar		
12	Ms. Srabana Pramanik	Presidency University, Bangalore	Research Scholar		
13	Ms Smitha N		Research Scholar	500	SBIN321316449037
14	Chandini A. G	SJCIT, Chickballapur	Research Scholar	500	132109215675
15	Sowmya T K	SDM Institute of Technology, Ujire	Assistant Professor	500	132082497655

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16	Santosh Pai	Srinivas University, Mangalore	Research Scholar	500	132020658603
17	Ajith Kumar .V	Regional Resource Center, VTU Belagavi	Research Scholar	500	CITIN21271594508
18	Chandra Naik	National Institute of Technology Karnataka, Surathkal	Research Scholar	500	131918646338
19	Ramakant Kumar	MNNIT Allahabad, Prayagraj	Research Scholar	500	131737335281
20	LAVANYA R		Research Scholar	500	SBIN221321117085
21	DIVYA G S	Adichunchanagiri Institute of Technology, Chikkamagaluru	Assistant Professor	1000	KKBKH21316783018
22	Pranitha K S	NIT K Surathkal ;Dakshina Kannada ;Karnatka	Research Scholar	500	131516299002
23	H MANOJ T GADIYAR	SDM Institute of Technology, Ujire	Research Scholar	500	131522532505
24	Deeksha	Poornaprajna college Udupi Karnataka	Lecturer		
25	Manisha Shalini Mascarenhas	Poornaprajna College, Udupi, Karnataka	Lecturer	1000	133312997817
26	Satyam Omar	MNNIT Allahabad, Prayagraj	Research Scholar	500	130278921290
27	Latha P	RNSIT, Bengaluru	Assistant Professor	500	131384880978
28	Mohan Naik	SDM Institute of Technology, Ujire	Assistant Professor	500	129217909425
Tota	al		12750.00		

29.11-27

Dr. Sathyanaryana. S. V Professor & HOD, ECE Department NWC 2021 Organizing chair

Professor & Head Jept: of Electronics & Communication Engli JNN College of Engineering SHIVAMOGGA-577 204.

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Dr. K Nagendra Prasad Principal, JNNCE Shivamogga

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Accounts

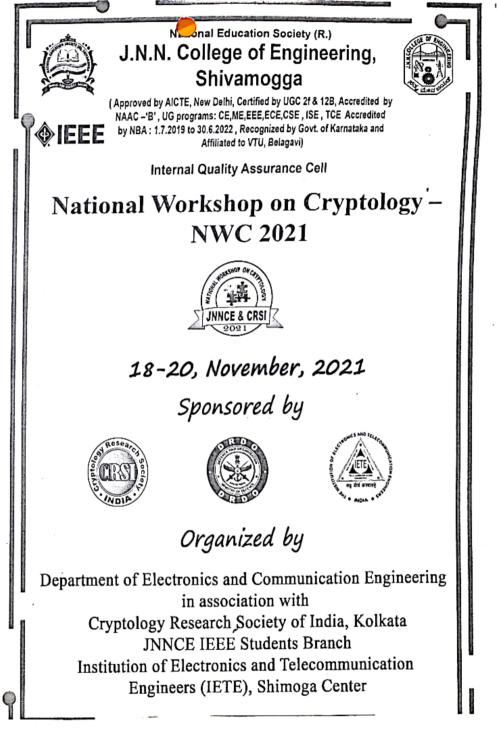
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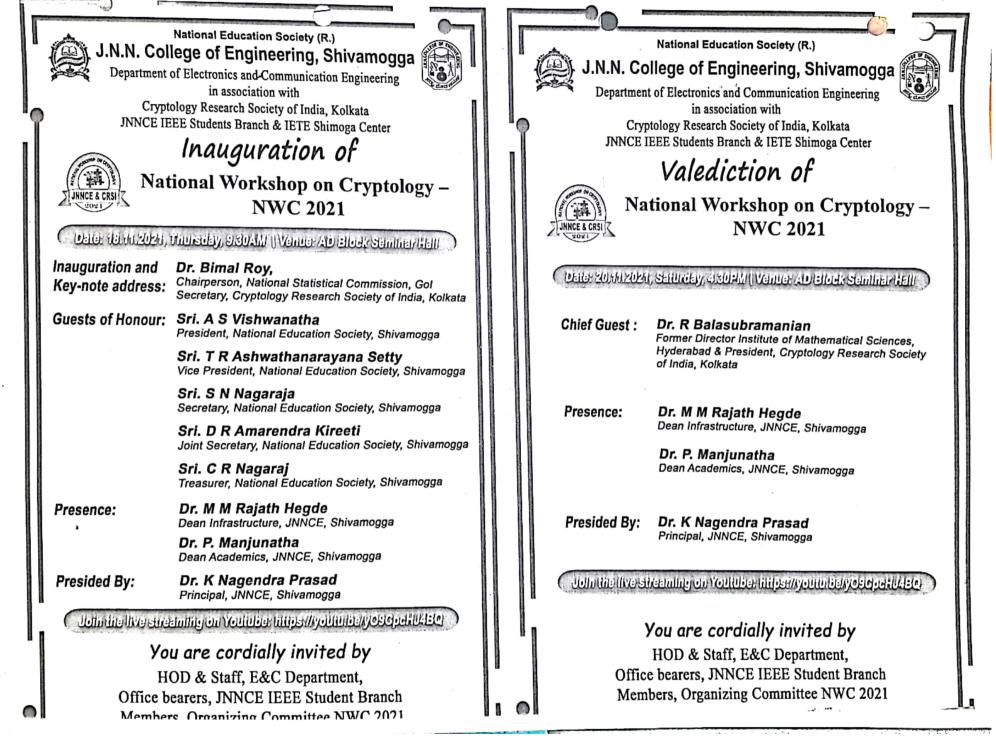
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11.45 1.15P 2.15P		Paper Presentation -2	Tea Break					
1.15P 2.15P	0 AM - 11.45 AM	Invited Talk -3	Dr. S R Mahadeva Prasanna					
2.15P	5 AM - 1.15 PM	Privacy Preservation in Speech Processing	Professor, IIT Dharward	a landa di				
2.15P	PM - 2.15PM	Trecessing	Lunch Break					
	PM - 3.45PM	Invited Talk -4	Dr. Kannan Srinathan					
3.45P		ABCD of Modern Cryptography	IIIT, Hyderabad					
	PM - 4.00PM		Tea Break					
4.00PM ~5.00PM		Invited Talk -5	Dr. N R Sunitha					
		Scalability Issues in Bock Chain	Department of AI & ML,	1				
		Technology SIT, Tumkur						
20.11.2021, Saturday								
9.30A	AM - 10.30AM	Invited Talk-6	Dr. Purushottam B R Dept. of CS & E, NIT, Goa					
		Secure Access Delegation	Dr. P. K. Saxena,					
10.30	AM - 11.30AM	Challenges in Securing	Scientific Consultant and advising Principal	an fina				
		Information	Scientific Advisor (PSA) to Govt of India	All and a				
11 20	AM - 11.45 AM Tea Break							
	AM - 1.00PM	Invited Talk-8	Dr. Indivar Gupta					
11.45	PUM - 1.901 M	Applications of Public Key	SAG, DRDO, New Delhi					
		Cryptography in Secure						
		Communication		100				
1.00P	M - 2.00PM		Lunch Break	Philase Philase				
	M-3.00PM	Invited Talk-9	Dr. R. Balasubramnian	5				
		Elliptic Curve Cryptography	President, Cryptography Research Society of India					
3.00P		Invited Talk-10 Role of AI in Cyber Security	Dr. Gururaj H L Dept. of CS & E, VVCE, Mysuru					





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Virtual National Workshop

on

Cryptology - NWC 2021



18-21, November 2021





organized by

Department of Electronics and **Communication Engineering**

J N N College of Engineering. SHIMOGA - 577 204, KARNATAKA

Cryptology Research Society of India. Indian Statistical Institute: KOLKATA, The Institution of Electronics & Telecommunication Engineers (IETE), Shimoga-Centre & **JNNCE IEEE Students Branch**.

And the other



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Mr. Darshan K V

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National Workshop on Cryptology NWC- 2021

Workshop Report

The department of electronics and communication engineering in association with cryptology research of India, Kolkata, JNNCE IEEE students branch organized the three-day national workshop on cryptology-NWC2021 from 18-20 November 2021. Dr S V Sathyanarayana, Prof and Head, Department of ECE, formulated the workshop as the organizing chair. The work shop got sponsorship from CSRI and DRDO. Around 28 participants from various institutions had registered to the workshop. The workshop was inaugurated by Sri A S Viswanatha, President NES Shivamogga in presence of Sri S.N Nagaraja, Secretary NES Shivamogga. Dr Bimal Roy, Chairperson, National Statistical Commission connected online and graced the inaugural function. Dr K Nagendra Prasad, Principal JNNCE Shivamogga in his presidential address, highlighted the importance of information security and motivated the student community and research scholars to work in the area of cryptography and take up the open problems and develop solutions.

After the inauguration, we had the key note speech by Dr Bimal Roy on E-voting. In his address, he presented the prevailing threats in the existing voting systems that use EVM machines which included the manipulations of data stored in the EVM machine and possible solutions to overcome the threats *which included the implementation of zero knowledge protocol, hashing, block chain and multiparty computation.* The keynote speech was followed by the technical talk by Dr Alwyn Pais, NITK Suratkal. In his delivery, he explained the phishing attacks and its influence on privacy of user information. The various solutions to counter the phishing attacks like machine learning framework were discussed along with implementation results. The post lunch session was an invited talk by Dr Ashok Kumar Das, IIIT Hyderabad. In his talk he introduced the concept of block chains and its construction and properties. As an application of block chain, a novel blockchain-envisioned secure data delivery and collection scheme for 5G-enabled Internet of Drones (IoD) environment (BSD2C-IoD) was discussed. After the technical talk, we had the first paper presentation session and was chaired by Dr Ganesh Aital and Dr Alwyn Pais.

The second day began with the technical talk by Dr Roland Erik Haas, IIIT Bangalore on Automotive cyber security. In his address, he dealt on various security issues related to autonomous vehicles. His speech covered the software complexity, attacks on the battery



system thermal management system, locking system of electric vehicles and cyber security management system. The talk was followed by paper presentation chaired by Dr N R Sunitha SIT, Tumkur and Dr Gururaj H L, VVCE Mysore. The next session was a technical talk on Privacy preservation on speech processing by Dr S R Mahadeva Prasanna from IIT Dharwad. He explained the importance of privacy of the speech information and possible misuse of the same. The various aspects in privacy preservation like noise addition, speech transformation, speech synthesis, anonymization was covered during the talk. The post lunch session was on ABCD of cryptography by Dr Kannan Srinathan, IIIT Hyderabad. He gave a mathematical approach to the fundamental principles in the cryptography and the need of mathematical procedure for information security. The next invited talk was on scalability issues in block chain by Dr N R Sunitha SIT, Tumkur. The importance of the block chain and the need of scalability and challenges involved were discussed. Also, various solutions for efficient scalability like offchain computations, consensus protocols, sharding protocols were discussed.

The third day began with the technical talk by Dr Purushothama B R, NIT Goa on Secure Access Delegation. In his talk he discussed about the symmetric key solution and public key solution for providing the access control. He also introduced us with the proxy cryptography and its challenges. The next session was by Dr P K Saxena on Challenges in securing information. He gave an overview of various types of digital information exchange, the process involved in the communication and various threats involved during the information exchange. The various measures to overcome the threats were presented. The next talk was delivered by Dr Indivar Gupta, SAG, New Delhi on Applications of public key cryptography in secure communication. He highlighted the advantages of public key cryptography systems the mathematics involved and demonstrated the application of public key cryptography in online banking. The post lunch session was on elliptic curve cryptography by Dr R Balasubramanian, President CRSI. He gave a deeper mathematical insight of elliptic curves and its properties. This was followed by a talk on by Dr Gururaj H L. He discussed on the role of Al in cyber security.

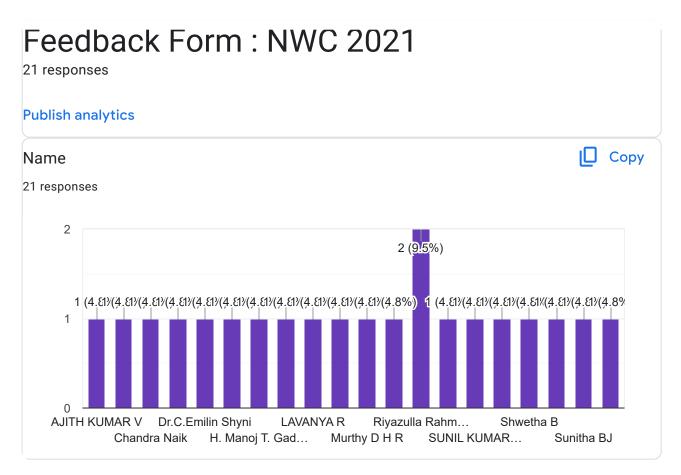
In total there were 10 technical talks and two key note speeches. The valedictory function was presided by the Dr K Nagendra Prasad, Principal JNNCE Shivamogga. Dr R Balasubramanian, President CRSI was the chief guest for the function. In his address, attending the workshops will give a collective idea about the various branches involved in the modern cryptology from renowned scholors. The feedback from the both online and offline participants were taken and finally concluded by vote of thanks note by Dr S V Sathyanarayana.

204.

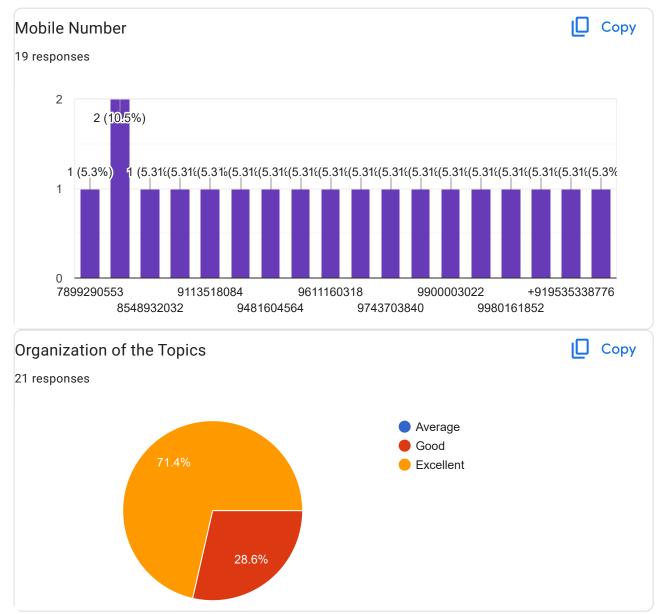


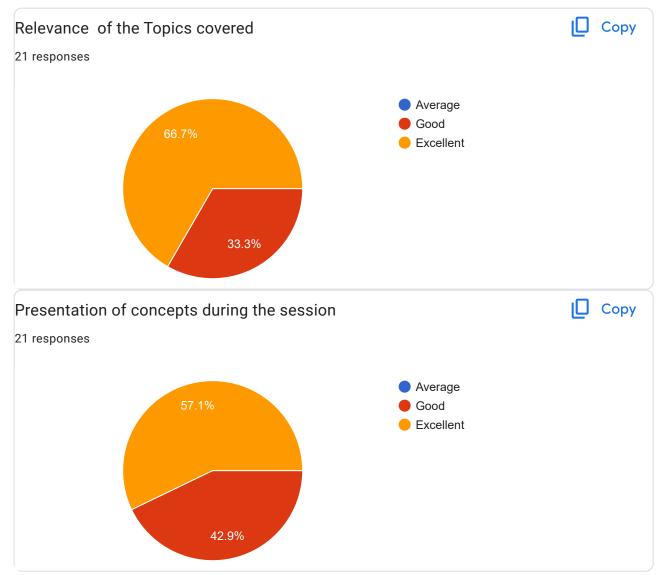


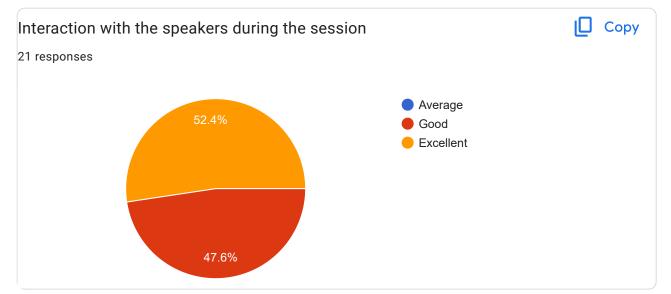












What are the strengths of the workshop?

18 responses

Good

Well organized

Eminent Speakers from IITs and other organizations

Topics selected were relevant to the current times, useful, Resource persons were highly knowledgeable, down to earth and organizers were approachable, responded very quickly to any queries. Great Event.

Eminent Speakers

Subject matter experts are too good and worth listening to every area they speak about. Very well organized in terms of Time, Online access, and Options to discuss. Opportunities to interact and work for country's security is a once in lifetime chance, which we got via e-voting problem statements.

Concept

Topics are good

Highly sciential speakers and time punctuality of the sessions

Well organised

Resource persons

Excellent knowledge delivery

Timely management

Good speakers

Time Management, Excellent Speakers from IIT , NITs and other reputed Institution

Very much informative.

What are the drawbacks of the workshop?	
14 responses	
None	
Nil	
NIL	
Nik	
More days with hands on	
I don't find any.	
No	
No drawbacks	
Attracting More participants	
Did not see much participation from other Colleges and Other Departments of JNNCE	
No drawbacks	

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