



**KONERU LAKSHMAIAH  
EDUCATION FOUNDATION**  
(Deemed to be University, Estd. u/s. 3 of UGC Act 1956)

# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING 2020

A Report on International Conference on  
**Intelligent and Smart Computing in Data  
Analytics (ISCDA)** 3rd - 5th OCT, 2020

## **Progress on Intelligent and Smart Computing in Data Analytics**

International Conference on Intelligent and Smart Computing in Data Analytics (ISCDA) is an International research conference to be held in K. L. Deemed to be University during 3rd to 5th October, 2020, organized by the Department of Computer Science & Engineering. The theme of this multi track conference has emerged keeping in mind the role of technology or computing to be played in building the knowledge Society. It has featured Keynote Talks, International Workshops, Special Sessions, Doctoral Conference, Project Exhibitions, Hackathon, and Contributed Papers.

*The Objective of this Multi-track International Conference ISCDA, paving the way to knowledge society is to provide a platform for researchers, academicians as well as industrial professionals working on various platforms from all over the world to present their research results and development activities in the areas of Smart Computing, Data Analytics, Data Security and Advanced Computing.*

The conference is creating a cross disciplinary summit that transcends departmental, institutional, industrial, public and private research organizations and global barriers and lends itself to the integration of research and education in the vital emerging fields of Engineering and Technology.

ISCDA 2019

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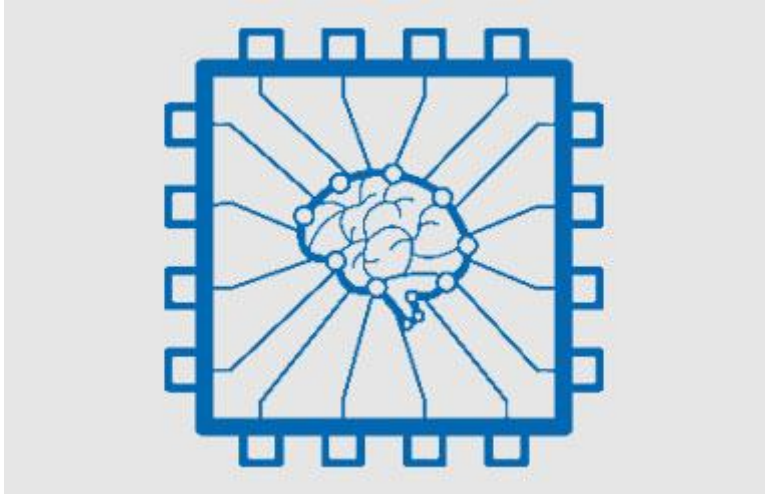
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## Call for Paper

Original High quality papers in all the following topic of interest (but are not limited) are solicited. The papers exploring new directions will receive especially careful and supportive reviews.



Track-1  
Advanced Computing



Track-2  
Intelligent Models and Applications





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Track-3

Smart Technologies & Applications

## Track-1: Advanced Computing

Artificial Intelligence and Machine Learning

Computer Graphics- Simulation and Modeling

Data Management-Exploration and Mining

Pattern Recognition and Analysis

Robotics and Machine Vision

Computational Intelligence

Signal and Image Processing

Biomedical Computing

Bioinformatics

Green Computing

Mobile Computing

Ubiquitous Computing

Cryptography and Applied Mathematics

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\*Note: A discount of Rs.500 in registration fees is applicable to the members of ACM/CSI/IEEE.

## Event Dates

Full Paper Submission Open	15 <sup>th</sup> May, 2020
Full Paper Submission Deadline	31 <sup>st</sup> August, 2020
Acceptance Notification	8 <sup>th</sup> September, 2020
Final Camera Ready Paper	15 <sup>th</sup> September, 2020
Registration	25 <sup>th</sup> September , 2020

Date(s) of Conference	3 <sup>rd</sup> to 5 <sup>th</sup> October, 2020
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## Submission Details

The Original unpublished Research Papers, Articles & Working papers having maximum length 6 pages on the topics related to the theme are invited for presentation/publication in the conference proceedings.

- Kindly ensure that your paper is formatted as per Springer AISC Template (not exceeding 6 pages written in A4 size). Please refer the attached springer template for preparation of your paper.
- All papers must be submitted online via easy chair submission portal using the link: <https://easychair.org/conferences/?conf=iscda2020>
- All submissions will be thoroughly peer-reviewed by experts based on originality, significance and clarity.
- Only papers presenting original content with novel research results or successful innovative applications will be considered for publication in the conference proceedings(as chapters in edited volumes of Springer AISC Series).

The submission templates (Springer Single Column format) can be downloaded from following two links:

- [MS Word Guideline](#)
- [LaTeX Guideline](#)

All submissions must follow easy reference for which please visit the Key Style Points on [www.springer.com/gp](http://www.springer.com/gp)

Please note that Advances in Intelligent Systems and Computing follow one of the Reference Styles mentioned in Key Style Points consistently throughout the manuscript; Citation style Numbered and Numbering Style Content Only.

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## **INTERNATIONAL CONFERENCE ON INTELLIGENT & SMART COMPUTING IN DATA ANALYTICS**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**4<sup>th</sup> - 5<sup>th</sup> October, 2020**

**Inauguration of ISFDA 2020 Software Edition at KL University  
Inaugural Function: 4<sup>th</sup> Oct 2020, Vaddeswaram, Guntur, Andhra Pradesh**

### **Invitation**

International Conference on Intelligent and Smart Computing in Data Analytics (ISFDA) is an International conference to be held in K. L. Deemed to be University during 4<sup>th</sup> and 5<sup>th</sup> October, 2020, organized by the Department of Computer Science & Engineering. The theme of this multi-track conference has emerged keeping in mind the role of technology or computing to be played in building the knowledge Society. It has international keynote sessions, industry connected workshops, special sessions and contributed paper presentations.

This conference creates a cross disciplinary summit that transcends departmental, institutional and global barriers & lends itself to the integration of research & education in the vital emerging fields of Engineering and Technology.

The entire event will be held in virtual mode (digital) where all the participants are presenting from their locations and all the activities will be given live streaming through digital mode (YouTube channel). The program will be centrally inaugurated from CSE Department. The Hon'ble President and Chief Guest Interact with the participant and research scholars, students on Oct 4<sup>th</sup>, 2020 at 09:30 AM.

We request your gracious presence during the inaugural function which will commence from 09:30 AM onwards on 4<sup>th</sup> Oct 2020.

Thanking You Sir,

Yours Sincerely

CSE Dept and ISFDA-2020 Management



## INTERNATIONAL CONFERENCE ON INTELLIGENT & SMART COMPUTING IN DATA ANALYTICS

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

**4<sup>th</sup> - 5<sup>th</sup> October, 2020**

### ISCDA - 2020 PROGRAM SCHEDULE

Date	Time	Track-1	Track-2	Track-3
<b>Day-0</b> <b>3<sup>rd</sup> Oct</b>	9: 00 AM - 5: 00PM	AZURE ADMINISTRATIVE VIRTUAL HANDS - ON TRAINING		
		AZURE COGNITIVE ANALYTICS VIRTUAL HANDS - ON TRAINING		
		HELLO AGILE SCRUM		
		ETHEREUM AND APPLICATION DEVELOPMENT		
<b>Day-1</b> <b>4<sup>th</sup> Oct</b>	09:30 AM - 09:35 AM	<b>INAUGURATION</b>	INAUGURATION PRAYER SONG	
	09:35AM - 09:55AM		INAUGURAL ADDRESS BY Pro-VC AND Hon. VC	
	09:55AM - 10:10AM		PRESIDENTIAL ADDRESS	
	10:10AM - 10:25AM		SPECIAL ADDRESS BY CHIEF GUEST	
	10:25AM - 10:30AM		VOTE OF THANKS	
	10:30AM - 11:00AM	<b>BREAK</b>		
	11:00AM - 12:00NOON	Keynote Address by Dr. Aravind Chockalingam		
	12:00NOON - 12:20PM	PAPER ID : 7	PAPER ID : 24	PAPER ID : 29
	12:30PM - 1:30PM	Keynote Address by Dr. Raj Kumar Buyya		
	1:30PM - 2:00PM	<b>BREAK</b>		
	2:00PM - 2:20PM	PAPER ID : 32	PAPER ID : 44	PAPER ID : 48
	2:30 PM - 3:30PM	Keynote Address by Dr.A.K.Garg		
	3:30PM - 4:00PM	<b>BREAK</b>		
	4:00PM - 5:00PM	Keynote Address by Dr.Tran Duc Tan		
	5:00PM - 5:20PM	PAPER ID : 49	PAPER ID : 54	PAPER ID : 65
	5:20PM - 5:40PM	PAPER ID : 69	PAPER ID : 76	PAPER ID : 90
5:40PM - 6:00PM	BUFFER : 1	BUFFER : 2	BUFFER : 3	
6:00PM - 7:00PM	Keynote Address by Dr.Mufti Mahmud			

**Join Here**



**Day-2**

**5<sup>th</sup> Oct**

**Join Here**



9:00AM to 10:00AM	Keynote Address by Dr.Sinh Cong Lam		
10:00AM TO 11:00AM	Keynote Address by Sri. Aninda Bose		
11:00AM TO 11:30AM	<b>BREAK</b>		
11:30AM TO 12:30PM	Keynote Address by Dr. Ramani Kannan		
12:30PM TO 12:50PM	PAPER ID : 92	PAPER ID : 98	PAPER ID : 103
12:50PM TO 1:10PM	PAPER ID : 104	PAPER ID : 116	PAPER ID : 159
1:10PM TO 2:00PM	<b>BREAK</b>		
2:00PM TO 2:20PM	PAPER ID : 171	PAPER ID : 177	PAPER ID : 181
2:30PM TO 3:30PM	Keynote Address by Dr.Katina Michael		
3:30PM TO 4:00PM	<b>BREAK</b>		
4:00PM TO 5:00PM	Keynote Address by Dr. Utku Kose		
5:00PM TO 5:20PM	PAPER ID : 184	PAPER ID : 187	PAPER ID : 188
5:20PM TO 5:40PM	PAPER ID : 191	PAPER ID : 195	PAPER ID : 198
5:40PM TO 6:00PM	PAPER ID : 199	PAPER ID : 200	PAPER ID : 201
6:00PM TO 6:20PM	BUFFER : 1	BUFFER : 2	BUFFER : 3
8:30PM TO 9:30PM	Keynote Address by Dr. S. K. Ramesh		



# INTERNATIONAL CONFERENCE ON INTELLIGENT & SMART COMPUTING IN DATA ANALYTICS

3<sup>rd</sup> to 5<sup>th</sup> October, 2020

## About ISCDA

The Objective of this Multi-track International Conference ISCDA, paving the way to knowledge society is to provide a platform for researchers, academicians as well as industrial professionals working on various platforms from all over the world to present their research results and development activities in the areas of Smart Computing, Data Analytics, Data Security & Advanced Computing.

### Track - 1: Advanced Computing

Artificial Intelligence and Machine Learning, Computer Graphics Simulation and Modeling, Data Management-Exploration and Mining, Pattern Recognition and Analysis, Robotics and Machine Vision, Computational Intelligence, Signal and Image Processing, Biomedical Computing, Bioinformatics, Green Computing, Mobile Computing, Ubiquitous Computing, Cryptography and Applied Mathematics

### Track - 2: Intelligent Models & Applications

Ant Colony for Neural Network Optimization, Genetic Algorithms for Hybrid Intelligent Systems Design, Genetic Fuzzy Systems, Genetic Neural Systems, Hybrid Evolutionary Algorithms, Hybrid optimization techniques, Neuro-Fuzzy-Genetic Approaches, Nature-inspired Smart Hybrid Systems, Hybrid Intelligent Systems for Pattern Recognition, Data Mining, Statistics & Soft Computing, Emerging Nature Inspired Computing Techniques

### Track - 3: Smart Technologies & Applications

Internet of Things, Industrial IoT, Geographic Information system, Man-machine interface and integration, Kinematics, dynamics, control and simulation of autonomous intelligent systems, Health Informatics, Human Computer Interaction, Social Network Analysis, Robotics and Automation, Cloud Configuration

## Keynote Speakers



**Dr. S.K. Ramesh**  
California State University,  
Northridge



**Rajkumar Buyya**  
Now Chairless in Cloud  
and Edge Computing



**Dr. A.K. Garg**  
Recent Challenges in IPR  
& Startups



**Dr. Tran Duc Tan**  
Application of IoT and Machine  
Learning Techniques for  
Saving Human Life



**Dr. Katina Michael**  
The Blockchain Within The  
Social Implications of User  
Like Data Analytics



**Dr. Ch. Aravind**  
Design Thinking In Curricular  
Aspects and Modern Research  
Transformation to Patents



**Dr. Sinh Cong Lam**  
Victoria National University



**Dr. Mufti Mahmud**  
Towards Intelligent Workflows  
for Neurological Disorders



**Dr. Ramani Kannan**  
IoT Applications in  
Smart Cities



**Dr. Utku Kose**  
New Concepts of AI &  
Explainable AI



**Mr. Aninda Bose**  
Partner of Book Publishing

## Pre conference Workshops

3<sup>rd</sup> Oct 2020

Azure cognitive  
analytics virtual  
hands on training



**Dr. Manish Kumar Jain**  
CTO - IFDE Infotech

Hello Agile  
Scrum



**Mr. J. Kiran**  
Manager- Software  
Engineering at GE

Ethereum and  
Application  
Development



**Mr. Rohith Seetha**  
S/W Consultant TCS

Azure administrative  
virtual hands-on  
training



**Mr. Prasanth Sahoo**  
Microsoft Azure Expert - TCS



To Register: <https://bit.ly/30hFyRb>



## Pre Conference workshops

IN THE VIEW OF INTERNATIONAL CONFERENCE ON  
INTELLIGENT & SMART COMPUTING IN DATA ANALYTICS



Azure cognitive  
analytics virtual  
hands on training

**Dr. Manish Kumar Jain**  
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Azure administrative  
virtual hands-on  
training

**Mr. Prasanth Sahoo**  
Microsoft Azure Expert - TCS



03 Oct, 2020  
9:00 AM-5:00PM

<https://bit.ly/30hFyRb>

we are inching towards our international conference and we have some good workshops attached to it the day before. To make it convenient for you all we kept the workshop and conference participation together and at a very minimal pricing as we felt participation is much crucial. I strongly recommend everyone to register and attend the workshops and the conference. Your participation makes all the difference and your participation will ensure that it's a major success. The details for paying for participation are given in the posters and also in the website

Conference Updates:

Track 1: Session Incharge: Dr. B. Vijay Babu, Host: Mr. K V Ravi Teja

Track 2: Session Incharge: Dr. Y Prasanth, Host: Ms. D Komali

Track 3: Session Incharge: Dr. K Vijaya Sri, Host: Mr. P V V Srinivas

Meeting to schedule the tracks on webex and to discuss the logistics is scheduled today at 6:00PM. All the 6 faculty are advised to check their teams calendar to join the meeting.

Conference Updates:

Meeting with main hosts: Mr. M Chandan & Mr. J Surya Kiran at 5:30PM today. Please check the teams calendar for meeting call. Dr. Pavan Kumar, Dr. N Srinivasu to attend this meeting.

Conference Updates:

Dr. K Subramanyam & Dr. AV Praveen Krishna to provide details and write up about the conference, timings and schedule with links to Hon. VC & Pro-VC by 6:30PM

edited

Conference Updates:

Meeting with Ms. K Ruth Ramya and main hosts Mr. M Chandan & Mr. J Surya Kiran at 7:30PM regarding cultural events finalisation with links.

Dear Faculty,

Please join for the Inaugural Session of our International Conference, using the link -

Login - <https://kluniversity.webex.com>

Meeting ID - 170 679 8429

Password - KLEFCSEOCT

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1379 Dr. K.V.DURGA... (Me) ISCDA 2020 (Host) 190030065 AMMANABROU B. Dr L S S Reddy 4654 SURYA KIRAN JONL...

Viewing 4654 SURYA KIRAN...

KL CSE

Springer

# INAUGURATION

Prayer Song

04-10-2020 ISCDA-2020

Unmute Share

Participants Chat

10:06 AM 04-Oct-20

**Participants**

Search

**Panelist: 7**

- 12 ISCDA 2020 Host
- 4J 4654 SURYA KIRAN JONNALAGADDA
- 1S 190030065 AMMANABROU B...
- 4768 Dr. VIJAYA SRI .K
- DR Dr L S S Reddy
- RK Raju Kalidindi
- SP Saradhi Varma G P

**Attendee:**

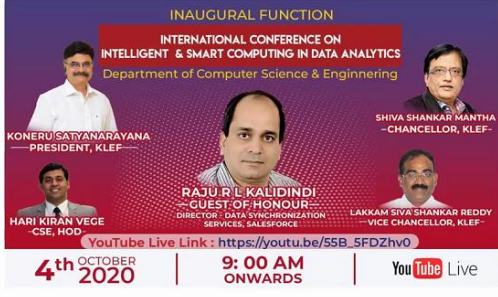
- 1K 1379 Dr. K.V.DURGA KIRAN Me

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1K 12 RK DR 4J

1379 Dr. K.V.DURGA... (Me) ISCDA 2020 (Host) Raju Kalidindi Dr L S S Reddy 4654 SURYA KIRAN JONL...



**INAUGURAL FUNCTION**  
**INTERNATIONAL CONFERENCE ON INTELLIGENT & SMART COMPUTING IN DATA ANALYTICS**  
 Department of Computer Science & Engineering

**KONERU SATYANARAYANA** — PRESIDENT, KLEF —  
**HARI KIRAN VEGE** — CSE, HOD —  
**RAJU R L KALIDINDI** — GUEST OF HONOUR —  
 DIRECTOR, DATA SYNCHRONIZATION SERVICES, SALESFORCE —  
**SHIVA SHANKAR MANTHA** — CHANCELLOR, KLEF —  
**LAKKAM SIVA SHANKAR REDDY** — VICE CHANCELLOR, KLEF —

YouTube Live Link : [https://youtu.be/55B\\_5FDzhv0](https://youtu.be/55B_5FDzhv0)

**4th OCTOBER 2020** | **9: 00 AM ONWARDS** | YouTube Live

04-10-2020 ISCDA-2020

Unmute Share

Participants Chat

10:09 AM 04-Oct-20

Participants

Search

Panelist: 7

- 12 ISCDA 2020 Host
- 4J 4654 SURYA KIRAN JONNALAGADDA
- 15 190030065 AMMANABROLU BHUVAN...
- 4768 Dr. VIJAYA SRI .K
- DR Dr L S S Reddy
- RK Raju Kalidindi
- SP Saradhi Varma G P

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

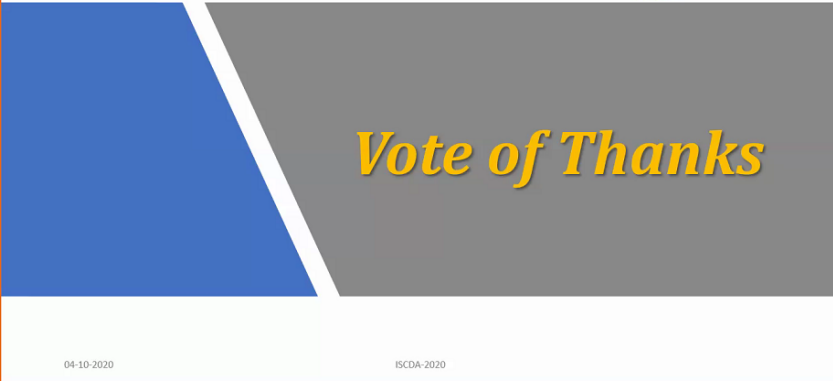
Q&A

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1K 12 1S DR 4J

1379 Dr. K.V.DURGA... (Me) ISCDA 2020 (Host) 190030065 AMMANABROLU... Dr L S S Reddy 4654 SURYA KIRAN JONL...



**Vote of Thanks**

04-10-2020 ISCDA-2020

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Participants Chat

10:07 AM 04-Oct-20

Participants

Search

Panelist: 7

- 12 ISCDA 2020 Host
- 4J 4654 SURYA KIRAN JONNALAGADDA
- 15 190030065 AMMANABROLU BHUVAN...
- 4768 Dr. VIJAYA SRI .K
- DR Dr L S S Reddy
- RK Raju Kalidindi
- SP Saradhi Varma G P

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

Q&A

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1K 12 RK 4J 1S

1379 Dr. K.V.DURG... (Me) ISFDA 2020 (Host) Raju Kalidindi 4654 SURYA KIRAN JON... 190030065 AMMANABR...



**Keynote Address**  
By  
**Dr. Aravind Chockalingam,**  
Associate Professor,  
School of CSE,  
TALYOR's University





**Design Thinking in Curricular Aspects and Modern Research & Transformation to Patents**

Participants

Search

Panelist: 6

- 12 ISFDA 2020 Host
- 4J 4654 SURYA KIRAN JONNALAGADDA
- 1S 190030065 AMMANABROLU BHUVAN...
- 4768 Dr. VIJAYA SRI.K
- RK Raju Kalidindi
- SP Saradhi Varma G P

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

Q&A

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Participants Chat

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1379 Dr. K.V.DURG... (Me) ISFDA 2020 (Host) Chockalingam Aravind Vairbh... 4654 SURYA KIRAN JON... BHANU PRAKASH KOLLA

Viewing Chockalingam Aravi...

## Evolution of needs

1	2	3	4
INDUSTRIAL REVOLUTION	INFORMATION REVOLUTION	SOCIAL REVOLUTION	GIG REVOLUTION
			
Emotional	Intelligent	Social	Resilience
			
SURVIVAL	LIVING STANDARDS	QUALITY OF LIFE	STANDARD OF SELF

Q&A

Unmute Share

Participants Chat

11:10 AM 04-Oct-20

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1K 12 4J BK

1379 Dr. K.V.DURGA... (Me) ISDA 2020 (Host) Chockalingam Aravind Vaithili... 4654 SURYA KIRAN JON... BHANU PRAKASH KOLLA

Viewing Chockalingam Aravi...

## But Where We Stand

Our educational system both drives and reflects our **obsession with competition**

Competition means no profits for anybody, **no meaningful differentiation**, and a struggle for survival

We **trap ourselves** within it—even though the more we compete, the less we gain

Participants

Search

Panelist: 4

- 12 ISDA 2020 Host
- CV Chockalingam Aravind Vaithili...
- 4J 4654 SURYA KIRAN JONNALAGADDA
- BK BHANU PRAKASH KOLLA

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

Q&A Close Participants

Unmute Share

Participants Chat

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1K 12 4J BK

1379 Dr. K.V.DURGA... (Me) ISDA 2020 (Host) Chockalingam Aravind Vaithili... 4654 SURYA KIRAN JON... BHANU PRAKASH KOLLA

Viewing Chockalingam Aravi...

## Design Thinking

Participants

Search

Panelist: 4

- 12 ISDA 2020 Host
- CV Chockalingam Aravind Vaithili...
- 4J 4654 SURYA KIRAN JONNALAGADDA
- BK BHANU PRAKASH KOLLA

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

Hari Kiran @ Official KLEF CSE Faculty  
Photo  
web.telegram.org

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1379 Dr. K.V.DURGA... (Me) ISGDA 2020 (Host) Chockalingam Aravind Vaithiling 4654 SURYA KIRAN JON... BHANU PRAKASH KOLLA

Viewing Chockalingam Aravi...

## rewiring University Dynamics

**FLEXIBILITY**      **EXPERIENTIAL**

**VALUE ADDITION**      **COLLABORATIVE**

**REWIRING DYNAMICS**

**GIG ECONOMY**

Participants

Search

Panelist: 4

- 12 ISGDA 2020 Host
- CV Chockalingam Aravind Vaithili...
- 4J 4654 SURYA KIRAN JONNALAGADDA
- BK BHANU PRAKASH KOLLA

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

Q&A

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1379 Dr. K.V.DURGA... (Me) ISGDA 2020 (Host) Chockalingam Aravind Vaithiling 4654 SURYA KIRAN JON... BHANU PRAKASH KOLLA

## PEDAGOGICAL VARIATIONS

**MAKERSPACE**

Participants

Search

Panelist: 4

- 12 ISGDA 2020 Host
- CV Chockalingam Aravind Vaithili...
- 4J 4654 SURYA KIRAN JONNALAGADDA
- BK BHANU PRAKASH KOLLA

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

Q&A

Unmute Share

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1379 Dr. K.V.DURGA... (Me) ISCDA 2020 (Host) Chockalingam Aravind Vaithilingam 4654 SURYA KIRAN JONNALAGADDA BHANU PRAKASH KOLLA

Participants


Panelist: 4

- ISCDA 2020 Host
- Chockalingam Aravind Vaithilingam
- 4654 SURYA KIRAN JONNALAGADDA
- BHANU PRAKASH KOLLA

Attendee:

- 1379 Dr. K.V.DURGA KIRAN Me

Q&A



**TAYLOR'S UNI**

**Assoc. Prof. Ts. Dr. Chockalingam Aravind Vaithilingam**  
High Impact Research Laboratories  
Taylor's University, Malaysia  
chockalingamaravind.vaithilingam@taylors.edu.my

aravindcv@ieee.org

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Participants Chat


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**COMPUTER SOCIETY OF INDIA**  
ESTD. 1965



**Springer**

Date	Time	Event	Link
<b>4<sup>th</sup> October 2020</b>	12NOON - 12:20PM	TRACK - 1	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number:170 184 8061 Password: iscda
	12NOON -12:20PM	TRACK - 2	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number:170 317 6702 Password: iscda2020track2
	12NOON - 12:20PM	TRACK - 3	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number: 170 311 8485 Password: iscda2020

04-10-2020 ISFDA-2020

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Participants Chat

12:00 PM 04-Oct-20



DAY  
1

*Keynote Address*  
By  
*Dr. Raj Kumar Buyya,*  
*Professor and ARC Future Fellow,*  
*Department of Computing and*  
*Information Systems,*  
*University of Melbourne*

4<sup>th</sup> October 2020



12:30



## New Frontiers in Cloud and Edge Computing


Cisco Webex Events | Event Info | Hide menu bar ^

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1K 12 RB 4J 4A

1379 Dr. K.V.DURGA... (Me) ISCD A 2020 (Host) Raj Buyya 4654 SURYA KIRAN JON... 4788 Dr. Raju Antha

Viewing Raj Buyya's applicat...




## New Frontiers in Cloud and Edge Computing for Big Data/IoT (Internet of Things) Applications

Dr. Rajkumar Buyya  
Cloud Computing and Distributed Systems (CLOUDS) Lab  
School of Computing and Information Systems  
The University of Melbourne, Australia  
[www.cloudbus.org](http://www.cloudbus.org)  
[www.buyya.com](http://www.buyya.com)  
[www.manjrasoft.com](http://www.manjrasoft.com)

**Manjrasoft**  
Innovative Solutions for Cloud Computing  
Dr Rajkumar Buyya  
Chief Executive Officer  
Manjrasoft Pty Ltd  
Office No. 7/22, Doug McDiarmid Building  
Melbourne University Parkville Campus  
Melbourne, VIC 3010, Australia  
P:+61-8-8346 2343 | M:+61-832 290028  
E:raj@manjrasoft.com | W: http://www.manjrasoft.com

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## "Computer Utilities" Vision: Implications of the Internet

- 1969 – Leonard Kleinrock, ARPANET project
  - “As of now, computer networks are still in their infancy, but as they grow up and become sophisticated, we will probably see the spread of “Computer Utilities”, which, like present electric and telephone utilities, will service individual homes and offices across the country”.
  - During the last 50 years, several advances have taken place in both “computing” and “communications” areas that are turning the vision of “Computer Utilities” in to a reality.

6

Participants

Search

Panelist: 3

- 12 ISCD A 2020 Host
- RB Raj Buyya
- 4J 4654 SURYA KIRAN JONNALAGADDA

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

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1K 12 4J

1379 Dr. K.V.DURGA... (Me) ISCD A 2020 (Host) Raj Buyya 4654 SURYA KIRAN JONN...

## New Trends – Technological and Applications

Manjrasoft

- Containers and Micro-Services
- Internet of Things (IoT)
- Big Data
- Fog/Edge Computing
- Serverless Computing
- Software-Defined Networks (SDNs)
- Blockchain (Distributed immutable ledger)
- AI along with Machine and Deep Learning
- Smart \* Applications
- COVID-19 Management and Healthcare Apps

13

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Participants Chat

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1K 12 4J

1379 Dr. K.V.DURGA... (Me) ISCD A 2020 (Host) Raj Buyya 4654 SURYA KIRAN JONN...

## Aneka: Cloud Application Platform (CAP) for Resource-Intensive/Elastic Apps

Manjrasoft

- World-first** platform supporting multiple Cloud programming models (Task, Thread, MapReduce)
- SDK (Software Development Kit)** containing APIs for multiple programming models and tools
- Runtime Environment** for managing application execution on Clouds
- Suitable for
  - Development of Enterprise Cloud Applications
  - Cloud enabling legacy applications
- Portability for Customer Apps:**
  - Enterprise ↔ Public Clouds
  - .NET/Win ↔ Mono/Linux

21

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Participants Chat

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1379 Dr. K.V.DURGA... (Me) | ISDA 2020 (Host) | Raj Buyya | 4654 SURYA KIRAN JONN... | Live Connected

## Aneka and Apps Targets

Manjrasoft

- **Aneka 1.0 - 2009**
  - Bioinformatics, Engineering
- **Aneka 2.0 - 2012**
  - Image Processing, Health Care
- **Aneka 3.0 - 2015**
  - Smart City, Data Mining, Mobile Clouds
- **Aneka 4.0 - 2018**
  - Agriculture, Privacy-aware Medical Apps
- **Aneka 5G/5.0 – 2020**
  - AI, Deep Learning, IoT-based Smart\* Apps

23

Participants

Panelist: 3

- ISDA 2020 (Host)
- Raj Buyya
- 4654 SURYA KIRAN JONNALAGADDA

Attendee:

- 1379 Dr. K.V.DURGA KIRAN (Me)

Malleswari @ Cohort-3 Odd Sem AY2020-21  
:paperclip: S6 Marks.xlsx  
web.telegram.org

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100% | 1:02 PM | 04-Oct-20

1K 12 4J

### Mining COVID-19 Data (128,000 in 5 months) for Insights: effectiveness of social distancing/PPE, progress of vaccine, risk factors..

Manjrasoft

Viewing Raj Buyya's applicat...

The diagram illustrates an application workflow with the following stages:

- Data Source:** Includes COVID-19 Dataset and Web Services.
- Data Update:** Involves Data Ingestion and Data Ingestion.
- Data Storage:** Utilizes Hadoop and Amazon S3.
- Acacia:** Features Apache Spark and Apache Hadoop.
- ML:** Includes ML Models, High Dimensional Data, and Data Analytics.
- Data Processing:** Involves ES Cluster, Map, Reduce, and Data Cleaning.

30

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1:13 PM 04-Oct-20

1K 12 RB 4J

### Modeling & Simulation of Fog and Edge Computing Environments

Manjrasoft

Viewing Raj Buyya's applicat...

The diagram shows the following layers and components:

- IoT Applications:** Represented by icons for various IoT services.
- Application Models:** Includes Sense-Process-Actuate and Stream Processing.
- Resource Management:** Includes Resource Provisioning and Operator Placement, and Scheduling.
- Infrastructure Monitoring:** Includes Monitoring, Performance Prediction, and Knowledge Base.
- Data Generated:** Includes Data Streams.
- Fog Devices:** Represented by icons for fog computing nodes.
- IoT Sensors and Actuators:** Represented by icons for various sensors and actuators.

46

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1379 Dr. K.V.DURGA... (Me) ISCDA 2020 (Host) Raj Buyya 4654 SURYA KIRAN JONN...

Participants

Search

Panelist: 3

- ISCDA 2020 Host
- Raj Buyya
- 4654 SURYA KIRAN JONNALAGADDA

Attendee:

- 1379 Dr. K.V.DURGA KIRAN Me

Manjrasoft

## Summary

- Several Computing Paradigms have promised to deliver "Computing Utilities" vision:
  - Cloud Computing turning the vision into reality
  - Many exciting business and consumer applications
- Aneka is a rapidly emerging as a platform for:
  - Building Clouds and their Apps rapidly – reducing the **cost/time** of application **Software Engineering**.
  - Engineering, Healthcare, Gaming, BI, AI, Smart Cities
- Internet of Things is driving new Innovations
  - 1<sup>st</sup> Gen IoT applications were Cloud-Centric
  - Next-Gen IoT/Smart\* Applications are Fog/Edge-Centric
    - Integrates Edge and Cloud resources
    - Supports Low-latency requirements of IoT apps
    - Reduces IoT data load on the Internet

49

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ISCDA 2020 (Host)

12

1379 Dr. K.V.DURGA... (Me) ISCDA 2020 (Host) Raj Buyya 4654 SURYA KIRAN JONN...

Participants

Search

Panelist: 3

- ISCDA 2020 Host
- Raj Buyya
- 4654 SURYA KIRAN JONNALAGADDA

Attendee:

- 1379 Dr. K.V.DURGA KIRAN Me

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Participants Chat

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Live Connected

Raj Buyya

Participants

Panelist: 3

- ISCD A 2020 Host
- Raj Buyya
- 4654 SURYA KIRAN JONNALAGADDA

Attendee:

- 1379 Dr. K.V.DURGA KIRAN Me

Chat

from 4654 SURYA KIRAN JONNALAGADDA to everyone: 1:33 PM

If the analytics can be performed in the cloud, what is the benefit of an Edge approach? Is it purely to achieve a closer to Real-time result?

To: Host

Enter chat message here

Close Chat

Unmute Share

Participants Chat

100% 1:33 PM 04-Oct-20

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Live Connected

Participants

Panelist: 3

- ISCD A 2020 Host
- 4654 SURYA KIRAN JONNALAGADDA
- Raj Buyya

Attendee:

- 1379 Dr. K.V.DURGA KIRAN Me

Chat

from 4654 SURYA KIRAN JONNALAGADDA to everyone: 1:33 PM

If the analytics can be performed in the cloud, what is the benefit of an Edge approach? Is it purely to achieve a closer to Real-time result?





To: Host

Enter chat message here

Unmute Share

Participants Chat

100% 1:35 PM 04-Oct-20

Date	Time	Event	Link
4 <sup>th</sup> October 2020	2PM - 2:20PM	TRACK - 1	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number:170 184 8061 Password: iscda
	2PM - 2:20PM	TRACK - 2	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number:170 317 6702 Password: iscda2020track2
	2PM - 2:20PM	TRACK - 3	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number: 170 311 8485 Password: iscda2020

04-10-2020 ISCD A-2020



Cisco Webex Events | Event Info | Hide menu bar ^

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AK Garg

Participants

Search

Panelist: 4

- ISCD A 2020 Host
- AK Garg
- 4654 SURYA KIRAN JONNALAGADDA
- Dr. Vijaya Sri Kompalli

Attendee:

- 1379 Dr. K.V.DURGA KIRAN Me

1K 12 4J DK

1379 Dr. K.V.DURGA... (Me) ISCD A 2020 (Host) 4654 SURYA KIRAN JON... AK Garg Dr. Vijaya Sri Kompalli

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Participants Chat

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AK Garg

Participants

Search

Panelist: 4

- ISCD A 2020 Host
- AK Garg
- 4654 SURYA KIRAN JONNALAGADDA

Chat

from 4654 SURYA KIRAN JONNALAGADDA to everyone: 1:33 PM  
If the analytics can be performed in the cloud, what is the benefit of an Edge approach? Is it purely to achieve a closer to Real-time result?

To: Host

Enter chat message here

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Participants Chat

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Cisco Webex Events | Event Info | Hide menu bar ^

File Edit View Audio & Video Participant Event Help

DK I2 4J

Dr.KVD Kiran (Me) ISDA 2020 (Host) 4654 SURYA KIRAN JON...

Viewing 4654 SURYA KIRAN...

KL CSE K L UNIVERSITY

COUNCIL FOR TECHNICAL EDUCATION

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Date	Time	Event	Link
4 <sup>th</sup> October 2020	5PM - 6PM	TRACK - 1	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number:170 184 8061 Password: isda
	5PM - 6PM	TRACK - 2	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number:170 317 6702 Password: isda2020track2
	5PM - 6PM	TRACK - 3	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a> Event Number: 170 311 8485 Password: isda2020

04-10-2020 ISDA-2020

Participants

Panelist: 2

- I2 ISDA 2020 Host
- 4J 4654 SURYA KIRAN JONNALAGADDA

Attendee:

- DK Dr.KVD Kiran Me

Q&A Close Participants

Unmute Share

Participants Chat

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1K IT DP 2B 4C 4D

1379 Dr. K.V.DURG. (Me) ISDA2020 TRACK1 (Host) Dr.Satheesh Patchikolla 2843 Dr. S Vijaya Babu 4056 MADHAVARAPU C. 4935 Dr.K.SWARNA

DA-2020

K L University

Paper Id:69

## Facial Expression Detection Model of Seven Expression Types Using Hybrid Feature Selection and Deep CNN

Authors:

Mr. P V V S Srinivas  
PhD Research Scholar, Department of CSE, Koneru Lakshmaiah Education Foundation (KLEF)

Dr. Pragnyaban Mishra  
Associate Professor Department of CSE, Koneru Lakshmaiah Education Foundation (KLEF)

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Participants Chat

Windows Taskbar: 5:45 PM 04-Oct-20

# Online Meeting Links for ISCDA-2020 Inaugural, Keynotes & Paper Presentations

K L UNIVERSITY Department of Computer Science and Engineering International Conference on Intelligent and Smart Computing in Data Analytics (ISCDA-2020) TECHNICAL PROGRAM LINKS					
EVENT TYPE	DAY	LINK	EVENT NUMBER	EVENT PASSWORD	YOUTUBE LIVE
Inaugural Session	Day 1 & 2	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a>	170 679 8429	KLEFCSEOCT	<a href="https://youtu.be/55B_5FDZhv0">https://youtu.be/55B_5FDZhv0</a>
All Key Note Sessions					
Cultural Events					
Paper Presentations	Day	Link	Event Number	Event Password	Youtube Live
- Track 1	Day 1	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a>	170 184 8061	iscda	NOT AVAILABLE LIVE ON YOUTUBE
- Track 2		<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a>	170 317 6702	iscda2020track2	
- Track 3		<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a>	170 311 8485	iscda2020	
- Track 1	Day 2	<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a>	170 686 1067	iscda	NOT AVAILABLE LIVE ON YOUTUBE
- Track 2		<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a>	170 547 0682	iscda2020track2	
- Track 3		<a href="https://kluniversity.webex.com">https://kluniversity.webex.com</a>	170 977 5632	iscda2020	

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**About KLEF**

The Koneru Lakshmaiah Charities was established as a trust in the year 1980 with its official address at Museum road, Governorpet, Vijayawada, Andhra Pradesh - 520 002 and started K L College of Engineering in the Academic year 1980-81. The trust was converted into a society by the name Koneru Lakshmaiah Education Foundation in the year 1996. The K L College of Engineering has attained autonomous status in the year 2006 and in February 2009, the Koneru Lakshmaiah Education Foundation Society was recognized as Deemed to be University. In short Koneru Lakshmaiah Education Foundation is named as K L Deemed to be University. All thanks to the dynamic leadership of our founder whose vision helped in creating this abode of engineering education, which has emerged as one of the elite institutes of the nation.

**Vision of KLEF**

Our vision is to be a globally renowned research and knowledge-driven institution.

**Mission of KLEF**

The mission of the K L University is to serve the citizens of India and the world through excellence in teaching, research, applying knowledge, inspiring values, stimulating creativity, igniting innovation and grooming leaders who will aspire to enrich the present and future generations.

**Hallmarks of KLEF**

- NAAC 'A++' Grade with 3.59 CGPA on 4-point scale
- CATEGRY 'B' University by UGC under the categorization of universities for grant of Graded Autonomy
- UGC Recognized under section 12B of UGC Act 1956
- Approved by MHRD & UGC (under Section 3 of UGC act 1956)

**Contact Info**

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**Springer**

**INTERNATIONAL CONFERENCE ON INTELLIGENT AND SMART COMPUTING IN DATA ANALYTICS (ISCDA)**

PROGRESS ON INTELLIGENT AND SMART COMPUTING IN DATA ANALYTICS

7 8 AUGUST 2020

ORGANIZED BY DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

**KONERU LAKSHMAIAH EDUCATION FOUNDATION**  
 (Deemed to be University, U/s, 3 of the UGC Act, 1956)  
 Green Fields, Vadewaram, Guntur, Andhra Pradesh, India  
 www.kluniversity.in

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1379 Dr. K.V.DURGA... (Me) ISCDA 2020 (Host) Mufti Mahmud 3895 GANDHARBA SWAIN 4654 SURYA KIRAN JONNALAGADDA

Viewing Mufti Mahmud's ap...

## Motivation



2010	35.26
2020	41.27
2030	56.5
2040	77.49
2050	106.23

Alzheimer Patients (in Millions)

\*<https://speakingofresearch.com/>

ISCDA'20, Vaddeswaram, AP, India - 4 October 2020  
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Participants Chat

Participants

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Panelist 4

- 12 ISCDA 2020 Host
- MM Mufti Mahmud
- 3S 3895 GANDHARBA SWAIN
- 4J 4654 SURYA KIRAN JONNALAGADDA

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

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## Ongoing Special issues (30 June 2021)

<https://www.mdpi.com/si/56510>

### Special Issue "Explainable and Augmented Machine Learning for Biosignals and Biomedical Images"

- Special Issue Editors
- Special Issue Information
- Keywords
- Published Papers

A special issue of *Sensors* (ISSN 1424-8220). This special issue belongs to the section "Sensing and Imaging".  
Deadline for manuscript submissions: **30 June 2021**.

ISCDA'20, Vaddeswaram, AP, India - 4 October 2020  
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Panelist 4

- 12 ISCDA 2020 Host
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- 4J 4654 SURYA KIRAN JONNALAGADDA

Attendee:

- 1K 1379 Dr. K.V.DURGA KIRAN Me

Q&A Close Participants



ISCDA-2020



# Cultural Events

From 7 PM Onwards

A big thank you for everyone who took active part in making day 1 of the conference a strongly technical and firmly punctual one. It takes immense efforts with attention to minute detail and everyone worked for the conference ensured that they showcase that quality of them and hence it made us feel the day 1 went on without a glitch during the keynote addresses and paper presentations. Let the hardwork continue and let's make day 2 equally engaging. Have a good night everyone.

2 day Conference

*Keynote Address  
By  
Dr. Sinh Cong Lam,  
Lecturer,  
University of Engineering and  
Technology,  
VietNam National University*



**5<sup>th</sup> October 2020**



**9 AM**

Department of CSE, KLEF

ISCD A-2020

05-10-2020

*Keynote Address  
By  
Sri. Aninda Bose,  
Senior Publishing Editor,  
Springer Nature*



**5<sup>th</sup> October 2020**



**10 AM**

Department of CSE, KLEF

ISCD A-2020

05-10-2020

**Elements of Book Publishing**

*Keynote Address*  
*By*  
  
*Dr. Ramani Kannan,*  
*Senior Lecture,*  
*UniversitiTeknologi PETRONA,*  
*Malaysia*



*5<sup>th</sup> October 2020*

**11:30 AM**



**IoT Applications in Smart Grids**

Department of CSE, KLEF

ISCDA-2020

05-10-2020

*Keynote Address*  
*By*  
  
*Dr. Katina Michael*  
*Professor,*  
*School for the Future of*  
*Innovation in Society and School*  
*of Computing, Informatics*



*5<sup>th</sup> October 2020*

**2:30 PM**



**The Blackbox Within: The Social Implications of Last Mile Data Analytics**

Department of CSE, KLEF

ISCDA-2020

05-10-2020

Keynote Address  
By

Dr. Utku Kose,  
Associate Professor,  
Computer Engineering,  
Suleyman Demirel University



5<sup>th</sup> October 2020

4 PM



## New Concepts of AI and Explainable AI

Department of CSE, KLEF

ISCDA-2020

05-10-2020

Keynote Address  
By

Dr. S. K. Ramesh,  
Director, AIMS2 Program &  
Professor, Electrical and Computer  
Engineering,  
California State University,  
Northridge



5<sup>th</sup> October 2020

8:30 PM



## Engineering the Future in the post-COVID era

Department of CSE, KLEF

ISCDA-2020

05-10-2020

This is the last keynote addressing for the two day international conference and a very exceptional talk. All faculty are requested to connect and take the advantage. All research group heads are advised to ensure their teams are in full presence during this session.



HoD-CSE Mr.V.Hari Kiran greets and mention thank you everyone for the great support towards the two day successful international conference. It's been two days of wonderful knowledge sharing from different corners of the world. Thank you Dr. Pavan Kumar for convening the program, thank you Dr. Bhanu Prakash for taking care of overall logistics. Thank you Dr. Srinivasu N for the coordination, thank you Dr. A V Praveen Krishna for liaising in the times of need, thank you Dr. K Thirupathi Rao garu for the strong support you extended in the hours of necessity, Thank you Dr. Debnath Bhattacharya for the suggestions in the hour of need, thank you Dr. Vijay Babu, Dr. Y Prashanth & Dr. K Vijaya Sri for being the session chairs and taking care of the tracks successfully, thank you to the CSE RPAC Dr. Pradeepni madam & Dr. Narasinga Rao garu & the research group heads Dr. G Swain, Dr. P Sai Kiran, Dr. Prashanth, Dr. Bhanu Prakash & Dr. Vijaya Sri for actively following up for the publications and pre-conference workshops, thank you Surya Kiran & Chandan for being the hosts, staying through the sessions completely without having even a single glitch, thank you Mrs. Ruth Ramya for coordinating with hubby clubs for the culturals, thank you PVV Srinivas, RaviTeja & Kantha Rao for hosting the tracks and making the presentations flawless. Thank you Dr. Dhawaleswara Rao, Ms. Komali & K V Raju garu for hosting the pre-conference workshops, Thank you Phaneendra for the wonderful posters - they truly made a strong impact in how we perceived the whole event. Above all I thank every faculty of CSE for contributing in their own way for this success. I thank Deputy HoDs Dr. N Srinivasu, Dr. Amarendra & Dr. Raja Rajeswari madam for representing me elsewhere and letting me focus on the conference. On behalf of the University and the department I thank and congratulate you all on the great success.