



SRMS
College
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E-NEWS LETTER

SRMSCET & R

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Inside this Issue:

<i>Latest Updates in World</i>	1-2
<i>Latest Updates in SRMS</i>	2-4
<i>Students Corner</i>	5-6
<i>Faculties Corner</i>	7-8

Latest Updates in World

SARS and MERS: recent insights into emerging coronaviruses

The emergence of Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012 marked the second introduction of a highly pathogenic coronavirus into the human population in the twenty-first century. The continuing introductions of MERS-CoV from dromedary camels, the subsequent travel-related viral spread, the unprecedented nosocomial outbreaks and the high case-fatality rates highlight the need for prophylactic and therapeutic measures. Scientific advancements since the 2002–2003 severe acute respiratory syndrome coronavirus (SARS-CoV) pandemic allowed for rapid progress in our understanding of the epidemiology and pathogenesis of MERS-CoV and the development of therapeutics.

This century has seen the global spread of two previously unknown coronaviruses. In November 2002, the first known case of severe acute respiratory syndrome (SARS) occurred in Foshan, China¹. New cases emerged in mainland China, and by February 2003, more than 300 cases had been reported, around one-third of which were in health care workers. Individuals who were infected and subsequently travelled spread the outbreak to Hong Kong and from there to Vietnam, Canada and several other countries². In March 2003, the WHO established a network of laboratories to determine the causative agent of SARS.

A remarkable global effort led to the identification of SARS coronavirus (SARS-CoV) in early April of that year. By July 2003 and after a total of 8,096 reported cases, including 774 deaths in 27 countries, no more infections were detected, and the SARS pandemic was declared to be over. Five additional SARS cases, resulting from zoonotic transmission, occurred in December 2003–January 2004, but no human.

SARS cases have been detected since. Measures of infection control, rather than medical interventions, ended the SARS pandemic. However, certain SARS-CoV-like viruses found in bats have recently been shown to be able to infect human cells without prior adaptation, which indicates that SARS could re-emerge. In June 2012, 10 years after the first emergence of SARS-CoV, a man in Saudi Arabia died of acute pneumonia and renal failure. A novel coronavirus, Middle East respiratory syndrome coronavirus (MERS-CoV), was isolated from his sputum. A cluster of cases of severe respiratory disease had occurred in April 2012 in a hospital in Jordan and was retrospectively diagnosed as MERS, and a cluster of three cases of MERS in the UK was identified in September 2012. MERS-CoV continued to emerge and spread to countries outside of the Arabian Peninsula as a result of travel of infected persons; often, these imported MERS cases resulted in **nosocomial transmission**. In May 2015, a single person returning from the Middle East started a nosocomial outbreak of MERS in South Korea that involved 16 hospitals and 186 patients. As of 26 April 2016, there have been 1,728 confirmed cases of MERS, including 624 deaths in 27 countries.

This Review highlights the pandemic and epidemic potential of emerging coronaviruses and discusses our current knowledge of the biology of SARS-CoV and MERS-CoV, including their transmission, their pathogenesis and the development of medical countermeasures. Key features of these viruses are the dominance of nosocomial transmission, and pathogenesis that is driven by a combination of viral replication in the lower respiratory tract and an aberrant host immune response. Several potential treatments for SARS and MERS have been identified in animal and *in vitro* models, including small-molecule protease inhibitors, neutralizing antibodies and inhibitors of the host immune response. However, efficacy data from human clinical trial.

Latest Updates in SRMS CET&R

Vishwakarma Pooja 2k20

“May Lord Vishwakarma Craft Your Life Divinely, Sculpts It To Perfection And Engineers It To Function Smoothly”

Vishwakarma pooja is observed primarily in factories and industrial areas, often on the shop floor. As a mark of reverence the day of worshipping Lord Vishwakarma is marked not only by the engineering and architectural community but by artisans, craftsmen, mechanics, smiths, welders, industrial workers, factory workers and others. They pray for a better future, safe working conditions and, above all, success in their respective fields. It is customary for craftsmen to worship their tools in his name, refraining from using the tools while doing so. Modern electronic servers are also worshipped for their smooth functioning. Going on with the same abstraction and current scenario and to get the blessing of Lord Vishwakarma the faculty student and different craftman celebrated this holy occasion in the workshop of our college. The event was started inside the college premises where all the faculty members and students were a part of the pooja.

Vishwakarma Jayanti is a day of celebration for Vishwakarma, a Hindu god, the divine architect. He is considered as swayambhu and creator of the world. He constructed the holy city of

Dwarka where Krishna ruled, the Maya Sabha of the Pandavas, and was the creator of many fabulous weapons for the gods.



National webinar on “futuristic aspects of cloud computing”

▶ NATIONAL WEBINAR

FUTURISTIC ASPECTS OF CLOUD COMPUTING

📅 OCTOBER 6, 2020 | TIME- 3:00- 4:00 PM

Special Guest & Keynote Speaker

Dr. Emmanuel Shubhakar Pilli

Head, Dept. of Computer Science and Engineering,
Malaviya National Institute of Technology, Jaipur,



Organized by Department of Computer Science and Engineering SRMS CET&R, Bareilly

Along with 124 participants **National Webinar on “Futuristic Aspects of Cloud Computing”** successfully conducted at Computer Science and Engineering, SRMS, CETR, Bareilly on **6th October, 2020, 3:00 PM- 4:00 PM**, where **Special guest & Keynote Speaker was Dr. Emmanuel Shubhakar Pilli** having 23+ years of teaching and research experience in Computer Science, Ph.D.(CSE) from IIT Roorkee, M.Tech.(CSE) from BIT Ranchi, Presently Head, Dept. of Computer Science and Engineering, Malaviya National Institute of Technology, Jaipur.

During the inaugural of the webinar, **Dean academics, Dr. Prabhakar Gupta** addressed the participants, furthermore, Head Training & Placement Department, **Dr. Anuj Kumar**, share his valuable words.

Dr. Pilli discussed Computer Virtualization, hypervisation, VMFS, NFS, fibre channels, iSCSI, HBA, VLAN traffic and AIRAWAT, establishing an AI specific based cloud computing infrastructure for India.

At last, under the eminent guidance of **HOD Er. Shailesh Saxena**, vote of thanks and valedictory program bind up by webinar convenor, Mr. Sachin Saxena.

National webinar on “blockchain technology and applications”

Along with 176 participants National Webinar on “Blockchain Technology And Applications” successfully conducted at Computer Science and Engineering, SRMS, CETR, Bareilly on 16th October, 2020, 3:00 PM- 4:00 PM, where Special guest & Keynote Speaker was Dr. Mayank Aggarwal having 16 years of teaching and research experience in Computer Science. Dr. Mayank Aggarwal, Ph.D. Computer Science (Mobile Agents) from Gurukul Kangri University –Haridwar. Presently He is working as an Associate Professor and Head Dept. of Computer Science & Engineering Gurukula Kangri University, Haridwar. Dr. Aggarwal recently he received a patent on “System and Method to securely store data across network in distributed database to rehabilitate river”.

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During the inaugural of the webinar, Dean academics, Dr. Prabhakar Gupta addressed the participants, furthermore, Head Training & Placement Department, Dr. Anuj Kumar, share his valuable words.

Dr. Aggarwal discussed What is Blockchain? How does it work? What are the different types of Blockchain and when to use what?, Smart Contracts and Blockchain Usecases followed by Q & A session.

In the valedictory session vote of thanks was given by HOD Er. Shailesh Saxena.

▶ NATIONAL WEBINAR ON

BLOCKCHAIN TECHNOLOGY AND APPLICATIONS

OCTOBER 16, 2020 | 3:00- 4:00 PM

Special Guest & Keynote Speaker

Dr. Mayank Aggarwal

Associate Professor and Head Dept. of
Computer Science & Engineering
Gurukula Kangri University, Haridwar.



Organised By: Dept. Of
Computer Science & Engineering SRMS CET&R, Bareilly

Student Arena

Covid-19 Disease

The rapidly escalating number of infections caused by a previously unknown virus but which belongs to a well known large family of virus called “ Coronavirus” since it’s detection in mid December stands at 34400 confirmed cases and over 700 deaths.

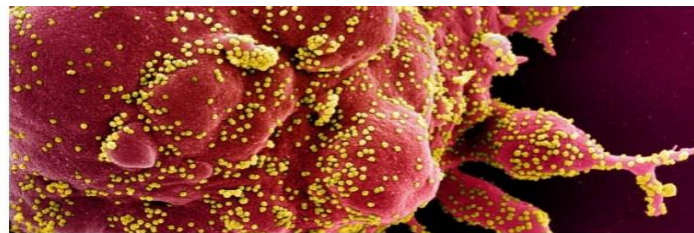
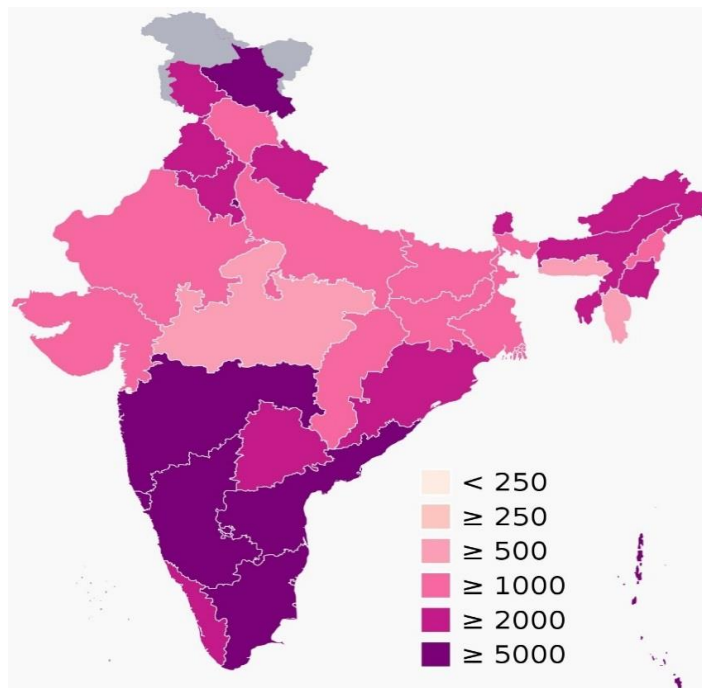
Even as Covid-19 infections kept rising to 78 lakh [78,64,811] in India as on 25 oct 2020 and 1.18 lakh [1,18,534] Indians died , the virus mutations keep worrying.

Latest finding suggestion that apoptosis begins the moment SARS CoV-2 enters the body after developing the spike protein with which it hangs on to the cells in humans lungs and death clock keep ticking.

Apoptotic cell(red) infected with SARS-CoV-2 virus particles (yellow), also known as novel coronavirus, isolated from a patient sample. Apoptosis is a form of programmed cell death that occurs in multicellular organisms like humans. Biochemical events triggered by pathogens or nuclear radiation lead to characteristic cell changes and death much faster than we imagine.

Before the Covid-19 pandemic, the SARS-CoV-2 lived harmlessly in bats and other animals. Now researchers identified a number of ‘silent mutations in the virus genetic code that helped it thrive after it crossed over to humans . They may have contributed to the virus ability to spread before people

even know they have it, which made the current situation very difficult to control than the SARS coronavirus outbreak of 2003.



Colorized scanning electron micrograph of an apoptotic cell (red) infected with SARS-COV-2 virus particles (yellow), also known as novel coronavirus, isolated from a patient sample. (National Institute of Allergy and Infectious Diseases, NIH/

Shivangi Maurya
CS 3rd Year

Faculty Arena

Data Science and the Art of Persuasion

Data science is growing up fast. Over the past five years companies have invested billions to get the most-talented data scientists to set up shop, amass zettabytes of material, and run it through their deduction machines to find signals in the unfathomable volume of noise. It's working—to a point. Data has begun to change our relationship to fields as varied as language translation, retail, health care, and basketball.

But despite the success stories, many companies aren't getting the value they could from data science. Even well-run operations that generate strong analysis fail to capitalize on their insights. Efforts fall short in the last mile, when it comes time to explain the stuff to decision makers.

In a question on Kaggle's 2017 survey of data scientists, to which more than 7,000 people responded, four of the top seven "barriers faced at work" were related to last-mile issues, not technical ones: "lack of management/financial support," "lack of clear questions to answer," "results not used by decision makers," and "explaining data science to others." Those results are consistent with what the data scientist Hugo Bowne-Anderson found interviewing 35 data scientists for his podcast; as he wrote in a 2018 HBR.org article, "The vast majority of my guests tell [me] that the key skills for data scientists are...the abilities to learn on the fly and to communicate well in order to answer business questions, explaining complex results to nontechnical stakeholders."

In my work lecturing and consulting with large organizations on data visualization (dataviz) and persuasive presentations, I hear both data scientists and executives vent their frustration. Data teams know they're sitting on valuable insights but can't sell them. They say decision makers misunderstand or oversimplify their analysis and expect them to do magic, to provide the right answers to all their questions. Executives, meanwhile, complain about how much money they invest in data science operations that don't provide the guidance they hoped for. They don't see tangible results because the results aren't communicated in their language.

Gaps between business and technology types aren't new, but this divide runs deeper. Consider that 105 years ago, before coding and computers, Willard Brinton began his landmark book *Graphic Methods for Presenting Facts* by describing the last-mile problem: "Time after time it happens that some ignorant or presumptuous member of a committee or a board of directors will upset the carefully-thought-out plan of a man who knows the facts, simply because the man with the facts cannot present his facts readily enough to overcome the opposition....As the cathedral is to its foundation so is an effective presentation of facts to the data."

Executives complain that data science doesn't provide the guidance they hoped for

How could this song remain the same for more than a century? Like anything else this deeply rooted, the last-mile problem's origins are multiple. For one, the tools used to do the science include visualization functionality. This encourages the notion that it's the responsibility of the data person to be the communicator. The default output of these tools can't match well-conceived, fully designed

dataviz; their visualization often isn't as well developed as their data manipulation, and the people using the tools often don't want to do the communicating. Many data scientists have told me they're wary of visualization because it can dumb down their work and spur executives to draw conclusions that belie the nuance and uncertainty inherent in any scientific analysis. But in the rush to grab in-demand data scientists, organizations have been hiring the most technically oriented people they can find, ignoring their ability or desire (or lack thereof) to communicate with a lay audience.

That would be fine if those organizations also hired other people to close the gap—but they don't. They still expect data scientists to wrangle data, analyse it in the context of knowing the business and its strategy, make charts, and present them to a lay audience. That's unreasonable. That's unicorn stuff.

To begin solving the last-mile problem, companies must stop looking for unicorns and rethink what kind of talent makes up a data science operation. This article proposes a way for those that aren't getting the most out of their operations to free data scientists from unreasonable expectations and introduce new types of workers to the mix. It relies on cross-disciplinary teams composed of members with varying talents who work in close proximity. Empathy, developed through exposure to others' work, facilitates collaboration among the types of talent. Work is no longer passed between groups; it's shared among them.

Shruti Agrawal
Assistant Professor
CS Department