



40th ICSSC Colloquium

Monday 23rd October 2023

Norcroft Centre, University of Bradford, Bradford, UK, BD7 1DP

Colloquium Opening: 09:00 – 09:20

Shirley Congdon, VC, University of Bradford

Murthy Renduchintala, ICSSC Executive Chair

Glyn Thomas & Rajeev Gopal, Colloquium Co-Chairs

Keynote Session 1: Global Connectivity - Challenges and Opportunities: 09:30 – 10:10

Jon Wakeling, BT

Keynote Speaker will provide a review of diverse use cases for connecting humans and machines further augmented with direct-to-device networks and complementing existing terrestrial and space platforms and discuss unique challenges and opportunities that extend existing systems. This includes truly pervasive approaches that leverage the best of diverse technologies within the integration framework of 3GPP including non-terrestrial network nodes for Direct-to-cell approaches. With global coverage across all oceans and continents being the primary differentiator, the space segment, recharged with megaconstellations, will eventually be indispensable for global connectivity including support for emergency, disaster relief, and security.

Panel Session 2: Innovative Use Cases Possible with Megaconstellations: 10:10-11:10

Joel Grotz, SES Satellites

Paul Febvre, Satellite Applications Catapult

Rajeev Gopal, Hughes Network Systems

Panel will discuss how new Direct-to-cell systems, instead of replacing incumbent technologies, can complement terrestrial and legacy space networks to provide ubiquitous coverage, capacity, and broadcast efficiencies. Besides offering important societal and economic benefits, this unification will also support enhancing emergency/disaster management and national security.



Coffee Break: 11:10 – 11:25

Panel Session 3: Direct-to-Cell Services and Business Strategy: 11:25 – 12:40

Glyn Thomas, Airbus

Barry Evans, University of Surrey

Stephane Anjuere, Thales Alenia Space

Panellists, drawn from network providers and system designers, will debate the advantages of their technology road maps in delivering network and user equipment fulfilling demanding needs in terms of launch, size, flexibility, and Capex while covering larger areas. They will address various funding and deployment strategies and share insights with respect to their unique business case priorities.

Lunch Break: 12:40 – 14:00

Panel Session 4: Technical Insights with Cross Plane/Layer Design and Future Advances: 14:00 – 15:45

Daniele Finocchiaro, Eutelsat

Stephane Anjuere, Thales Alenia Space

David Zufall, Dish Network

Session 4 will comprise a series of technical presentations from experts involved in Direct-to-cell implementation, 5G harmonization, equipment design, and satellite payload (bentpipe/processed) trades. This includes how space (GEO/LEO) and terrestrial systems will interoperate with key enabling technologies for mobility/roaming, security, software defined networks, artificial intelligence, cost effective electronically steered antennas, smart routing and traffic engineering, and dynamic spectrum allocation.



Final Keynote: ESA Perspective on Mega Constellations and Non-Terrestrial Network Integration with 5G/6G: 16:00 – 16:45

Fabrizio De Paolis, European Space Agency (ESA)

Keynote speaker will provide an overall assessment of the challenges and opportunities in the application of mega constellations for emergent business cases including direct to device. The Speaker will summarise the overall helicopter view ascertained by ESA, the key opportunities and technology challenges for European industry, and how ESA is supporting industry and academia to rise to these challenges.

Questions and Concluding Remarks: 16:45 – 17:30

The Colloquium will close with a summary of the key takeaways from the five sessions.



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