CIAN LECTURE SERIES

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Optical Sciences, Room 307

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Drowning the Internet, then saving it.

Holographic 3D display and holographic optical switch

Abstract:
If holographic displays were to become a reality, they would instantly overload the internet due to their bandwidth requirement. At 5E16 bits per second for a single display (50 peta bps), their information stream is larger than the total international internet traffic (estimated at 100 tera bps, 100E12). So, the brute force approach leading to such a massive number should be circumvented.
In this talk, I will investigate various solutions for making a 3D display, and discuss the limitations of the different technologies. I will show why holography is the ultimate display but at a massive data expense. Eventually a solution that reproduces all the visual cues at a lesser bandwidth will be exposed. Finally, we will see how the same principle of holography can be applied to increase the internet capacity by making better, faster telecommunication switches.
From display to ROADM, holography is a tool that can be exploited to save the Internet from drowning under data overload.