

## Impact of Global Research Trends on Regional Competitiveness: Are NRENs Supporting These Initiatives?

The growing global emphasis on research and innovation has led to the emergence of regional disparities in competitiveness, with nations and regions striving to enhance their research capabilities. National Research and Education Networks (NRENs) are pivotal in supporting and advancing these research initiatives by providing high-speed, reliable Internet infrastructure and facilitating collaborations across academic and research institutions.

This discussion focuses on the role of NRENs and their impact on global research trends such as interdisciplinary collaboration, open-access publishing, open science, big data analytics, and artificial intelligence. Specifically, the discussion looks into how the NRENs contribute to or hinder these initiatives, which, in one way or another, trigger regional competitiveness.

By examining case studies from diverse regions, we assess the extent to which NRENs enable or limit the creation and sharing of zero-rated educational and research resources, access to cutting-edge research tools, international collaborations, and participation in global knowledge economies. The findings suggest that while NRENs are crucial in supporting research infrastructures, disparities in network capabilities, funding, and policy environments often lead to uneven impacts on regional competitiveness. This paper underscores the need for enhanced investments in NREN development, tailored regional strategies, and international cooperation to ensure that NRENs effectively contribute to bridging the global research divide and fostering equitable research growth across regions.

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### CHPC Research Programme

### Workshop Duration

**Primary author:** Dr SETH, Frank (TERNET)

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**Session Classification:** SA NREN

**Track Classification:** SA NREN