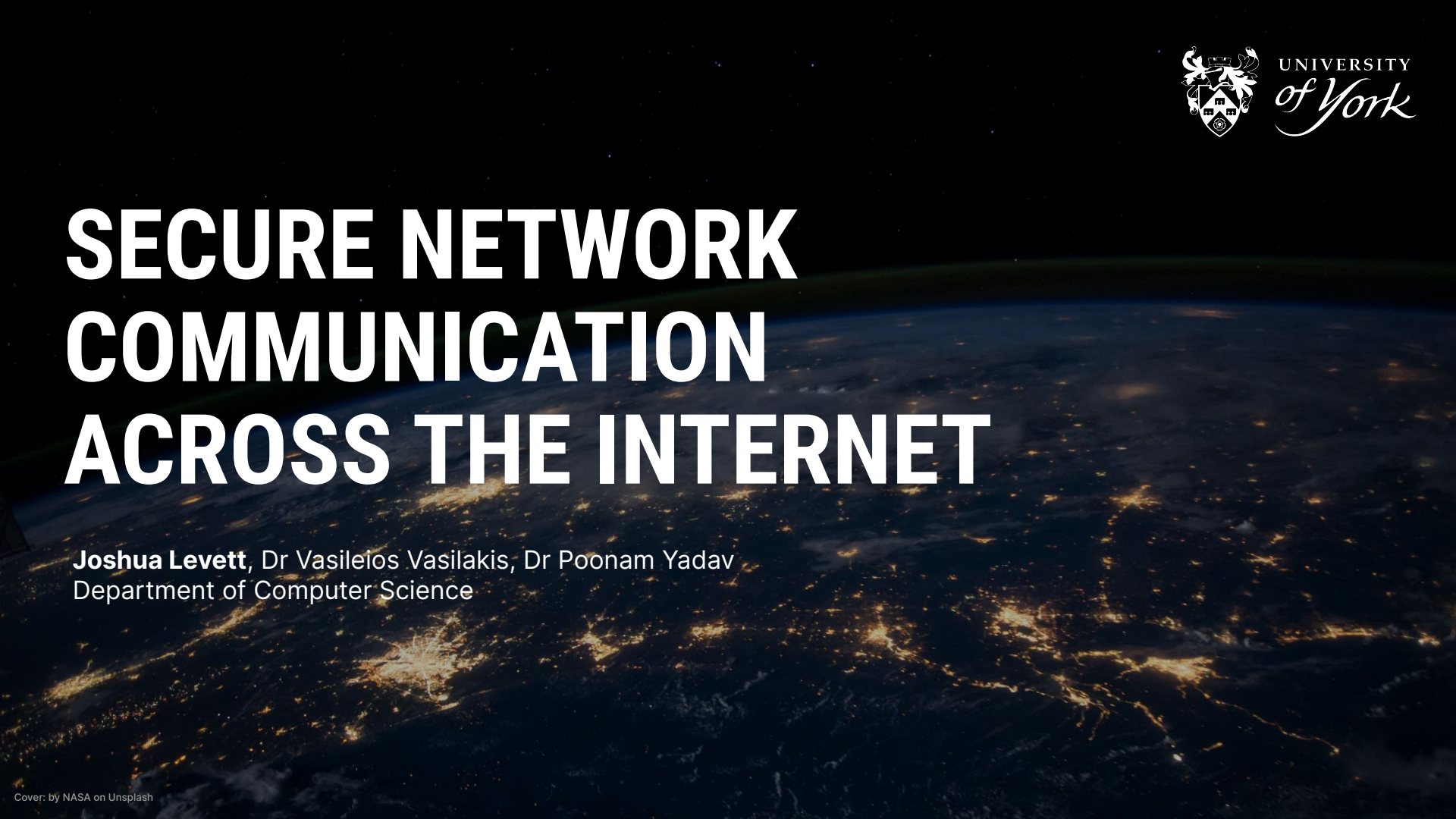

SECURE NETWORK COMMUNICATION ACROSS THE INTERNET

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Department of Computer Science

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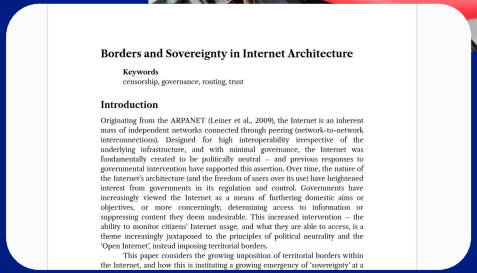
Our Research

How do we enhance security, scalability and latency properties of multi-domain communication in next-generation Internet architectures?



Borders and Sovereignty in Internet Architecture

Keywords
censorship, governance, routing, trust

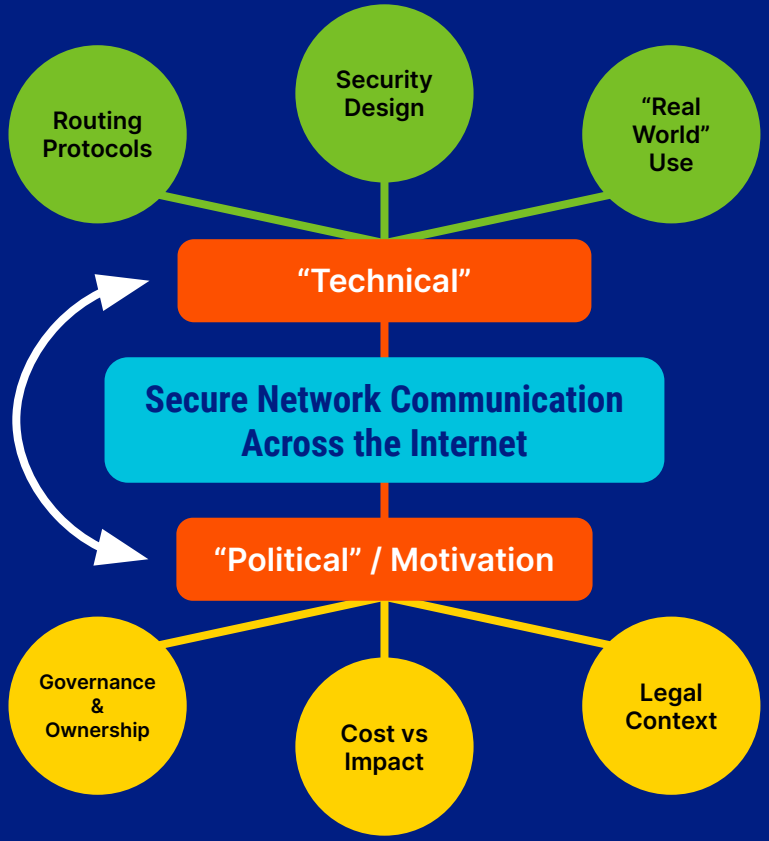
Introduction

Originating from the ARPANET (Leiner et al., 2009), the Internet is an inherent mass of independent networks connected through peering (network-to-network interconnections). Designed for high interoperability irrespective of the underlying infrastructure, and with minimal governance, the Internet was fundamentally created to be politically neutral – and previous responses to governmental intervention have supported this assertion. Over time, the nature of the Internet's architecture (and the freedom of users over its use) have heightened interest from governments in its regulation and control. Governments have increasingly viewed the Internet as a means of furthering domestic aims or objectives, or more concerningly, determining access to information or suppressing content they deem undesirable. This increased intervention – the ability to monitor citizens' Internet usage, and what they are able to access, is a theme increasingly juxtaposed to the principles of political neutrality and the 'Open Internet', instead imposing territorial borders.

This paper considers the growing imposition of territorial borders within the Internet, and how this is instituting a growing emergency of 'sovereignty' at a

Our Research Directions

1. How can we overcome **technical limitations**?
2. What are the **political constraints**, **policies** and **motivations**?

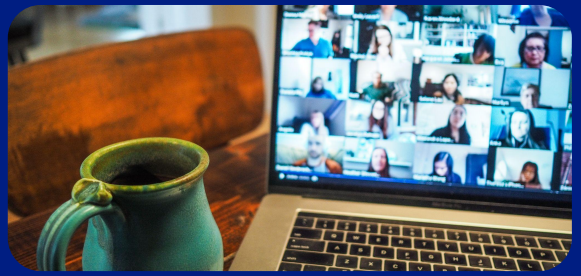


Current Research Focus

1. Information exposure in BGP-routed VPN traffic

2. Prominence of borders and sovereignty in the Internet

Proposing a Panel



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Ensuring Privacy in Private Networking

Focusing on the confidentiality property in Internet-based virtual private networking.

Photo by Jose Fontano on Unsplash

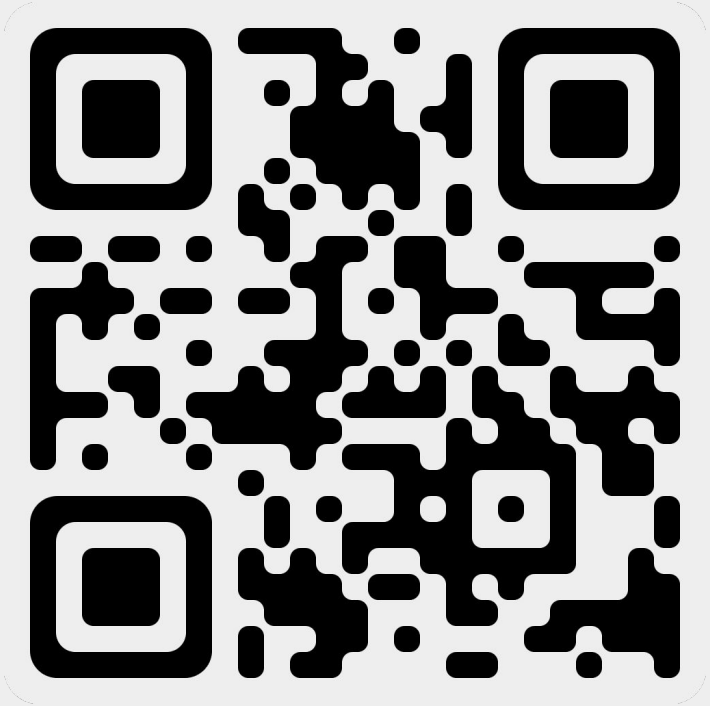
Facilitating a Secure Internet

Focusing on how network operators can assist in carrying and protecting confidential Internet traffic.

Photo by Mathias Reding on Unsplash

Governance & Motivation in Internet Routing

Focusing on the governance and motivations of network operators in the Internet space.



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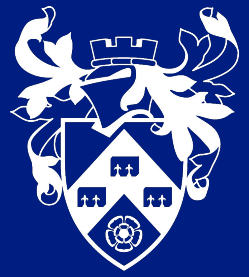
Support our Panel at UKNOF52

- Panel members
- Suggested questions
- Thoughts & feedback

bit.ly/uknof52-panel



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