

# Embedding UNESCO-Defined Open Science in Higher Education Institutions: Challenges and Opportunities

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## Abstract

*Open science, as defined by UNESCO, offers a transformative framework to foster transparency, inclusivity, and collaboration in scientific research. In Sub-Saharan Africa (SSA) as well as in South and Southeast Asian countries Malaysia and India, the Erasmus+ Capacity Building in Higher Education (CBHE) projects are initiating structured activities to embed open science principles into the policies and operational practices of participating higher education institutions (HEIs). This presentation explores the dual landscape of challenges and opportunities in implementing open science in the SSA and South and Southeast Asian context.*

*Despite the promise of increased knowledge sharing and international collaboration, especially SSA faces systemic challenges including inadequate digital infrastructure, limited researcher awareness and capacity, funding uncertainties, linguistic diversity, and ethical and legal ambiguities. Resistance to shifting long-standing academic norms further complicates implementation efforts.*

*However, the projects also highlight significant opportunities. By institutionalizing open science, HEIs can enhance research visibility, foster equitable participation, and support national development goals through locally relevant data and policy-relevant evidence. Capacity-building initiatives, facilitated through Erasmus+ partnerships, are equipping academics, administrators, and policymakers with skills to navigate and lead this transition. The presentation will outline the project's strategic approach—mapping institutional readiness, aligning policy frameworks, piloting open science curricula, and supporting operational implementation.*

*Drawing on case insights from participating African and Asian universities, the session will offer evidence-informed reflections on how the integration of open science at the institutional level can catalyse inclusive and sustainable research ecosystems across SSA, as well as the South and Southeast Asia. It will also invite dialogue on scaling these efforts regionally and globally.*

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