

**Online Franco-African Seminar in Digital Sciences - LIRIMA  
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**Communication network systems within white spot areas for more efficient smart territories**

**Abstract**

We aim to depict a couple of digital technologies-based applications that tackle population health as well efficient mobility for fishermen and breeders. For a sustainable livestock farming, transhumance is still performed and plays a very important role in the regulation of macroeconomic balances and social cohesion. According to climate change and fishing opportunities between Senegal other countries fishes are far away from Senegalese coastal.

Therefore, breeders and fishermen are quite often within white spot areas that are not covered by mobile network operators. In such cases, vital information dissemination towards stakeholders is not possible. Indeed, low-cost networks architecture which include mobile nodes and enables communication even when no permanent route between source and destination node should be deployed.

FerloNet proposes a holistic approach that addresses opportunistic delay-tolerant networks, Internet of Things, and device-to-device communication for an efficient information delivery within white spot areas. Furthermore, raw dataset gathered by FerloNet will be inputs for data assimilation models that aims to enhance and secure fisheries and agro-sylvo-pastoral activities.

**References**

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**Biography**

Cheikh Anta Diop (UCAD). In 2006, he received the Ph.D. degree in Computer Science from the University Pierre et Marie Curie - Sorbonne Universités, Paris, France. Between 2007 and 2010, he was Research Assistant (PostDoc position) at the Université de Liège (Belgium), Electrical Engineering and Computer Science Department.

He was the head of Computer Science Laboratory between 2014 and 2021. He is currently full professor with Université Cheikh Anta Diop, the head of Computer Science department, and the president of ASCII organization.

His research interests are in Internet measurements, measurement-based geolocation, and Wireless Sensors Networks (WSN), with recent focus on green cloud computing and network virtualization. In WSN, he promotes Sensor-based epidemiology detection. Besides, improving quality life in rural area has been taking a major role in our research -such as Pastoral mobility, livestock transhumance in Sahel, management of water point by using Internet of things.

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