With the rapid developments of Internet and mobile technologies (adaptive hypermedia, semantic web, seamless mobility are some), peoples (learners) are changing their way of living changing their behavior, becoming more active (mobility, personalization and simulation), and dynamically involving and engaging in the learning experiences (communities, collaboration, connectedness etc). Monolithic designs of the traditional E-Learning/Mobile Learning (hereafter will be called E-Learning) platforms, first (blackbox type and content based) and second (modular and learning object based) generations of LMS, are failing to keep pace with these changes. Social and collaborative learning experiences in a diversity of technologies, architectural flexibility, information interoperability, adaptive to need of the learners (learners wish their contextual needs fulfilled without bothering about underlying technologies) are some of challenging issues for the next-generation E-Learning environments [1]. E-Learning Framework (ELF) [2], Open Knowledge Initiative (OKI) [3] and IMS Abstract Framework (IAF) [4], Open Mobile Abstract Framework (OMAF) [5] are defining service-oriented based specifications and guidelines for the E-Learning platforms and frameworks. [5, 6] are some research initiatives in this area to address these challenges but most work is in its early stages. We in FABULA project [7], which is the part of multidisciplinary effort among IDI, ITEM and LIKT at NTNU Norway, will explore service-oriented vision with novel principles and technical solutions for the next generation of the E-Learning platforms emphasizing collaborative process of knowledge construction and sharing enabled by seamless mobile networks and location awareness within a city.

My PhD research focus in the context of FABULA is, on the service-oriented development of seamless and collaborative learning services using novel principles and mechanisms for their dynamic service provisioning and tailoring. I aim to create a service oriented delivery platform that supports dynamic deployment, adaptation, location awareness and seamless delivery of learning services. The goal is to simplify service design and implementation, supporting dynamic service provisioning and composition and assuring scalable service execution and network independence. Important challenges are modularization, separation of concerns and service composition letting the users build custom E-Learning application (active and passive services) choosing right combination of services (service composition, service discovery, service assembly) for their specific need, at specific time and in dynamic ways. My preliminary approach is to apply the model-driven approach [8] combined with service delivery platform to enable model driven engineering of learning services.

REFERENCES