

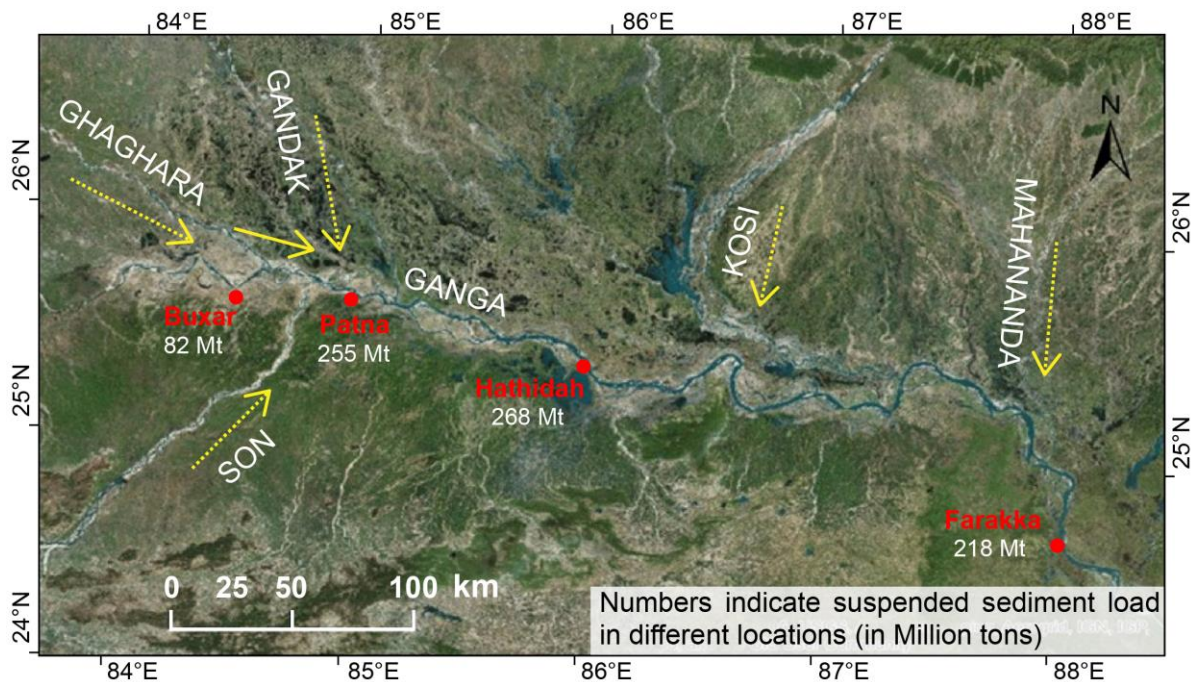
## Seminario

# Sediment flux from the Himalayan rivers: causes, controls and consequences

Giovedì, 7 novembre – ore 16:30 Aula Arduino

Relatore: **Prof. Rajiv Sinha**

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## Abstract

The plains of Northern India are fed by the Himalayan as well as peninsular rivers and form one of the largest alluvial systems in the world. The Himalayan rivers are characterized by exceptionally high sediment flux from the tectonically active hinterland compared to the rivers draining from the peninsular India. Apart from high sediment production, monsoonal rainfall in the Himalayan hinterland further helps to bring these sediments down into the alluvial reaches of the rivers where lower slopes and wider channels encourage natural deposition of sediments. As a result, many rivers have been aggrading through time in their alluvial reaches, and the lower reaches of the Ganga river is a good example to illustrate this problem. Several stretches of the lower Ganga are completely filled with sediments resulting in major morphological changes leading to migration of rivers and flooding in unexpected areas and at unexpected times. Identification of such 'hotspots' of siltation and a first order sediment budgeting are important steps for designing sustainable river management strategies. This seminar will discuss the processes controlling the sediment production and transport in Himalayan river basins and will show some results on sediment flux estimation in the lower reaches of the Ganga river using a combination of hydrologic and geomorphic approaches to identify the 'hotspots' of planform dynamics and sediment budgeting.

Proponente: **Alessandro Fontana**