

# The Himalaya in 3D: Slab Dynamics Controlled Mountain Building and Monsoon Intensification

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How do mountains shape Earth system evolution? Specifically, how does the growth of mountains occur, and how does such growth impact Earth's climate, oceans, and biology? Tectonics and climate are thought to interact: do they? In what cases does tectonics control climate, and vice versa, on regional and global scales? What records allow us to answer such questions?

By considering the Himalayan example, we see that advances in understanding the 3D evolution of the mountain belt can lead to new answers to the above questions. With the advent of the 2D channel flow model, the Himalaya has been considered the classic case of climate controlling crustal deformation. A 3D perspective suggests instead that the lithospheric dynamics and resultant topographic changes may have intensified the South Asian monsoon. In this talk we will review the Himalayan example, and explore next steps.

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**11:30 a.m.**



**Conference Room, 3/F,  
Mong Man Wai Building**



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