



**INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS**

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Programme of Study : Ph.D.

Thesis Title:

Understanding the Process-Response Mechanism of Hierarchical Nature in a Large Scale Braided River

Name of Thesis Supervisor(s) : Prof. Subashisa Dutta

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SHORT ABSTRACT

Braided rivers are characterized by complex, unstable river network formed due to the interaction of high flow energy and intense sediment transport. They generate complex morphological adjustments over a braided corridor as a response to changes in flow and sediment supply. This thesis aims to work for understanding the river processes of the Brahmaputra River. Morphology of the Brahmaputra River is complex and dynamic due to high variability in flow and sediment, wide sand-bed corridor and severe bank erosion. The objectives of the thesis focus to understanding of river behavior and mechanics through field, laboratory, and modeling based studies which is beneficial for river management and also for effective river training.