

Role of Thalamo cortical interactions in reorganization of directed information flow with aging in brain networks

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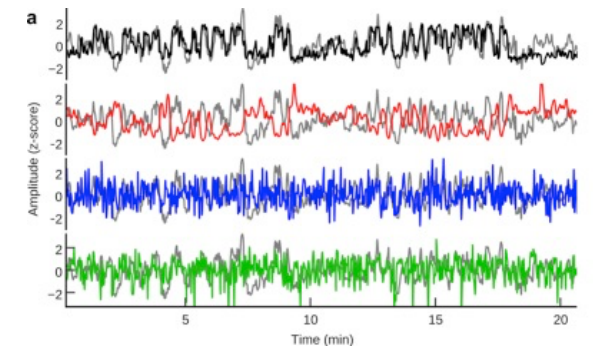
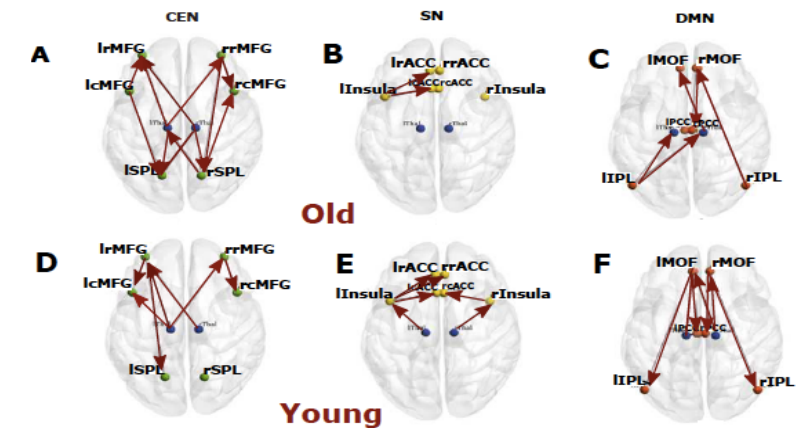
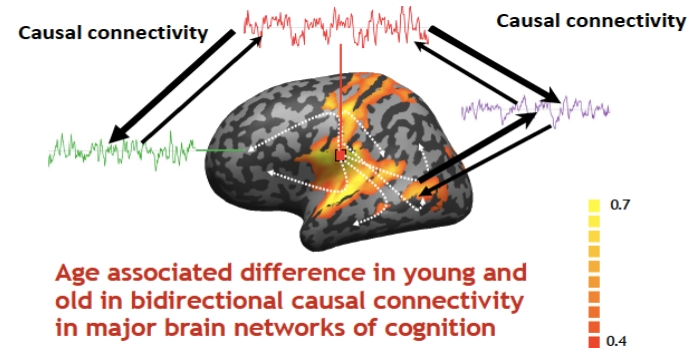
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Reconfiguration of Directed Functional Connectivity Among Neurocognitive Networks with Aging: Considering the Role of Thalamo-Cortical Interactions

Moumita Das, Vanshika Singh, Lucina Q Uddin, Arpan Banerjee, Dipanjan Roy ✉

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This work provides insight for the first time about specific role of the human thalamus as causal outflow hub in reorganizing directed information flow and connectivity among large-scale major neurocognitive networks during brain aging. This reorganization of directed functional connectivity with age during spontaneous activity highlights the importance of subcortical areas even during stimulus independent processing. Further, this discovery leads to understanding the crucial role of the Thalamus as a major integrative hub in addition to insular network for mediating key cognitive functional dynamics and their role during maintenance of cognitive functions during healthy aging process in the human brain.