**Tracing information flow on a global scale using**

**Internet chain-letter data**

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**Abstract**

Although information, news, and opinions continuously circulate in the worldwide social network, the actual mechanics of how any single piece of information spreads on a global scale have been a mystery. Here, we trace such information-spreading processes at a person-by-person level using methods to reconstruct the propagation of massively circulated Internet chain letters. We find that rather than fanning out widely, reaching many people in very few steps according to “small-world” principles, the progress of these chain letters proceeds in a narrow but very deep tree-like pattern, continuing for several hundred steps. This suggests a new and more complex picture for the spread of information through a social network. We describe a probabilistic model based on network clustering and asynchronous response times that produces trees with this characteristic structure on social-network data.

**About the speaker**

Xiangyu Yi received the Bachelor degree from Harbin Institute of Technology in 2010 and 2014, majoring in Software Engineering. Now, he is a graduate student in Fudan University. His research interests include Financial Informatics, Social Network. And now his work point is rumor spreading and social gaming networks.