

This is to certify that

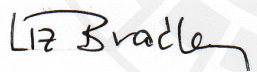
HIROAKI HAMADA

has successfully completed the Santa Fe Institute's Massive Open Online Course

**Nonlinear Dynamics: Mathematical and
Computational Approaches (Fall 2017)**

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December 22, 2017



Liz Bradley, Lead Instructor



David Krakauer, Santa Fe Institute President