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UK Atomic Energy Authority

**Vignesh Gopakumar, Scientific Machine Learning Eng.**  
**Solving Fluid Dynamics with Neural Networks**

FusionEP

Meeting ID: 82145836365

18:00 PRAGUE MAY 28

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**Title:** Solving fluid dynamics with Neural networks

**Speaker:** Vignesh Gopakumar, Scientific machine learning Engineer, UKAEA

**When:** 2020-05-28 18:00:00

**Abstract:** Vignesh is a scientific machine learning engineer at the UK Atomic Energy Agency and an alumni of the European Master in Fusion Science and Engineering Physics. He uses neural networks as a surrogate for the fluid equations describing the behavior of fusion plasma in JET and MAST-U. In his FusionEPTalk, Vignesh will introduce the neural network solvers for partial differential equations. These regression models, which provide solutions while preserving most of the underlying physics, are particularly efficient in data-starved physical scenarios. Join the webinar and learn how to use his group's state-of-the-art python package for solving PDEs with artificial neural networks.

**Email:** [fusionep-talks@egyplasma.com](mailto:fusionep-talks@egyplasma.com)

**Website:** [fusionep-talks.egyplasma.com](http://fusionep-talks.egyplasma.com)