The Department of Radiology and Northwestern University Feinberg School of Medicine are pleased to announce a 4D flow MRI training curriculum for physicians, technologists, and MRI researchers.

**Target Audience**

The 4D flow course is intended for physicians, technologists, and MRI researchers who have a basic proficiency in MRI and/or knowledge of cardiovascular MRI, who wish to leverage the capabilities of their MR systems for 4D flow MRI and expand their knowledge on 4D flow data analysis. Analysis training will use the Circle Cardiovascular Imaging 'cvi42 4D flow software'.

**Program Description**

The program incorporates didactic instruction with practical live scanning at the scanner console and hands-on 4D flow data processing (3D flow visualization, flow qualification, etc.). 4D flow imaging basics and analysis concepts will be systematically introduced, including 4D flow MRI imaging protocols and data analysis workflows. Additional expert lectures will cover clinical and emerging 4D flow application areas.

**Program Objectives**

- Review the basic concepts of 4D flow MRI.
- Gain practical knowledge in technical aspects and protocols of the 4D flow MRI examination: Live 4D flow in-vivo scans.
- Apply 4D flow MRI post-processing techniques: Hands-on training of 4D flow analysis concepts and workflows.
- Identify current clinical application areas and research topics.
- Work directly with 4D flow MRI experts to analyze real-life cardio-thoracic 4D flow MRI cases.

**Course Co-Directors**

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