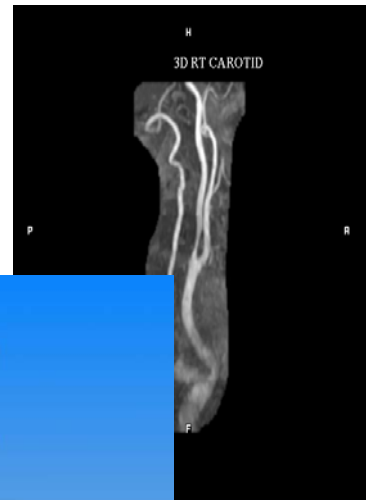
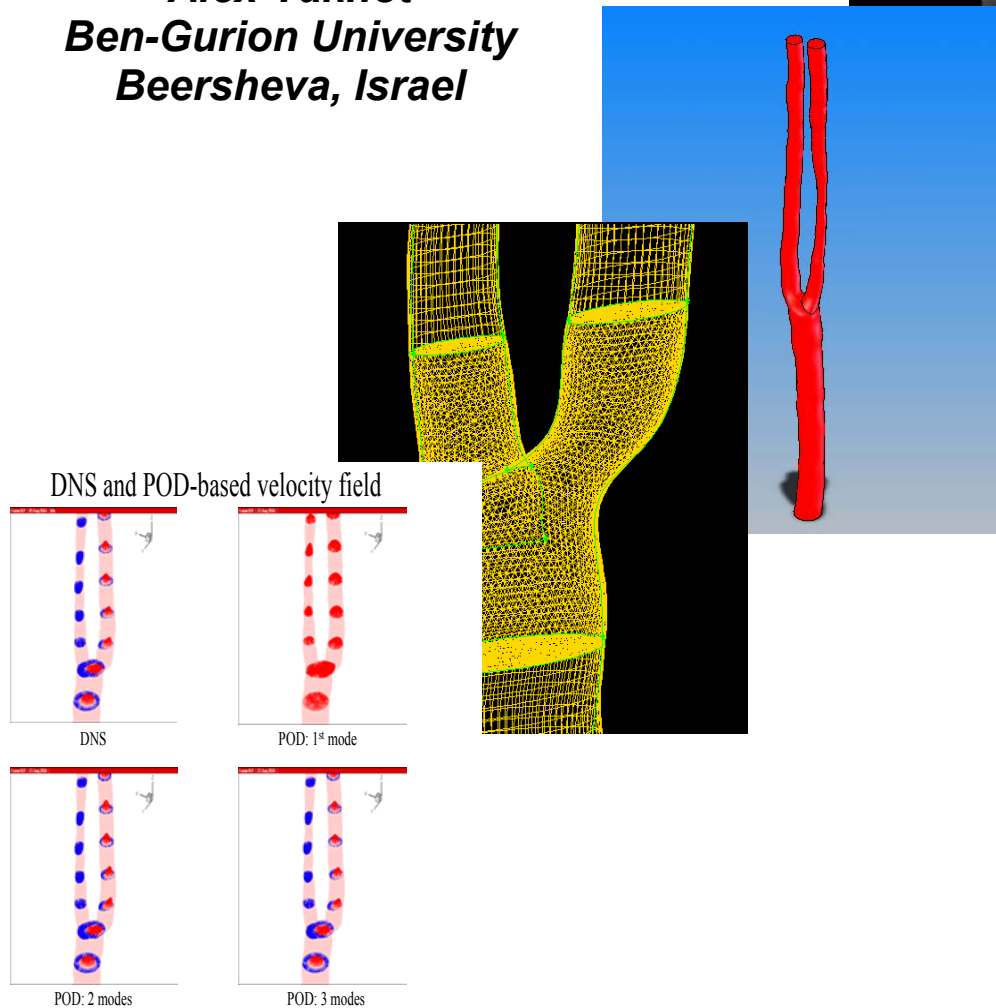


Patient-Specific Computer-Aided Analysis of Stenosed Arteries (from MRA images to POD-based animation)

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We present a prototype of a patient-specific analysis of cardiovascular lesions. The methodology uses an image-based computational fluid dynamics (CFD) and includes the following steps: (a) reconstruction of anatomically realistic continuous geometric model of a stenosed artery from magnetic resonance angiography (MRA) images; (b) generating a computational mesh; (c) direct numerical simulations (DNS) of an arterial flow; (d) POD (proper orthogonal decomposition) analysis of DNS-driven data in order to extract meaningful clinical information.

This study has been conducted in collaboration with Tomer Anor (Ben-Gurion University) and is supported by BSF Grant, PIs: A. Yakhot, Z. Yosibash (Ben-Gurion University), G.E. Karniadakis (Brown University), A.S. Popel (Johns Hopkins University).