## 6. The Vortical Structure of a Round Jet in Cross Flow

Kim, K. C. [1]

1) *Professor, School of Mechanical Engineering, Planning and Steering Director, Institute for National Project Operation, Pusan National University, Pusan 609-735, Korea.*
Tel : 82-51-510-1464 or 2324   Fax : 82-51-582-8581
E-mail : kckim@hyowon.cc.pusan.ac.kr
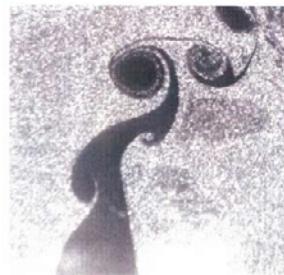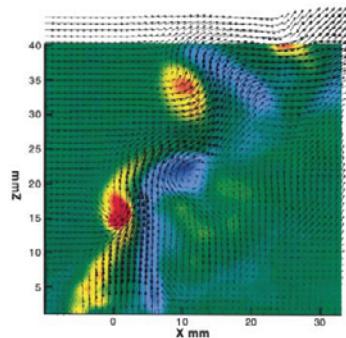
Instantaneous velocity vector and vorticity field of the center plane of a cross flow jet. The round air jet is issued nomally from a nozzle whose diameter is 14 mm to the main duct having 100 mm by 100 mm square section. The average velocity of the cross flow is 0.7 m/s and the jet velocity is 2.1 m/s. The plane velocity vectors are obtained using an Nd:Yag laser (200mJ/pulse) based PIV system with a 1K by 1K pixels CCD camera. TSI's INSIGHT-NT software is used to capture and interrogate the PIV velocity field. The red color corresponds the counter clockwise vortex while the blue color denotes the clockwise vortex.

An instantaneous laser tomographic image of the center plane of the cross flow jet. The experimental conditions are same as above. The laser sheet whose thickness is about 1 mm is illuminated by the 200mJ/pulse Nd:Yag laser during 5ns. To clarify the boundary of the jet fluid, particles are supplied only to the cross flow duct. The roll-up structures are vividly appeared in both front and rear boundaries of the jet.

7. Volume Based VOXEL-MAN Anatomy Atlas

Krämer, H.[1], Höhne, K. H.[1], Maas, R.[2], Pommert, A.[1], Richter E.[3], Riemer, M.[1], Schiemann, Th.[1], Schubert, R. [1] and Tiede, U.[1]

1) *Institute of Mathematics and Computer Science in Medicine, University Hospital Eppendorf, 20246 Hamburg, Germany.*
2) *Department of Radiology, University Hospital Eppendorf (address same as above)*
3) *Department of Pediatric Radiology, University Hospital Eppendorf (address same as above)*
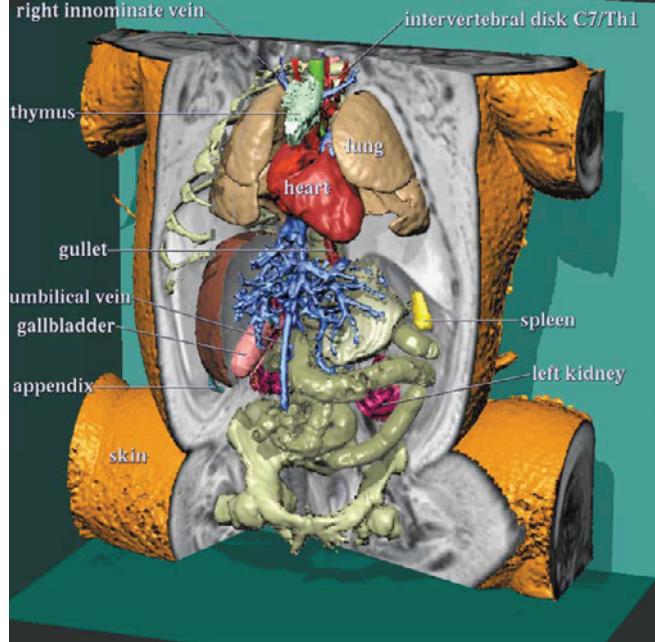
Data were collected as a sequence of magnetic resonance tomograms of a 30 week old stillborn fetus. The resulting image volume was segmented into about 200 anatomical objects. The VOXEL-MAN system allows the linkage of the volume model to a semantic network knowledge base. Thus the model cannot only be arbitrarily viewed and dissected, but also inquired concerning the stored knowledge. Here a user has asked the system to annotate the objects by mouse click. More information:
http://www.uke.uni-hamburg.de/idv