## First Israel OpenFOAM® user group meeting 30.7.2012

9:40-9:50	Prof. Aviv Rosen, Technion Aerospace faculty, opening remarks		
9:50-10:00	Hanan Einav-Levy, Technion Aerospace faculty, overview of OpenFOAM world community		
10:00-10:20	Philipp Hofemeier, Technion biofluids laboratory		
10:20-10:30	Dr. Seror Stephane – Head IAI CFD Dept - Why OpenFOAM as a R&D CFD platform Strategy and Risk Evaluation		
10:30-10:40	Alex Landsberg, Eshkol Ltd./IAI - installation and compilation of OF on Infiniband Intel i7 HPC Cluster		
10:40-11:00	Marom Shlomo, IAI CFD Dep application and comprehensive evaluation of OF for Aerospace Industrial full aircraft configurations - insight on bad drag accuracy of OF solvers		
11:00 – 11:20	Eli Friedman, IAI CFD Dept - towards accurate OpenFOAM RANS flow solver - recent improvement of OF by IAI C++ implementation of the 2nd order accurate scheme AeroFoam		
11:20 – 11:40	Lev Magazinnik, Ben Gurion University of the Negev		
11:40 – 11:50	Coffee break		
11:50 – 12:30	Discussion - How to organize the Israeli OF user group, agendas and interests		

#### what are the versions of OpenFOAM? two major development branches 2.1.0 2.1.1 2.0.1 2.0.0 OpenCFD 1.6 1.7.0 1.7.1 1.5 1.7.1 Nabla 1.5-dev 1.6-ext Wikki/ OpenFOAM-Extend

From David Boger's slides, OFW6

## what is OpenCFD Ltd.?

- Established in 2004 by Henry Weller, coinciding with the release of OpenFOAM under general public license
- From www.openfoam.com/about: "OpenCFD® produces the OpenFOAM® open source CFD toolbox and documentation and distributes it through this web site. OpenCFD provides contracted developments, support and training for users of OpenFOAM"

#### From David Boger's slides, OFW6

# what is the Extend Project?

- Originated by Wikki, Ltd. (Hrv Jasak et al.) in 2004
- Core group
  - Hrv Jasak, Hakan Nilsson, Bernhard Gschaider, Henrik Rusche, Holger Marschall, Martin Beaudoin
- From www.extend-project.de: "The goal of the Extend-Project is to open the OpenFOAM® CFD toolbox to community contributed extensions in the spirit of the OpenSource development model."
- Organizers of the OpenFOAM workshops

From David Boger's slides, OFW6

## OF workshop's overview

- Training day
- Lectures (1-2 days)
- Special interest groups
  - Turbo-machinery
  - Turbulence
  - Wind energy
  - Multi-phase
  - ...





## OF workshop's overview

Monday, June 25, 2012 Training Courses on OpenFOAM® Technology

Training Courses on Openi OA.4 Technology				
<u>Track 1</u> <b>Basic</b> Level 1 (A/B/C)	Track 2  Advanced  Level 2 (E)	Track 3  Advanced Level 2 (D)	Track 4  Advanced Level 2 (D)	
Running my First Case with 8:30*-10:30 OpenFOAM; I. Buntić-Ogor (room: hassium) (slides material)	A comprehensive tour of snappyHexMesh, E. de Villiers (room: helium2) ( <u>slides</u> )	Thin liquid film flow simulation with OpenFOAM; Z. Tuković (room: titanium3) (slides material)	<b>Turbomachinery</b> ; H. Nilsson (room: germanium) ( <u>slides material</u> )	
10:30-10:45 Coffee Break				
Generic external aerodynamic 10:45-12:45 simulation training; T. Grahs (room: hassium) ( <u>slides material</u> )	C++ in protectOpenFOAM - Object orientation, generic programming and polymorphism by examples; T. Marić (room: titanium3) (slides material)	A deeper look into Lagrangian spray source code; P. Keller (room: germanium) ( <u>slides</u> )	Multiphysics Simulation - Inter- Region and Inter-Equation Coupling in OpenFOAM; H. Jasak (room: helium2) (slides)	
12:45-13:30 Lunch				
How to add a Scalar Transport Equation to scalar TransportFoam; H. Rusche (room: hassium) (slides material)	Programming Model Libraries from Scratch: K. Kissling (room: titanium3) (slides material)	Immersed Boundary Method in OpenFOAM; Z. Tuković (room: helium2) ( <u>slides material</u> )	Marine Hydrodynamics; E. Patterson (room: germanium) ( <u>slides material</u> )	
15:30-15:45	Coffee	Break		
Automatic testing of solvers 15:45-17:45 using PyFOAM; B.F.W. Gschaider (room: helium2) (slides material)	A brief Introduction to Function Objects; J. Höpken (room: hassium) ( <u>slides</u> )	Adaptive Tetrahedral Re-Meshing for Deforming Domain Simulations: K. Mooney (room: germanium) (slides material)	Fluid Structure Interaction Simulations with OpenFOAM; M. Lombardi (room: titanium3) (slides material)	

### OF workshop's overview

Monday, June 25, 2012 Training Courses on OpenFOAM® Technology

Track 1

Basic Level 1 (A/B/C) Track 2

Advanced Level 2 (E) Track 3

Advanced Level 2 (D)

Track 4

Advanced Level 2 (D)

The 8-th OpenFOAM® Workshop will be held in South Korea, Jeju from June 11 (Tue) to 14 (Fri), 2013. Venue is the International **Convention Center (ICC).** 

Generic external aerodynamic 10:45-12:45 simulation training: T. Grahs

(room: hassium) (slides material)

12:45-13:30

How to add a Scalar Transport 13:30-15:30 Equation to

scalarTransportFoam: H. Rusch (room: hassium) (slides material)

15:30-15:45

Automatic testing of solvers 15:45-17:45 using PyFOAM; B.F.W. Gschaider (room: helium2) (slides material)

Object orientation, generic programming and

A deeper look into Lagrangian spray source code: P. Keller

Multiphysics Simulation - Inter-Region and Inter-Equation Coupling in OpenFOAM; H. Jasak (room: helium2) (slides)

Marine Hydrodynamics: E.

Patterson

(room: germanium) (<u>slides mate</u>rial)

Fluid Structure Interaction Simulations with OpenFOAM; M. Lombardi

(room: titanium3) (slides material)



OpenCFD

- Where to get and give help
- www.openfoam.com/docs
- The Forum
  - www.cfd-online.com/forums/openfoam
- The wiki
  - http://openfoamwiki.net/index.php/main FAQ
- The OpenFOAM® Extend Project
  - http://www.extend-project.de
  - SIG
  - User groups
- Previous workshop presentations and training
  - http://www.openfoamworkshop.org/2012/downloads/
  - http://www.openfoamworkshop.org/2011
  - ...



## Israel OF user group - discussion

#### Agenda ideas

- Exchange information
- Organize user group meetings
- Organize hands-on training meetings

#### Tools

- Discussion forum extend-project.de/
- Wiki page openfoamwiki.net/