

2014.09.29 - blueCAPE releases blueCFD-AIR 1.04

blueCAPE presents blueCFD®-AIR 1.04, the latest release of its application that allows a more efficient application of Computational Fluid Dynamics (CFD) to problems in buildings and structures. Architecture, Engineering and Construction (AEC) professionals thus gain access to an easy to use and highly precise tool for fluid flow problems.

The CFD capabilities in blueCFD-AIR are provided by blueCFD®-Core 2.2-0 (formerly known as blueCFD), which is a high quality cross-compiled build version of OpenFOAM® 2.2.x for the Windows Operating System; the possibility to couple to other CFD software (such as STAR-CCM+®) is planned for future versions of blueCFD-AIR. The complete release notes for blueCFD-AIR 1.04 are provided here. Latest features:

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Upgraded blueCFD-Core CFD engine from OpenFOAM 2.1.x to 2.2.x.

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Added experimental capability to import STL models with obstacles that act as patches.

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Introduced a new slick tree interface for the work-flow steps Type and Boundary Conditions.

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Added colour coding for boundary conditions on the 3D surfaces of the respective patches.

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Improved the representation of mesh section-cuts.

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Added ability to select multiple patches/surfaces directly in the 3D display.

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Added passive scalar transport of three categories:

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Predefined gas tracers (concentration or flux)

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Custom gas tracers (concentration or flux)

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Stream tracers (dimensionless)

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Improved turbulence modelling for natural circulation.

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Added new turbulences model: Algebraic mixing turbulence model, proposed by Chen & Xu in 1998.

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Customizable default values for initial conditions in patches.

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Improved threshold inlet boundary condition, which now works in any direction.

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Introduced a relaxed mass flow equilibrium for when all inlets and outlets are of fixed flow rate/speed.

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Introduced sanity checking of results, namely: Dimensionless wall distance, Mach Number and Temperature range.

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Streamlines: switched from interactive 3D line-widget to plane-widget.

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Post-processing section-cuts: switched from numeric interface to interactive plane-widget.

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Added ability to colour results with solid colour.

Demonstration of some of the latest features (click on the images to enlarge):
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With the positive feedback we've received with the technology preview of blueCFD-AIR released in December, we've decided to extend the early adopters discount until we release blueCFD-AIR 2.00. Therefore, 400 USD secures a license (multi-core enabled) for one year and gets you access to support and updates. Academic users are also welcome and get access to the software free of charge. For more information please visit: <http://bluecfd.com/AIR#How to Buy>. If you do decide to financially support blueCFD-AIR you will be enabling a faster development of this application, as well as getting the chance to influence the definition and implementation of future features, as explained in the Features section. Either way, we appreciate any and all feedback!

Registered users on our website will automatically have access to the Limited Trial version of blueCFD®-AIR, which can be used for an unlimited time with a single model. 30 day trial licenses are also available through our contact form, for using any model imported from the following file formats:

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gbXML - only tested with Autodesk® Revit®, for which blueCFD-AIR already provides an easy export-and-open plug-in.

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STL - currently only supports in ASCII format and the solid names must follow blueCFD-AIR's specific naming criteria. For easier generation of these models, blueCFD-AIR provides an easy export-and-open plug-in for SketchUp.

Disclaimers:

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