

# Thermal Modeling using ANSYS Icepak

**9th - 11th October 2017 | 9:00 am - 5:00 pm**

CAD-IT Consultants (Asia) Pte Ltd,  
159 Sin Ming Road #03-05 Amtech Building,  
Singapore 575625

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## Introduction

ANSYS Icepak provides flow and thermal management solutions for many types of electronic design applications. For more than a decade, companies around the world have relied on ANSYS Icepak to carry out rapid heat transfer and fluid flow analysis of IC packages, printed circuit boards and complete electronic system as well as to perform easy validation of design modifications before building any physical prototypes.

## Objectives

The primary goal of this course is to update and reinforce the skills of working in the ANSYS Icepak user environment for electronics thermal modeling. Guidance and best practises on various aspects of thermal modeling are covered with time for Q&A. Hands-on tutorials to work through the entire simulation process for various example problems are provided. Topics include :-

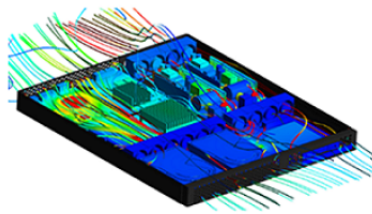
- Flow Modeling, Flow Resistance, PCB Modeling, Heat Sinks, IC Packages, Turbulence Modeling, Radiation, Joule Heating
- Tips, Tricks & Best Practises

## Pre-requisites

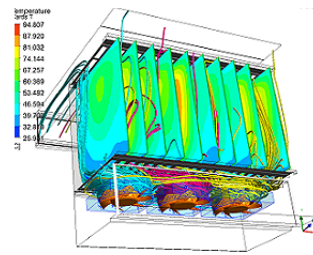
- A technical education and background in fluid mechanics and heat transfer is recommended but an engineering degree is not required.
- Some experience with ANSYS Icepak and/or completion of the Introduction to ANSYS Icepak course is recommended but not required.

## Who Should Attend

- Engineers and technical managers interested in electronics thermal management.



Fluid streamlines and temperature contours for 1U network server. Multi-level hex-dominant mesh accurately represents the complex geometry



Velocity streamlines colored by fan for a card array in a VME format box cooled by 3 axial fans

## What customers say about our solutions

*"Icepak provides a quick, accurate and reliable tool for the thermal management design and analysis of our products."*

**Dr. Matteo Fabbri, Scientist, Corporate Research ABB Switzerland Ltd**

*"Our engineers liked Icepak's non-conformal meshing tools that make it possible to separately mesh – usually with a finer mesh than the rest of the model – critical areas within the system, such as high-dissipation components. This increases accuracy in critical areas without unnecessarily increasing computational time requirements."*

**Patrick Weber, Mechanical Engineer, Datron World Communications, Inc.**

*"We use ANSYS software because we need to speed up our development process for new products by speeding up all phases of design. With simulation we can investigate inside our products virtually, not physically, and look at detail that would be impossible to evaluate otherwise. We can improve the efficiency of our products by investigating small changes in parameters and spend less time than we would for creating a real prototype and testing."*

**Matteo Cipelli, Advanced Engineering COE Manager, Lowara Srl**

## Course Information

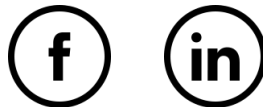
- Detailed Course Content [\(click here\)](#)
- This is a chargeable training course. Kindly contact us for more information. Payment must be received prior to commencement of training course.
- Seats are limited and allocated on a first-come-first-serve basis. So please book your place early to avoid disappointment.
- CAD-IT Consultants reserves the right to cancel or postpone the event due to unforeseen circumstances.

## Presenter Profile



**Dr Lee Yong Jiun** is a Technical Manager with CAD-IT. He graduated from National University of Singapore with a PhD in Mechanical Engineering. His Research Focus was on Thermal management in Electronics, primarily using ANSYS solutions.

Dr Lee was with the Institute of Microelectronics and served as Project Leader to design, fabricate and characterize a package level thermal management solution. He has also worked for INTEL Technology as Assembly Technology Development Engineer, where his primary responsibility of the job was to develop a robust flip chip assembly process for Intel next generation chipsets. Dr Lee is responsible for the technical support of ANSYS CFD solutions.



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