



## Abaqus 用户子程序及建模讲习班邀请函

尊敬的用户：

Abaqus 软件凭借卓越的非线性、接触分析能力和方便的用户模型子程序界面，赢得了广大数值工程师、研究人员的认可和赞誉。应广大客户要求，沈阳工业大学沈新普教授和 Abaqus 北京代表处联合在沈阳工大成功举办了4次 Abaqus 培训班之后，将于2008年8月23-28日举办 Abaqus 中级建模及用户子程序培训班。本班将根据学员实际情况，有选择地省略部分初级知识介绍，以最短的时间传授最常用的 Abaqus 技能。沈新普教授具备多年 Abaqus 计算工程经验，将与大家分享他在有限元建模及用户子程序开发方面的多年积淀和宝贵的经验。

### 培训内容包括：

1. Abaqus/CAE 建模技术；
2. Abaqus/Standard 分析技术及数据文件操作；
3. Abaqus/Explicit 动力分析技术及数据文件操作；
4. 用户子程序：Dload、Disp、Umat、Uvarm 等复杂载荷、边界条件、用户本构模型、内部力学量的调用、材料参数渐变子程序等内容。

5. Abaqus 大模型操作技术：子结构和子模型(本部分各讲题目见附件 pdf 文件)

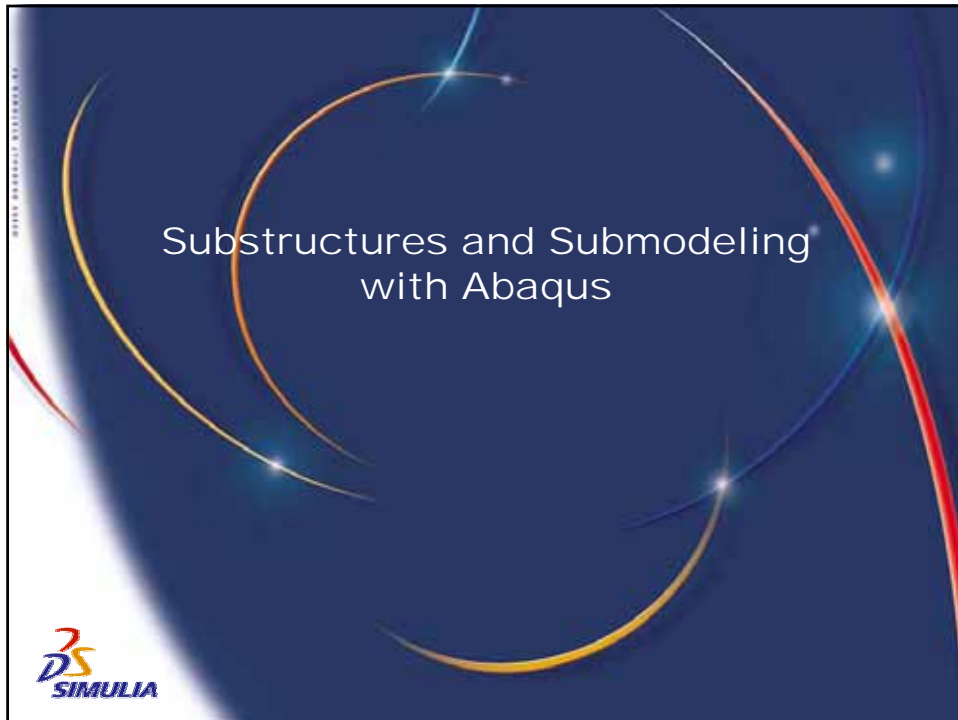
### 讲习班详情如下：



时间	2008年8月23日-28日，共6天；分3个阶段； 可以只选某个阶段报名。
地点	沈阳工业大学
费用	第一阶段：8月23-24，Abaqus用户子程序培训： 学生每人400元/天*2天=800元 非学生每人500元/天*2天=1000元 第二阶段：8月25-26，Abaqus建模技术培训： 学生每人400元/天*2天=800元 非学生每人500元/天*2天=1000元 第三阶段：8月27-28，Abaqus大模型操作技术： 子结构和子模型 学生每人500元/天*2天=1000元 非学生每人600元/天*2天=1200元 上述费用包括教材费、茶歇和午餐费。
咨询电话	13998124171 沈新普教授，博士生导师 13381359506 张涛 Abaqus北京代表处工程师
电子邮件	<a href="mailto:xinpushen@vip.sina.com">xinpushen@vip.sina.com</a> <a href="mailto:tao.zhang@abaqus.com.cn">tao.zhang@abaqus.com.cn</a>
欢迎访问沈新普教授个人主页： <a href="http://www.shenxinpu.com">www.shenxinpu.com</a>	

### 备注：

1. 本次培训主要面向研究生和工程技术人员，请学员自备笔记本电脑用于每天下午的操作练习；
2. 培训费优惠：同一单位来两人培训费八折优惠，来三人及以上七折优惠；
3. Abaqus北京代表处将为参加培训的合格学员颁发培训结业证书；
4. 住宿：沈阳工业大学科技园附近招待所，费用自理，可代定；
5. 请准备参加培训的学员以电子邮件或电话方式尽早报名及确认。



2

Overview

- **Substructuring versus Submodeling**
  - **Substructuring:** A technique in which a model is divided into regions (substructures).
    - The stiffness characteristics of each region are obtained independently, and these stiffnesses are used to represent the regions (substructures) in subsequent analyses.
    - A representative stiffness is used to obtain a global solution.
  - **Submodeling:** A technique that provides detailed solutions in local regions based on previously generated global solutions.
    - An existing solution is used to drive the local solution.

Substructures and Submodeling with Abaqus  
Copyright 2007 Dassault Systèmes

## Day 1

- **Lecture 1:** Introduction to Substructures
- **Lecture 2:** Using Static Substructuring in Abaqus
- **Lecture 3:** Substructuring as a Linear Perturbation about a Preloaded State
- **Lecture 4:** Dynamic Substructuring
- **Lecture 5:** Substructure Output
- **Lecture 6:** Substructuring Examples
- **Workshop 1:** Substructures: Plane Frame Analysis

## Day 2

- **Lecture 7:** Introduction to Submodeling
- **Lecture 8:** Submodeling in Abaqus
- **Lecture 9:** Abaqus Usage and Examples (Part 1)
- **Workshop 2:** Submodeling: Pressure Vessel Nozzle Analysis
- **Lecture 10:** Abaqus Usage and Examples (Part 2)
- **Workshop 3:** Submodeling: Ceramic-Metal Braze Joint
- **Lecture 11:** Submodeling Practices
- **Lecture 12:** Limitations of Submodeling



## Legal Notices

The information in this document is subject to change without notice and should not be construed as a commitment by ABAQUS, Inc.

ABAQUS, Inc., assumes no responsibility for any errors that may appear in this document.

The software described in this document is furnished under license and may be used or copied only in accordance with the terms of such license.

No part of this document may be reproduced in any form or distributed in any way without prior written agreement with ABAQUS, Inc.

Copyright © Dassault Systèmes 2007.

Printed in U.S.A.

The following are trademarks or registered trademarks of ABAQUS, Inc. or its subsidiaries in the United States and/or other countries:

Abaqus, Abaqus/Standard, Abaqus/Explicit, Abaqus/CAE, Abaqus/Viewer, Abaqus/Aqua, Abaqus/Design, Abaqus/Foundation, Abaqus/AMS, Abaqus for CATIA V5, VCCT for Abaqus, DDAM for Abaqus, Unified FEA, ABAQUS and the ABAQUS Logo. The 3DS logo and SIMULIA are trademarks of Dassault Systèmes.

Other company, product, and service names may be trademarks or service marks of their respective owners. For additional information concerning trademarks, copyrights, and licenses, see the Legal Notices in the Abaqus Version 6.7 Release Notes and the notices at: [http://www.simulia.com/products/products\\_legal.html](http://www.simulia.com/products/products_legal.html).



## Revision Status

Lecture 1	4/07	Updated for V6.7
Lecture 2	4/07	Updated for V6.7
Lecture 3	4/07	Updated for V6.7
Lecture 4	5/07	Updated for V6.7
Lecture 5	4/07	Updated for V6.7
Lecture 6	4/07	Updated for V6.7
Lecture 7	4/07	Updated for V6.7
Lecture 8	4/07	Updated for V6.7
Lecture 9	4/07	New for V6.7
Lecture 10	4/07	Updated for V6.7
Lecture 11	4/07	Updated for V6.7
Lecture 12	4/07	Updated for V6.7
Appendix 1	4/07	Updated for V6.7
Workshop 1	4/07	Updated for V6.7
Workshop 2	4/07	New for V6.7
Workshop 3	4/07	Updated for V6.7
Answers 1	4/07	Updated for V6.7
Answers 2	4/07	New for V6.7
Answers 3	4/07	Updated for V6.7