

CS3210 Parallel Computing

2015/16 – Semester I

www.comp.nus.edu.sg/~teoym/cs3210-15

Assoc Professor Teo Yong Meng

Room: Com2, #04-39

Email: teoym@comp.nus.edu.sg

Webpage: www.comp.nus.edu.sg/~teoym

Tel: 6516 2830

TA & Lab Tech

TA:

Dumitreloghin

Com2, #B-01, dumitreloghin@comp.nus.edu.sg



Sunimal Rathnayake

Com2, #B-01, sunimal@comp.nus.edu.sg



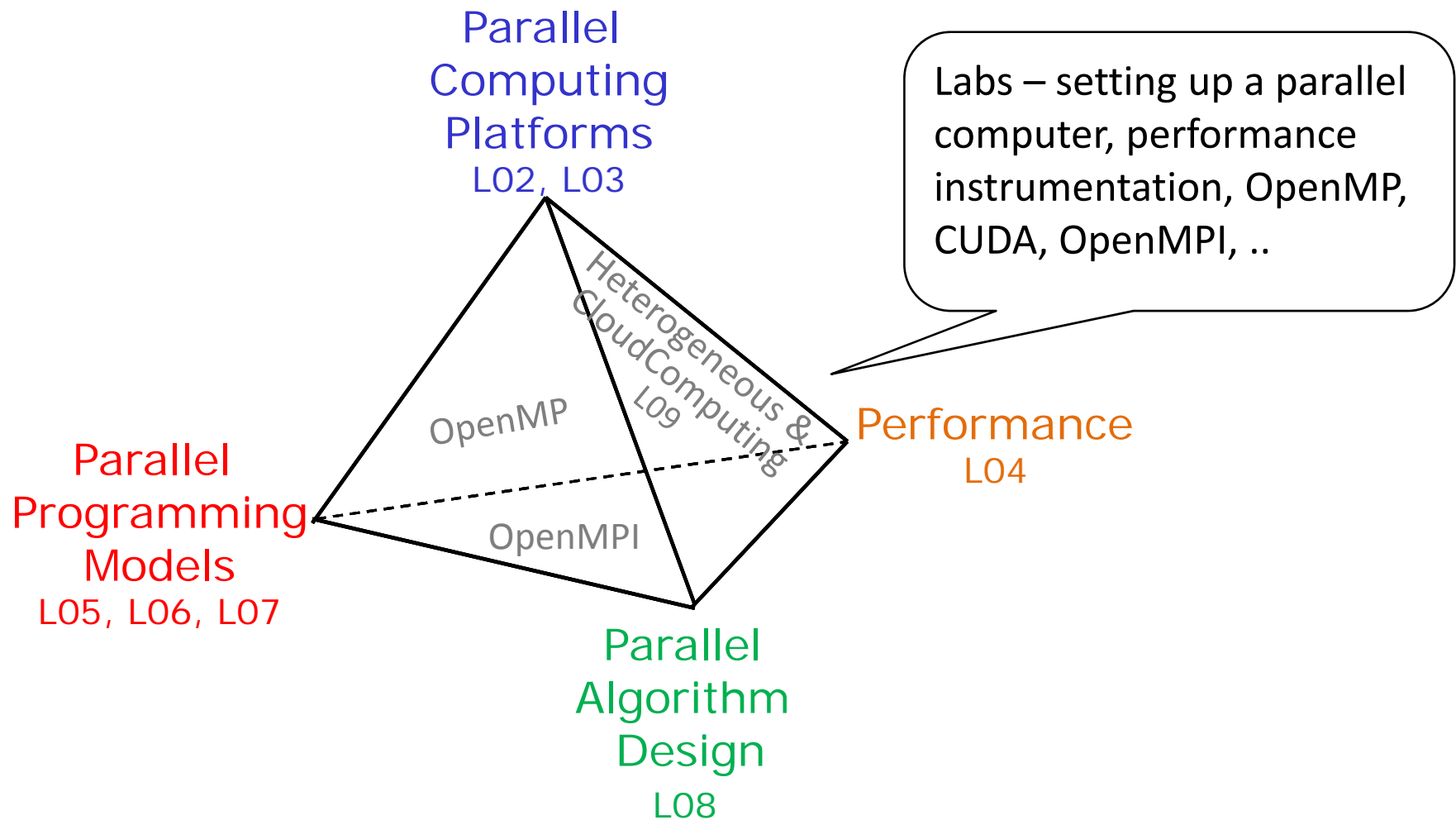
Lab Technologist:

Chan Chee Heng

Room: Com1, #01-01

Email: chanch@comp.nus.edu.sg

What will we cover?



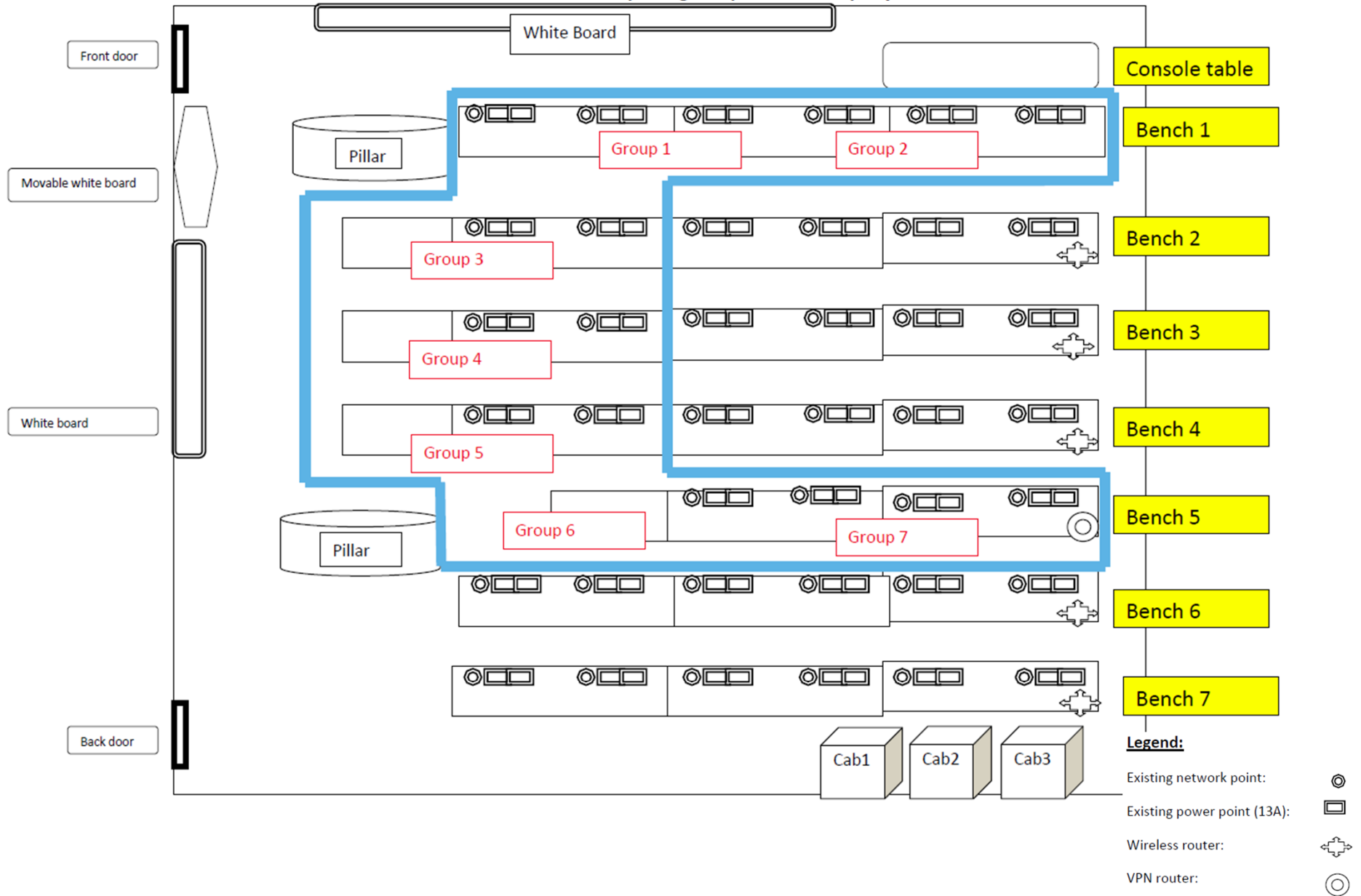
Course Schedule and Webpage

- Lecture: Tue, 2-4pm, Com1, #02-12 (SR3)
- Tutorials and Lab on alternate weeks:
 - Each session is 2 hrs (2nd hr is open session & optional)
 - Parallel & Distributed Computing Lab, Com 1, #B1-01
 - Group 1: Wed, 0900-1100 (Dumi/Sunimal/Teo)
 - Group 2: Wed, 1100-1300 (Dumi/Sunimal/Teo)
 - ~~Group 3: Mon, 1300-1500 (Dumi/Sunimal/Teo)~~
 - Tutorial Registration Coordinator: [Shen Yi \(shenyi@comp.nus.edu.sg\)](mailto:shenyi@comp.nus.edu.sg)
 - Hardware in lab is organized into 7 workbenches and each bench is shared among a group of 3 students

Lab/Tutorial Registration for Exchange Students

- http://www.comp.nus.edu.sg/undergraduates/useful_tutorial_registration.html - look for "Click here for Tutorial sign-up"
- Will need NUSNET ID and password to register

Parallel and Distributed Computing Lab(COM1#B-01) Layout



Course Schedule and Webpage

- Group discussions & assignments:
Parallel & Distributed Computing Lab, Com2, #B01-01
- Webpage:
 - IVLE
 - www.comp.nus.edu.sg/~teoym/cs3210-15 for lecture slides, tutorial and lab handouts, and assignments -> userid/password (IVLE announcement)

Schedule - <http://www.comp.nus.edu.sg/~teoym/cs3210-15/schedule.htm>

National University of Singapore
 DEPARTMENT OF COMPUTER SCIENCE
CS3210 PARALLEL COMPUTING
 Schedule (AY2015/16 - Semester I)

Wk	Date	Lecture - Tue 2-4pm, COM1 #02-12 (SR3)	Tutorial	Lab - Parallel & Distributed Computing Lab, Com1 #B1-01	Others/Comments
1	11 Aug	L00: Course Admin L01: Introduction		Lab Layout	
2	18 Aug	L02: Processor & Memory Organization		Lab1: Parallel Computing & Data Centers - visit to SoC datacenter	
3	25 Aug	L03: Memory Hierarchy & Interconnection Networks		Lab2: Setting up a Parallel Computer System and adding a new Node [slides]	
4	1 Sep	L03: Memory Hierarchy & Interconnection Networks	T01: Parallel Computer Architecture - I [solution]		Dumi away (VLDB) Assignment 1 (15%) : (due on 6 October) [programs] Comments
5	8 Sep	L04: Performance of Parallel Systems	T02: Parallel Computer Architecture - II [solution]		
6	15 Sep	L05: Parallel Programming Models - I		Lab3: Shared-memory Programming, Performance Instrumentation and CUDA [programs]	OpenMP Tutorial
Sep 19-27, Recess					
7	29 Sep	L06: Parallel Programming Models - II	T03: Performance of Parallel Systems [solution]		Mid-term Test: [L01-L04](15%) [comments]
8	6 Oct	L06: Parallel Programming Models - II		Lab4: Introduction to Distributed-memory Programming [programs]	MPI Tutorial Assignment 2 (20%) : (due on 10 Nov 2013) [comments]
9	13 Oct	L07: Message-passing Programming	T04: Parallel Programming Models [solution]		
10	20 Oct	L08: Parallel Algorithm Design		Lab5: Message-passing in Distributed-memory Programming with MPI [programs, slides]	Dumi away (IFIP Performance)
11	27 Oct	L09: Heterogeneous and Cloud Computing	T05: Message-passing Programming [solution]		
12	3 Nov	L10: Conclusion & Revision Table of Contents	T06: Open Session		Teo away (TENCON) Check CA Marks
13	10 Nov	Deepavali			
Nov 14-20, Reading Week [Sunimal away at Supercomputing]					
Examination: 27 November 2015, morning (to be confirmed)					
(updated: 3 August 2015)					

Lab 1 (Wed, 19 Aug): Parallel Computing & Data Centers

- Tour of SoC data center conducted by Lai Zit Seng, Senior IT Architecture, SoC ITU
- **Group 1:** Wed, 0900-1100 , **Group 2:** Wed, 1100-1300
- Assemble at Parallel & Distributed Computing Lab, Com 1, #B1-01, please be punctuate
- Read through lab01 slides before the visit

Module Assessment

- Continuous Assessment (60%)
 - Lab (10%)
 - Mid-term Test (15%)
 - Two Assignments (35%)
- Open Book Exam (40%)

Consultation, Questions, Feedback, ...

- Schedule consultation
 - Group 1: Thu, 1000-1100 (Dumi/Sunimal/Teo)
 - Group 2: Thu, 1100-1200 (Dumi/Sunimal/Teo)
 - Group 3: Thu, 1200-1300 (Dumi/Sunimal/Teo)
- Lab & Tutorial: 2nd hour open session (optional)
- Sketch of solution: labs, tutorials, test and assignments
- IVLE forum, email

Main Textbook

- *E-book: Parallel Programming for Multicore and Cluster Systems*, Thomas Rauber and Gudula Rünger, 1st Edition, Springer-Verlag, 2010 (NUS Digital Library - <http://linc.nus.edu.sg/record=b2974382>).

