

= NCIT Summer School - 12th Edition =

Period

29 June - 21 August 2015

Website

<http://cluster.grid.pub.ro/index.php/workshops-and-training-events/78-ncit-summer-school/ncit-summer-school-2015/225-ncit-summer-school-2015>

Summary

The 12th Edition of the NCIT Summer School will take place between June 29th and August 21st 2015, at the University Politehnica of Bucharest. Students will work on projects on three tracks, namely: High Performance Scientific Computing, Embedded Systems & Mobile Programming (Android), and Open Source Code Development. The Summer School will begin with three weeks of intensive training (29.06 - 17.07), bootcamps and invited talks (to be announced) during which students will work individually or in teams. Following the success from previous years we plan on international participation, from several Universities from Europe and Asia.

Application

The selection is done based on submitted CVs & letter of intent. The internships are available (in part) on <http://stagiipebune.ro>. Please use this platform to submit our CV & letter of intent.

Location & Schedule

Computer Science & Engineering Department Faculty of Automatic Control and Computers University Politehnica of Bucharest

Room EF108, First Floor, EF Wing. Room ED202, Second Floor, ED Wing. Room ED218, Second Floor, ED Wing. Room ED422, Fourth Floor, ED Wing. Room EG106, First Floor, EG Wing.

Proposed Agenda: Daily program: 10AM-5PM Lunch Break: 1-2PM

Tracks**High Performance Scientific Computing**

The High Performance Scientific Computing track will mainly focus on the following topics:

1. Automatic Differentiation of Java Programs 2. Scientific Applications in Elementary Physics in

conjunction with the ELI-NP Project 3. Scientific Applications in Seismology 4. Scientific Applications in Meteorology and Hydrology 5. EagleEye - 3D Model of Romania - Satellite and Map Image Processing 6. Numerical Methods in HPC 7. Administration and performance tuning in large-scale Computing Clusters

The wiki of this section will be hosted here: <http://cluster.grid.pub.ro/wiki>

Android Summer School

The Android track will focus on the theoretical aspects and practical skills required for developing Android applications (Android SDK, NDK, Internals). The proposed topics include:

Android Technology # Android SDK # Android Internals # C, Bionic and Low-Level Libraries # NDK Integration (JNI) # Debugging and Profiling # OpenGL on Android # Native Activity # NDK Optimization and Portability # Android Security Mechanisms

The summer school includes lectures and labs which will prepare the students for the project development. The students will obtain practical skills by developing their own complex Android application.

Embedded Systems & Mobile Programming

The Embedded Systems track will focus on the practical application of both software and hardware skills in the realm of robotics. The proposed topics include: 1. Hardware development of different platforms 2. Low level control software 3. Object recognition 4. High level strategy algorithms

Some of the skills you will learn in the Embedded Systems track are: - Developing for/with microcontrollers and embedded Linux - Writing complex applications in C/C++ and Java - Working with Git: committing, branching and merging

Working on mobile applications (for Android, Windows 8 and BlackBerry OS), students will learn and experiment with features, such as: camera, sensors (movement, light, compass etc.), graphics, text-to-speech, voice commands and many more. Moreover, the students will interact with participants from the other two tracks, gathering ideas for interdisciplinary applications, while working in a diverse and fun social environment.

Open Source Development

The Open Source track technical seminars will cover the topics below:

1. Open Source Software Project Management: Wikis, Bug Tracking 2. Version Control Systems 3. Editors and Efficient Editing 4. Code readability 5. Python 6. Web back-end 7. Web front-end 8. Java 9. Object Oriented Programming 10. Android development

The technical seminars will present tools and technologies coupled with practical activities where participants will get a grip of how and when should they be using them. The wiki of this section will be hosted here: <http://open-source.cs.pub.ro/summer-school/wiki/>

The open source summer school (OSSS) will be a short school taking place for two weeks between the 29th of June and the 10th of July 2015. The first part will focus on basic skills for working in open source projects while the last part will consist mostly of hackathons where participants will code along the others.

Team

PhD. Nicolae Tapus - Professor PhD. Emil Slusanschi - Associate Professor PhD. Razvan Rughinis - Associate Professor PhD. Dan Tudose - Lecturer PhD. George Popescu - Lecturer PhD. Razvan Deaconescu - Lecturer PhD. George Milescu - Lecturer PhD. Laura Gheorghe - Lecturer MSc. Dan Dragomir - Assistant Professor MSc. Alexandru Olteanu - Assistant Professor MSc. Andrei Voinescu - Assistant Professor MSc. Adriana Draghici - Assistant Professor MSc. Alexandru Herisanu - Assistant Professor MSc. Razvan Dobre - Assistant Professor MSc. Silvia Stegaru - Assistant Professor MSc. Laura Vasilescu - Engineer

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