

# The Hitchhiker's Guide to the NECSTLab. Copyright © 2013 The NECSTLab. All Rights Reserved. The views and the opinions voluntarily or involuntarily expressed in this book are those of the NECSTLab and do not necessarily reflect the official policy or position of Politecnico di Milano. http://guide.necst.it

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# The Hitchhiker's Guide to the NECSTLab

This guide is also available in PDF format.



# **Preface**

The purpose of this guide is to collect and consolidate the relevant information on how the NECSTLab works.

This guide is by no means complete and should not substitute common sense and human-to-human communication. In other words, if something is not covered in this guide, simply talk to someone. Most likely, you will find an answer among your NECSTLab colleagues. If not, ask one of the *Tutors*, or the *RADRL*.

# 1.1 Intended Audience

You should read this guide before starting a project at the NECSTLab. Most likely, you are a student, a visiting scholar, a professor, or just a curious guy.

## 1.2 How to use this Guide

# 1.2.1 Before Accessing the Lab

We suggest that you read the following sections, in this order:

- 1. Basic Rules: Dos and Don'ts
- 2. How to Access the Lab
- 3. Roles Within the NECSTLab

# 1.2.2 At your First Day in the Lab

Once you gained access to the lab, if your stay spans over more than a week, you should:

- 1. Ask your tutor (see *Tutors*) to be subscribed to the lab mailing list.
- 2. Obtain access to the network and computing facilities (see *How to Obtain Access to the Computing Resources and Services*).

Regardless of how long you are going to stay in the lab, we suggest that you read the following sections, in this order:

- 1. People and Roles: Who's Who
- 2. Facilities and Services: What's in the Lab
- 3. Activities: Having Fun Leads to Great Research

## 1.3 How to Access the Lab

- 1. Read and understand The NECSTLab Handbook and the NECSTLab Safety Instructions.
- 2. Take the online course about Security Class (Corso online Sicurezza), pass the online test, and print the Security Class Certificate.
- 3. Download the NECSTLab Access Document.
- 4. Fill the required information in the NECSTLab Access Document with your respective PI
  - · How to compute the expiration date
    - The PI will assign an expiration date to the access according to the kind of work that you have to do in the MicroLAB. If not sure, leave this field empty, the RADRL will complete it.
    - We have 4 expiration dates that can be used:
      - \* 30 April
      - \* 31 July
      - \* 31 October
      - \* 31 December
- 5. Have the document signed by your MicroLAB PI
- 6. Deliver the form to the IT Section secretaries (First floor of DEIB's Building 20). Either:
  - wait for the secretaries to notify you when the document is ready, or

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- ask the secretaries after 2-3 work days about the status of your document.
- 7. Retrieve the signed document from the secretaries
- 8. Send a scanned copy of your Security Class Certificate and your signed document to the MicroLAB RADRL
- 9. Deliver (Mon-Fri, from 9am to 12pm) the signed document to Mrs. Dora Ivanof (Ground floor of DEIB's Building 20, phone number: 3630).
  - *Important:* bring your ID card of Politecnico di Milano with you
  - *Important:* bring the Security Class Certificate with you

# **Basic Rules: Dos and Don'ts**

The NECSTLab can be a great place where to work, study, make friends while doing the previous things but more than all the others, it represents a great opportunity to live a terrific research experience.

This comes at a cost. You always have to:

- respect the place,
- respect the people.

If you do not like something, or you think that something is not fair, please do not keep it for you, or do not try to change it by yourself, but say it out loud.

# 2.1 The Golden Rule

If you are not sure if you'd be allowed to do something, 9 out of 10 cases you are not. Therefore, before doing it, please, contact the *RADRL*.

# 2.2 Improve the Lab

We want the NECSTLab to be a great place and we need help to improve it. Therefore, if you have an idea, contact *RADRL*.

# 2.3 What you can do

- Use the NECSTLab network to get connected to internet.
- Study in the lab with other folks:
  - all your colleagues have to be allowed to access the NECSTLab,
  - Access to the NECSTLab will not be granted just for studying reason. While working in the lab for your class projects, thesis works, you can also spent some times studying without having to move to other places.
- Use the lab's facilities (see *Facilities and Services: What's in the Lab*) such as connectivity, computing horse power, software licenses, printers, etc.) to complete your work (the one you got the access to the NECSTLab for).
- Remember always The Golden Rule!

# 2.4 What you Cannot do

- Allow external folks to enter the NECSTLab without having previously informed the *RADRL*.
- Use the NECSTLab network without the proper authorization
  - Whatever you'd be able to do to overcome this rule...you cannot do it! Being able does not allow you to do it!
  - You cannot spoof the MAC address of your devices
  - You cannot assign to your PC a static IP
- You should not have any problem in getting allowed to access the network, therefore read how to do it in the How to enable your laptop into the NECSTLab network section.
- Unplug NECSTLab machines (PCs or boards) from the network (aka Do not use the ethernet cables that are already used by other machines!!!)
- Take home any facilities (e.g., books, docs, PCs, boards, see *Facilities and Services: What's in the Lab*).
  - The boards involved in the Boards @ Home Program are an exception. For more information visit the facilities web page.
  - If you do really need something, please contact your tutor (see *Tutors*)

- Stay in the lab out of the authorized time (Mon Fri, from 8am to 7pm).
  - If you do really need to work in the NECSTLab during non authorized period, please contact your tutor (see *Tutors*) to find out a solution(for the list of NECSTLab Tutors, please visit this page)
- Remember always The Golden Rule

# 2.5 What you can be Expelled for

- Using the internet access for illegal actions, e.g. download copyrighted materials (movie, software, etc).
- Being part or help in stealing materials from the NEC-STLab
- Having improper behaviors while in the NECSTLab

# People and Roles: Who's Who

A typical academic laboratory is populated by a variety of people. Within the lab everyone has a role. Also, within Politecnico di Milano, everyone has a role. We hereby describe both the types of role.

- Roles Within the NECSTLab
- · Academic Roles

# 3.1 Roles Within the NECSTLab

#### **3.1.1 RADRL**

In every research area at DEIB, one of the professors is also assigned a special role called RADRL, short for "Responsabile delle AttivitÃă Didattiche e di Ricerca nei Laboratori".

The NECSTLab RADRL is Prof. Marco D. Santambrogio

## 3.1.2 Principal Investigators (PIs)

PIs are responsible of one or more research projects. This type of role include only *Faculty Members*.

- Giampaolo Agosta
- Cesare Alippi
- Anna Maria Antola
- Cristiana Bolchini
- · Carlo Brandolese
- Luca Breveglieri
- Francesco Bruschi
- Paolo Cremonesi
- Fabrizio Ferrandi
- William Fornaciari
- Lorenzo Mezzalira
- Gianluca Palermo
- Gerardo Pelosi
- · Manuel Roveri
- Fabio Salice
- Maria Giovanna Sami
- Marco D. Santambrogio
- Donatella Sciuto
- Giuseppe Serazzi

- Cristina Silvano
- Vittorio Zaccaria
- Stefano Zanero

#### **3.1.3 Tutors**

Tutors participate to several organization activities within the NECSTLab and you can contact them for day-to-day issues *before* contacting the *RADRL*.

- · Francesco Bruschi
- Marco Lattuada
- · Antonio Miele
- Gianluca Palermo
- Christian Pilato
- Vincenzo Rana

# 3.2 Academic Roles

Overall, in the NECSTlab, there are usually 15 to 30 *Students*, a dozen of *Research Assistants* and 22 *Faculty Members*.

#### 3.2.1 Students

There are two kinds of students: undergraduate students, or "undergrads", and graduate students (Master Students

or PhD Students).

#### **Undergraduate Students**

Undergraduate students in the NECSTLab usually work on course projects or on their bachelor thesis. You can recognize them because the are the youngest creatures. They usually spend 6 to 8 months in the lab.

#### **Master Students**

Master students in the NECSTLab work on their master thesis and at least one side project. Sometimes, master students collaborate with one or more undergrads within their thesis. You can recognize them because they believe they can rule the world. They usually spend 8 to 14 months in the lab.

#### **PhD Students**

PhD students in the NECSTLab work on a 3 to 4-years research project and in plenty of side projects. PhD students collaborate with other PhD students and, normally, with one or more master students. You can recognize them because they spend most of their time in the lab. They are involved in teaching activities from time to time.

- Riccardo Cattaneo
- Gianluca Durelli
- Alessandro Nacci

• Filippo Sironi

#### 3.2.2 Research Assistants

Research assistants comprise post-doctorate researchers and temporary researchers.

#### **Post-doctorate Researchers**

Post-doctorate researchers hold a PhD degree, and are in the NECSTLab to continue working on their research. You can recognize them because they think they have they authority to whip every student in the lab with an ever-increasing amount of work.

- Marco Lattuada
- · Federico Maggi
- Antonio Miele
- Christian Pilato
- · Vincenzo Rana

#### **Temporary Researchers**

Temporary researchers have been hired by a professor to work on one or more research project. You can recognize them because they work hard, and party harder. They could be involved in teaching activities.

• Alessandro Frossi

## 3.2.3 Faculty Members

Members of the Faculty of Politecnico di Milano are what you usually would refer to as "professors".

#### **Assistant Professors**

Assistant professors are the youngest, and they work in the NECSTLab closely with students. They are responsible of directing several research projects and some of the lab's activities. You can recognize them because they work on research project proposals, (several) papers, and (several) teaching courses.

- Giampaolo Agosta
- Carlo Brandolese
- Francesco Bruschi
- Gianluca Palermo
- · Gerardo Pelosi
- · Manuel Roveri
- Marco D. Santambrogio
- Vittorio Zaccaria
- Stefano Zanero

#### **Associate Professors**

Associate professors work with the NECSTLab's assistant professors and they are responsible for directing several re-

search projects and teaching activities. You can recognize them from their long funding and publication records.

- Anna Maria Antola
- Cristiana Bolchini
- Luca Breveglieri
- Paolo Cremonesi
- Fabrizio Ferrandi
- William Fornaciari
- Lorenzo Mezzalira
- Fabio Salice
- Cristina Silvano

#### **Full Professors**

Full professors work with the NECSTLab's assistant and associate professors and they are responsible for several research projects and teaching activities. You can recognize them because, when you skim through their CV, you hurt your mouse wheel for excessive page scrolling.

- Cesare Alippi
- Maria Giovanna Sami
- Donatella Sciuto
- Giuseppe Serazzi



# Facilities and Services: What's in the Lab

The NECSTLab offers several facilities such as computing equipment, resources and services such as web hosting for small projects, management platforms, and code repositories.

Access to the facilities that do require network connectivity is regulated by the *Basic Rules: Dos and Don'ts* and is granted once you obtain access to the lab (see *How to Access the Lab*).

# 4.1 How to Obtain Access to the Computing Resources and Services

Access to computing resources and services is regulated through individual accounts. To obtain an account, follow this procedure:

- 1. Obtain access to the lab (see *How to Access the Lab*)
- 2. Send an email to Federico Maggi with the *RADRL* in Cc: fede@maggi.cc

Without an account, you are still allowed to connect to the local network via wired medium (see *Local Network*) and reach unauthenticated services and resources. However, most of the services and resources require authentication.

Warning: Please, do change your password!

# 4.1.1 SSL Security Warnings

Whenever you access a resource via SSL (e.g., https://...), your client (e.g., browser, SVN client, Git client) will display a security warning that says that the SSL certificate is not trusted. This happens because such certificate is (self) signed by the lab's certification authority (CA), which itself is not trusted.

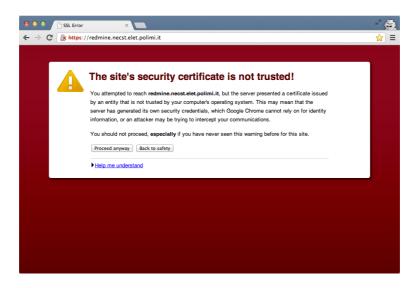


Figure 4.1: SSL warning example.

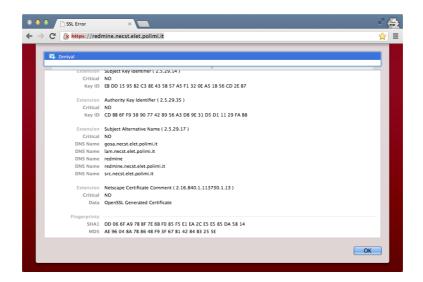


Figure 4.2: SSL certificate details.

This is perfectly normal. If you are connecting from within the lab local network you can safely confirm the security exception.

However, accepting the security exception from outside the lab network may present some security issues. There are two solutions to this:

- from within the lab network, connect to the service that is raising such security exception and accept that certificate permanently.
- (safer) from within the lab network, download the CA certificate from the following URL and add it to the list of trusted CAs on your computer (a.k.a., keychain).

https://home.necst.elet.polimi.it/cacert.pem

which has the following fingerprints

SHA1 BD 92 4F 1A B0 75 92 0C 76 0C CC B7 E4 65 AF B8 1C 66 C3 2E MD5 1C 45 E5 38 CA 0D BA D7 03 77 39 C9 1B 6D 5D 48

alternatively, you can copy and paste the following PEM version of the certificate:

```
----BEGIN CERTIFICATE----
```

MIICvDCCAiWgAwIBAgIJA0xEbwAjWP1CMA0GCSqGSIb3DQEBBQUAMEkxGTAXBgNV
BA0TEE5FQ1NUIExhYm9yYXRvcnkxLDAqBgNVBAMTIONlcnRpZmljYXRpb24gQXV0
aG9yaXR5IENlcnRpZmljYXRlMB4XDTEyMDMwODE0NDUwNVoXDTIyMDMwNjE0NDUw
NVowSTEZMBcGA1UEChMQTkVDU1QgTGFib3JhdG9yeTEsMCoGA1UEAxMjQ2VydGlm
aWNhdGlvbiBBdXRob3JpdHkgQ2VydGlmaWNhdGUwgZ8wDQYJKoZIhvcNAQEBBQAD
gY0AMIGJA0GBALzFwbzJaqvTMrkyG23pGAxFe8ydRilg51T6Jzbk78N604/Rc5Do
VLlRfu9gFcSc8KVYPiGRzfdAgQa0jl8V+zi2rQcdhxzRXtNF7bPLk/LLox6LDmbK
OU0a+HvTE56AsMloW8Yfwz61nX7m+ySRRmNFjyoKcMzbAs4m5qVYLUE3AgMBAAGj
gaswgagwHQYDVR00BBYEFM27b/k4kHdCiVaj2J4x1dERKfq4MHkGA1UdIwRyMHCA
FM27b/k4kHdCiVaj2J4x1dERKfq4oU2kSzBJMRkwFwYDVQQKExBORUNTVCBMYWJv
cmF0b3J5MSwwKgYDVQQDEyNDZXJ0aWZpY2F0aW9uIEF1dGhvcml0eSBDZXJ0aWZp
Y2F0ZYIJA0xEbwAjWP1CMAwGA1UdEwQFMAMBAf8wDQYJKoZIhvcNAQEFBQADgYEA
rBSg7jZB8jg6cg1JDGnHBKNGrLS/ARgMFBTZfKIWI6Yp2gwYs856kdVKrlYSmU32
lFMgHnQV6CbK9UKZtxhqmkfrwp70Frg5lSGmvvSBpuJ0s2ZEUUHjJrEo3fHqDEvp
v9q0dPcBNIX56v3XkqEnt8idicjjfLml3hBJQx0AKMs=

----END CERTIFICATE----

# 4.1.2 How to Change your Account Password

Once you obtained access to the computing resources (as described in *How to Obtain Access to the Computing Resources and Services*), just connect to the lab wired network and point your browser to the user corner:

https://home:8888

You can also use the wireless network, but this requires an extra step (described in *Wireless Access*).

#### **4.1.3 Extras**

Need more resources or extra services?

Ask your tutor (see *Tutors*) or the *RADRL* and be ready to provide thorough motivation for your request. For instance, "can I use machine X disk space for my project?" is usually not enough. Here, explaining why you need that machine disk space and which is your project is usually better, and sufficient.

# 4.2 Computing Resources

#### 4.2.1 Local Network

Every device connected to the wired network is projected to the local, private network receives an address within the 192.168.42.0/24 pool. Once connected, you can reach unauthenticated services and resources. However, most of the services and resources require authentication.

**Note:** Why we chose 42 in 192.168.42.0?

Because 42 is the Answer to the Ultimate Question of Life, the Universe, and Everything.

#### 4.2.2 Wireless Access

We provide wireless access to the local network via WPA/WPA2 Enterprise (the ESSID is NECSTLab). Access

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requires authentication, which is handled via IEEE 802.1X Standard and EAP-MSCHAPv2 protocols.

In short, you need an account (see *How to Obtain Access to the Computing Resources and Services*).

The setup instructions vary depending on the operating system:

- Windows XP (guide is forthcoming)
- Windows Vista/7 (guide is forthcoming)
- Windows 8 (guide is forthcoming)
- Debian/Ubuntu Linux (guide is forthcoming)
- Mac OS X (guide is forthcoming)

Once connected, your device is automatically granted *Internet Connectivity*.

# 4.2.3 Internet Connectivity

We provide fast Internet connectivity from within the lab network. Wireless-connected devices are automatically granted connectivity: no extra steps are required.

Wire-connected devices must follow this procedure:

- 1. Follow this procedure: How to Obtain Access to the Computing Resources and Services.
- 2. Plug your laptop to any of the available cables.
- 3. Open your browser and connect to your favorite website via the HTTP (not HTTPS!) scheme. This will

pop up an authentication modal dialog: enter your credentials and your MAC address will be allowed

The network infrastructure of Politecnico di Milano is managed by ASICT and the bandwidth is provided the GARR Consortium, the Italian Research & Education Network. Therefore, when using the Internet, in addition to the *Basic Rules: Dos and Don'ts*, every user should follow the General Rules.

The DHCP server automatically assigns to your device the default DNS server (see DNS) and gateway, which is 192.168.42.254.

#### 4.2.4 DNS

We have an internal DNS server, 192.168.42.254, which provides two functions:

- internal queries for .necst.elet.polimi.it domain names:
  - 1. 192.168.42.254 is queried. In case of a cache hit, that is returned immediately, else
  - 2. 192.168.42.1 is queried and the response is returned.
- caching of responses for queries to external domain names. A request to resolve follows this lifecycle:
  - 1. 192.168.42.254 is queried. In case of a cache hit, that is returned immediately, else
  - 2. 131.175.12.1 is queried and the response is returned.

3. 8.8.8 is queried and the response is returned.

#### **Registring DNS Names**

Should you need to register your <myname>.necst.elet.polimi.it, just send an email to Federico Maggi at fede@maggi.cc

#### 4.2.5 Linux Shell

Your account includes a Linux shell, which is reachable via SSH at the following address:

```
username@home.necst.elet.polimi.it
or simply
   user@home
```

## 4.2.6 Disk Quota

Your account includes 5GB of storage space, which is reachable via SSH/SFTP as well as via CIFS/Samba share.

#### 4.2.7 Remote Access via VPN

You can access the lab's internal resources remotely via our OpenVPN-based VPN. To obtain VPN access:

1. Obtain an account (see *How to Obtain Access to the Computing Resources and Services*)

2. Send an email to the *RADRL*: marco.santambrogio@polimi.it

# 4.2.8 Printing

There are two laser printers, one black-and-white printer and one color printer:

- Dell 2330dne (black and white): drivers and instructions
- Samsung CLP-315 (color): drivers and instructions

Access to the printers is granted via Samba within the micro workgroup. You will need to authenticate first.

**Warning:** In order not to waste paper and toner, prints are forced on both sides of each sheet. However, please limit the use of paper and toner (e.g., do not print your thesis).

#### 4.3 Services

# 4.3.1 Mailing Lists and Communication

There are several mailing lists. Depending on your work area, you should request access (or you already have access) to some of or all the following:

- necst ml
- necst-strut ml
- necst-security-stud ml

In addition to these mailing lists, join our NECSTLab Facebook Group.

# 4.3.2 Project Management Platform

We rely on the Redmine to manage our projects. It provides:

- wikies
- source code repositories
- · bug tracking
- gantt
- calendar
- news
- forums

If you are involved in a project and need to use any of the above tools, follow this procedure:

- 1. Obtain an account (see *How to Obtain Access to the Computing Resources and Services*)
- 2. Log in at

https://redmine.necst.elet.polimi.it

3. Send an email to Federico Maggi with the *RADRL* in Cc mentioning the name of the project you need access to: fede@maggi.cc

## 4.3.3 Code Repositories: Git/SVN

You can host your code in two places:

- our *Project Management Platform* integrates a source code repository service:
  - 1. ask Federico Maggi for a new repository
  - 2. you will receive a path that looks like the following

```
https://<username>@src.necst.elet.polimi.it/git/<project>/<repo-namehttps://<username>@src.necst.elet.polimi.it/svn/<project>/<repo-namehttps://
```

- 3. check out these guides if you are not sure how to use Git or SVN
  - Git Immersion
  - Git Reference
  - Version Control with Subversion (long enough to discourage you from using SVN)
  - Why Git is Better than X
- the NECSTLab GitHub account, https://github.com/necst for which you need a personal GitHub account (free).

**Warning:** Both the SVN and the internal Git repositories are accessed via HTTPS. Thus, bare in mind the *SSL Security Warnings*.

The SVN client will show you the following warning

which you can safely accept (p) from within the lab local network.

(R)eject, accept (t)emporarily or accept (p)ermanently?

The Git client is particularly secure and prevents you from using a remote server at all if it has an non trusted certificate. It will show a message like the following:

```
$ git clone https://user@src.necst.elet.polimi.it/git/prj/repo.git
Cloning into 'repo'...
error: SSL certificate problem, verify that the CA cert is OK. Details:
error:14090086:SSL routines:SSL3_GET_SERVER_CERTIFICATE:certificate
verify failed while accessing https://user@src.necst.elet.polimi.it/git/
prj/repo.git/info/refs?service=git-upload-pack
fatal: HTTP request failed
```

For Git, the best solution is to add the CA certificate to your computer's keychain (see *SSL Security Warnings*). There is also a workaround, which is although not secure:

```
$ GIT_SSL_NOVERIFY=true git clone \
https://user@src.necst.elet.polimi.it/git/prj/repo.git
```

or just export the GIT\_SSL\_NOVERIFY variable to true in your shell startup file (e.g., ~/.bashrc, ~/.zshrc).

# 4.3.4 Web Application Containers and HTTP Reverse Proxy

We can provide isolated containers to host your web applications written in Python, Ruby, PHP, Java, and so on. This is considered an non-ordinary service, although the lab is happy to provide it to you in case you need it for your thesis or your projects.

In addition, if you want your web application to be reachable from the outside network, we can provide portforwarding and HTTP reverse proxy services.

Just follow this procedure if you want to know more: *Extras*.

# 4.3.5 Centralized Logging and Exception Storage

Logging can be painful. It consumes space on your machine and, if not properly indexed, it takes ages to go through your logs to find the relevant details to debug your application. Also, logging is often not enough: what if an exception occurs? Do you have all the traceback information right in your logging messages? Unlikely.

Fortunately, we have set up two services:

- logstash, a tool for managing events and logs. You can use it to collect logs, parse them, and store them for later use (like, for searching).
  - How to reach it: http://logs.necst.elet.polimi.it

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- How to send logs to it: just configure your syslog to send logs to logs.necst.elet.polimi.it via TCP port 55514
- Sentry, a tool for managing exceptions and storing the tracebacks for debugging
  - How to reach it: http://sentry.necst.elet.polimi.it
  - How to send events to it

You need separate accounts for these tools. Ask Federico Maggi about this.

# 4.4 The NECSTCloud

We are thrilled to announce that we are currently working on building a powerful private cloud for the NECSTLab, powered by KVM and OpenNebula.

# Activities: Having Fun Leads to Great Research

As the title says, we strongly believe that doing research without having fun leads to stress and unhappiness. Therefore, we take some time off and enjoy spending great moments together.

Ah, in case you didn't notice it already, we like to prefix everything with "NECST".

# **5.1 NECST Summer Workshop**

The goal of the NECST Summer Workshop is a great opportunity for the members of the NECSTLab to present their work, get feedback, foster constructive discussion, and get to know each other in a tranquil and mind-refreshing place.

Every member of the lab spends months working on a project, but there is usually no time left to present them (except, of course, at conferences). Well, the goal of the NECST Summer Workshop is to fill this gap:

- no time-pressure while presenting,
- create a distraction-free environment where everyone is focused,
- challenge yourself and learn how to present well,
- receive early feedback on your work,
- · discuss ideas and plans for the subsequent year.

The NECSTLab is a multidisciplinary research environment, where several research areas and topics blend together:

- security
- performance evaluation
- computer architectures
- multi-core systems
- reconfigurable systems
- operating systems
- CAD systems
- evolutionary systems
- cryptography applications

Consequently, also the NECST Summer Workshop is a multidisciplinary event.

You do not need to be an expert on anything to participate at the NECST Summer Workshop, but you must be able to listen to other people work, be determined to get involved and reason about many topics.

# 5.1.1 Venue and Travel

**Where** Hotel Villa Gina, Goglio (Baceno): http://www.parcodeverovillagina.it/

**When** Between the last week of July and the first week of August.

Cost 20 to 40 Euros

More information is provided in advance through the mailing lists (see *Mailing Lists and Communication*).

# 5.2 NECSTPizza

Every Friday, at 12:30, we have lunch together! It's a great opportunity to chat with your colleagues and get to know each other.

If you want to participate, make sure that you are subscribed to our mailing lists (see *Mailing Lists and Communication*).

# 5.3 NECSTBreakfast

Do you want to meet all the NECSTLab members? Do you like to share your ideas and to be updated on the research done by the other NECSTLab folks?

The NECSTBreakfast is your event!

NECSTBreakfast is a time to socialize with other NECST-Lab folks, find out what other people are working on, learn

something new, and build new collaborations.

Enjoy free tea, coffee, cookies, and other goodies. Join us in the lab to have your breakfast with us while sharing your research ideas, successes and open issues!

We strive to follow the tradition and organize one NEC-STBreakfast at the beginning of every month. However, that's not always possible. Therefore, the best way to know when the next NECSTBreakfast is going to take place is to get subscribed to our mailing lists (see *Mailing Lists and Communication*).

# 5.4 NECSTMas

We enjoy spending Holiday time together. Every year, we organize a dinner followed by a gift-swapping game; traditionally, the so-called "Yankee Swap".

# 5.4.1 When

The first Friday before December 23rd, unless differently announced through the mailing lists (see *Mailing Lists and Communication*).

# 5.4.2 Location

The location is usually a brewery/beer parlor in downtown Milan.

# 5.4.3 Yankee Swap Rules

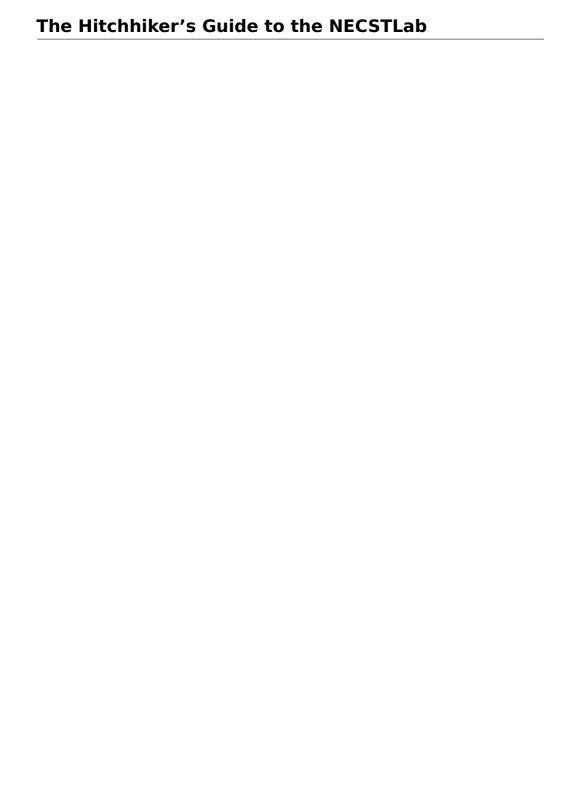
- 1. Participants bring one wrapped gift (you are not allowed to spend more than 5 euro for a gift) and places the gift in a pile/central location.
- 2. Participants draw numbers to determine the order in which they go.
- 3. The person who drew #1 goes first and must open a gift from the pile.
- 4. The person who drew #2 goes next and has the choice of taking the gift opened by #1 or opening another gift. If #1's gift is taken player #1 must open another gift from the pile.
- 5. The person who drew #3 goes next and can either take #1's gift or #2's gift or open a gift. If player #3 takes an opened gift from player #1 or #2 then that player who is now giftless has the option of taking the other gift that was opened or opening a wrapped gift (they cannot take player #3's gift see rule 8).
- 6. Play continues as such with players either taking/swapping a gift or opening one.
- 7. When a gift is opened the round is over (you can't decide you don't like what you opened and decide to swap for something else).
- 8. Any single gift can only be swapped once per round.
- 9. Once the round for the highest number player has completed player #1 can swap gifts with any other player (there is no futher swapping after that).

- 10. After taking your turn you must keep your gift out where other players can see it.
- 11. When it's your turn if you touch a wrapped gift you have to open it.
- 12. If a participant takes too much time deciding which gift top swap/open the remaining participants can start counting aloud from ten down to zero. If zero is reached the participant must take the wrapped gift closest to you.
- 13. A gift can be passed/taken just 2 times

# 6

# **Brief History of the NECSTLab**

TODO



# **Alumni**

We go very proud of the following list of former NECSTLab students.

# 7.1 PhD Degree

- Giovanni Beltrame: M.Sc., Ph.D.
- Cristiana Bolchini: M.Sc., Ph.D.
- Fabio CancarÃÍ: B.S. 2005, M.Sc. 2007, Ph.D. 2011
- Fabrizio Ferrandi: M.Sc., Ph.D.
- Luca Fossati: B.S. 2004, M.Sc. 2006, Ph.D. 2010
- Antonio Miele: M.Sc. 2006, Ph.D. 2010
- Matteo Monchiero: M.Sc. 2003, Ph.D. 2007
- Gianluca Palermo: M.Sc. 2002, Ph.D. 2006
- Christian Pilato: B.S. 2005, M.Sc. 2007, Ph.D. 2011
- Vincenzo Piuri: M.Sc., Ph.D.

- Vincenzo Rana: B.S. 2004, M.Sc. 2006, Ph.D. 2010
- Francesco Redaelli: B.S. 2005, M.Sc. 2007, Ph.D 2011
- Marco D. Santambrogio: M.Sc. 2004, Ph.D. 2008
- Antonino Tumeo: M.Sc. 2005, Ph.D. 2009
- Vittorio Zaccaria: M.Sc., Ph.D.

# 7.2 Master Degree

- Carlo Amicucci: M.Sc. 2006
- Fabio Arlati: B.S. 2007, M.Sc. 2009
- Davide Candiloro: B.S. 2005, M.Sc. 2008
- Marco Castagna: B.S. 2006, MS.c 2009
- Vito Giovanni Castellana: MS.c 2010
- Simone Corbetta: B.S. 2006, M.Sc. 2008
- Andrea Cuoccio: B.S. 2007, M.Sc. 2010
- Ivan Beretta: B.S. 2006, M.Sc. 2008
- Livio Dalloro: M.Sc.
- Alberto Donato: M.Sc. 2005
- Edoardo Esposito: M.Sc.
- Giovanna Ferrara: M.Sc.
- Matteo Giani: M.Sc. 2006
- Paolo R. Grassi: B.S. 2007, M.Sc. 2009

- Elisa Malvicini: B.S. 2007, M.Sc. 2010
- Marco Maggioni: B.S. 2006, M.Sc. 2010
- Dario Mattasoglio: B.S. 2007, M.Sc. 2010
- Alessandro Meroni: B.S. 2006, M.Sc. 2009
- Alessio Montone: B.S. 2006, M.Sc. 2008
- Massimo Morandi: B.S. 2006, M.Sc. 2008
- Mattia Munari: B.S. 2004, M.Sc
- Matteo Murgida: B.S. 2006, M.Sc. 2009
- Marco Novati: B.S. 2006, M.Sc. 2008
- Roberto Palazzo: B.S. 2004, M.Sc. 2006
- Alessandro Panella: B.S. 2006, M.Sc. 2008
- Massimo Redalli: M.Sc. 2006
- Chiara Sandionigi: B.S. 2005, M.Sc. 2008
- Michele Santoro: B.S. 2005, M.Sc. 2008
- Donatella Sciuto: M.Sc.
- Filippo Sironi: B.S. 2008, M.Sc. 2010
- Mara Tanelli: M.Sc. 2003
- Marco Triverio: M.Sc. 2010
- Katia Turati: M.Sc. 2005

# 7.3 Bachelor Degree

• Alessandro Ardemagni: B.S. 2005

• Davide Bartolini: B.S. 2009

Marco Berardi: B.S. 2010

• Luca Biffi: B.S. 2009

• Alessandra Bonetto: B.S. 2009

• Stefano Bosisi: B.S. 2006

• Ylenia Brischetto: B.S. 2009

• Marco Burrafato: B.S. 2009

• Andrea Campana: B.S. 2005

• Antonio Canclini: B.S. 2005

• Francesco Caponio: B.S. 2007

• Matteo Carminati: B.S. 2009

• Andrea Cazzaniga: B.S. 2009

• Luca Cerri: B.S. 2009

• Andrea Cuoccio: B.S. 2007

• Dario De Ori: B.S. 2006

• Carlo Di Federico: B.S. 2008

Andrea Di Gesare: B.S. 2009

• Carmine Galeone: B.S. 2005

• Massimo Falcessi: B.S. 2006

• Alessandro Febretti: B.S. 2005

• Giulia Formenti: B.S. 2006

• Chiara Fornoni: B.S. 2006

- Marco Fracassi: B.S. 2006
- Vincenzo Frascino: B.S. 2005
- Alessandro Frossi: B.S. 2005
- Stefano Gallazzi: B.S. 2006
- Gerardo Gallucci: B.S. 2005
- Giorgio Galvassi: B.S. 2005
- Giacomo Giacchetti: B.S. 2005
- Roberto Gonnella: B.S. 2008
- Pamela Gotti: B.S. 2006
- Marco Losito: B.S. 2004
- Stefano Magnoni: B.S. 2008
- Francesca Malcotti: B.S. 2004
- Michele Mancini: B.S. 2005
- Daniele Marchetti: B.S. 2006
- Alessandro Marin: B.S. 2007
- Alessandro Mele: B.S. 2004
- Diego Mereghetti: B.S. 2007
- Leonardo MinÚ: B.S. 2005
- Francesco Motta: B.S. 2006
- Davide Murrai: B.S. 2004
- Paola Mussida: B.S. 2004
- Roberto Napoli: B.S. 2005

- Davide Nazzari: B.S. 2006
- Arber Ngjela: B.S. 2008
- Diego Nichetti: B.S. 2004
- Stefano Orlandi: B.S. 2004
- Andrea V. Paglialonga: B.S. 2006
- Francesco Paglialonga: B.S. 2009
- Davide Pavoni: B.S. 2004
- Antonio Piazzi: B.S. 2009
- Davide Quarta: B.S. 2006
- Massimo Ratti: B.S. 2004
- Alessandro E. C. Redondi: B.S. 2006
- Matteo Renesto: B.S. 2008
- Valentina Riva: B.S. 2004
- Fabio Rizzato: B.S. 2004
- Luca Rocchini: B.S. 2007
- Matteo Rossi: B.S. 2006
- Davide Rossignoli: B.S. 2006
- Giovanni Saba: B.S. 2007
- Davide Sacchi: B.S. 2005
- Maurizio Sala: B.S. 2005
- Matteo Sangalli: B.S. 2005
- Alessandro Stranieri: B.S. 2005

• Marcello Scipioni: B.S. 2006

• Paolo Somaglia: B.S. 2006

• Nicola Tagliani: B.S. 2005

• Riccardo Tornese: B.S. 2006

• Roberto Urso: B.S. 2006

• Alain Vailati: B.S. 2004

• Valentina Valzelli: B.S. 2006

• Emanuele Vecchio: B.S. 2007

• Stefano Viazzi: B.S. 2005

• Francesca Vignola: B.S. 2004