

# Review agreements between JUAS and Universities

# **AGREEMENT**

*between*

**EUROPEAN UNIVERSITIES**

*and*

**THE JOINT UNIVERSITIES ACCELERATOR SCHOOL (JUAS)**

**FROM THE EUROPEAN SCIENTIFIC INSTITUTE (ESI)**

The European University described in Annex 1,

And

The Joint Universities Accelerator School hereafter referred to as “JUAS”, organised by the European Scientific Institute hereafter referred to as “ESI”, located bâtiment le Salève, Centre Universitaire de formation et de recherche, 155 rue Ada Byron, Archamps Technopôle, 74 166 Saint-Julien-en-Genevois Cedex (France), which for the purposes of signature of this agreement is represented by its President, Dr. Hans HOFFMANN,

Hereafter collectively referred to as “the Parties”,

The University of: The University of Rostock

Located in: Rostock (Mecklenburg-Vorpommern, Germany)

# Rostock University Agreement

Which for the purposes of signature of this agreement is represented by

Prof. Dr. med. Wolfgang Schareck, Rector

Acknowledged the present principle(s) as follows:


Students, who succeeded the examination, will receive a certificate from the School on which appears their results over 20. This certificate will be recognized by the above-mentioned University.

The University awards **10 ECTS** for 1 course (5 weeks).  
The University awards **20 ECTS** for 2 courses (10 weeks).

*Established in two original copies and signed in Rostock on .....*

**For ESI**

Dr. Hans HOFFMANN, President

  
20-11-2014

**For the European University**

Prof. Dr. med. Wolfgang Schareck, Rector

  
27.10.2014

**For the Joint Universities Accelerator School**

Dr. Louis RINOLFI, Director



The University of: Technische Universität (TU) Darmstadt  
Located in: Karolinenplatz 5, 64289 Darmstadt, GERMANY

## Darmstadt University Agreement

Which for the purposes of signature of this agreement is represented by

Professor Dr. Hans Jürgen PRÖMEL, President

Acknowledged the present principle(s) as follows:

Students, who succeeded in the examination, will receive a certificate from the School.

Upon request of the student, the Department of Physics at TU Darmstadt may recognize JUAS courses towards the Master's programs "Physik" or "Technische Physik" if compatible with the student's plan of studies.

Established in two original copies and signed in Darmstadt on 08/01/2014

For ESI

Dr. Hans HOFFMANN, President



For the Joint Universities Accelerator School

Dr. Louis RINOLFI, Director



For Technische Universität Darmstadt

Professor Dr. Hans Jürgen PRÖMEL, President



# Status of UK universities



# Status of German universities



TECHNISCHE  
UNIVERSITÄT  
DARMSTADT



Universität  
Rostock





Prof. Heino Henke



**Priv.-Doz. Dr. Atoosa Meseck**

[Institute Accelerator Physics](#)

(030) 8062 - 14721 [atoosa.meseck@helmholtz-berlin.de](mailto:atoosa.meseck@helmholtz-berlin.de)



# Status of French universities





Université Grenoble Alpes

*Jean-Marie De Conto*

The 6 Presidents of: « Grenoble INP, Institut d'Etudes Politiques, Université Joseph Fourier, Université Pierre-Mendès-France, Université Stendhal, Université de Savoie » celebrated the opening of a new mandate on **July 12<sup>th</sup>, 2012** in order to set-up the future “Grenoble-Alpes” University.



*From left to right :*

*Denis Varaschin : président de l'Université de Savoie*

*Brigitte Plateau : administrateur général de Grenoble INP*

*Olivier Audéoud : recteur de l'Académie de Grenoble, Chancelier des universités*

*Lise Dumasy : présidente de l'Université Stendhal*

*Farid Ouabdesselam : administrateur provisoire du PRES Université de Grenoble*

*Patrick Levy : président de l'Université Joseph Fourier*

*Jean-Charles Froment : directeur de l'Institut d'Études Politiques de Grenoble*

*Sébastien Bernard : président de l'Université Pierre-Mendès-France*

# UGA: Université Grenoble Alpes

- Université Joseph Fourier (*Sciences, technologies, santé*)
- Université Pierre-Mendès-France (*Sciences sociales et humaines*)
- Université Stendhal (*Lettres, langues, langages, arts et communication*)
- Université Savoie Mont Blanc (*Sciences, technologies, santé ; Droit, économie, gestion ; Arts, lettres, langues ; Sciences humaines et sociales*)
- Grenoble INP (*Sciences de l'ingénieur*)
- Sciences Po Grenoble (*Sciences politiques*)
- École nationale supérieure d'architecture de Grenoble (*Architecture et design*)

<http://www.univ-grenoble-alpes.fr/en>

# Last news from April 2

- The presidents of the Joseph Fourier, Pierre Mendès France and Stendhal universities propose a fusion of the 3 universities on January 1<sup>st</sup>, 2016.
- Part of the Grenoble IDEX (Initiative D'EXcellence)
  - Fusion of the universities
  - Setup of the COMUE, “Communauté d'Universités et d'Etablissements” (see next slide)
  - Development of excellence: Sustainability (planet + society), Health, wellness, technology, innovation, numerical technology
- Planning
  - Proposal to the “Conseil National de l'Enseignement Supérieur et de la Recherche” (June/July 2016)
  - Decree in September
  - Election of the different committees before December 31.

# COMUE

- The « Communauté d'Universités et Établissements » (COMUE) « UNIVERSITÉ GRENOBLE ALPES » is the structure federating the universities, engineering schools and research structures within the Grenoble academy, from Valence to Annecy.
- Members: UJF, UPMF, Stendhal, Grenoble INP, CNRS Alpes, INRIA
- Associated members: Université Savoie Mont-Blanc, Sciences Po Grenoble, ENSAG (architecture), CEA Grenoble

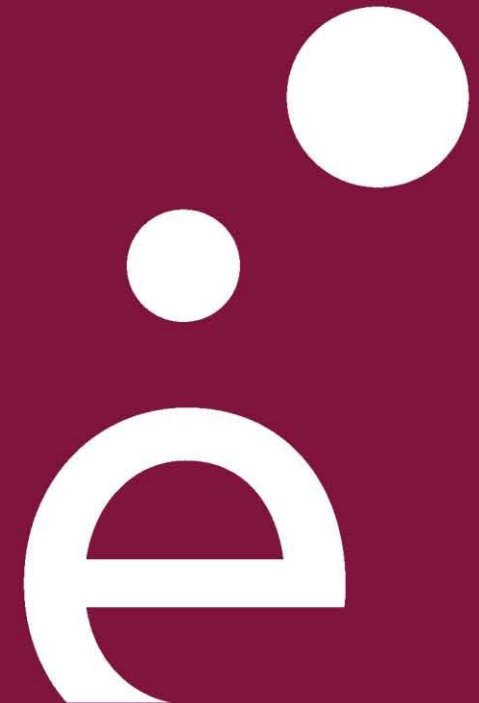
Université Paris Saclay

*Nicolas Delerue*

# A HIGH LEVEL RESEARCH UNIVERSITY



April 2015



# The six corner stones of Université Paris-Saclay



A single Doctoral Diploma of Université Paris-Saclay

A single chart for Master Diploma of Université Paris-Saclay

Single identifier for the scientific publications  
of Université Paris-Saclay

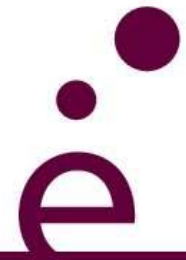
A Welcome Office for international applicants

An entry point for companies

**And the unique opportunity of a new Campus**



# A new university, a fertile model



A common strategy for Education, Research and Innovation.

Each member keeps its identity, specific diploma and human resources.

**18 founding members**

# Some new Academic Buildings at Campus



Doseo  
2014



ENS Cachan  
Start of construction 2015



EDF Campus and R&D  
2015



Mines-Telecom  
ParisTech  
2018



Digiteo2  
2015



Ecole Centrale Paris  
2017



Institut des Sciences Moléculaires  
2014



C2N  
2017



ENSAE ParisTech  
2016



Laboratoires Polytechnique  
2015

EPSS-sept. 2013

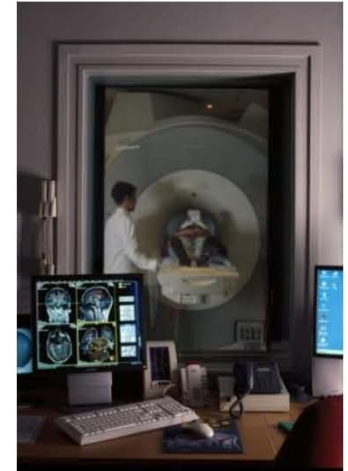


# Research: about 15% of the public research effort in France



## The stakes

- Maintain excellence in the leading fields (300 laboratories)
- Enhanced links between disciplines, trans-disciplinary programs
- Develop links with industry



## A four point strategy

- Develop a scientific strategy at the campus scale (Departments)
- Pooling laboratories, platforms, infrastructures through colocation (Institutes)
- Strong initiative to strengthen research in emerging domains, and trans-disciplinarity
- Develop international cooperation



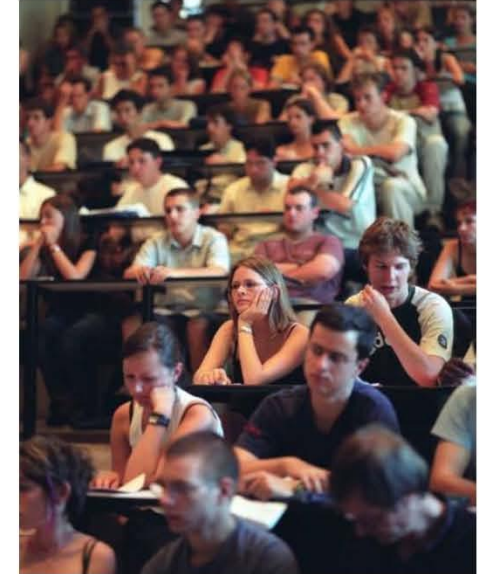
# Higher Education: Top level Higher Education in France

## The stakes

- Develop young talents: students and professors
- Increase partnerships with industry
- Attract young students to science

## A four point strategy

1. Common education cursus in 8 schools
  - *49 masters and 20 doctoral domains for increased international visibility*
  - *Master and doctoral diploma delivered by Université Paris-Saclay.*
2. Increased international recognition:
  - *Cursus in French and English, international partnerships, welcome office for international students,*
3. Strong online course initiative
4. Enlarge, enrich links with industry



Enhance collaborative projects between students, companies and laboratories:

- Initiate a profound change of mindset towards entrepreneurship in the student population through specific programs
- Implement new cooperative schemes



Attract innovating companies (R&D, students, access to laboratories...)

Attract Investors and Entrepreneurs.

# Campus life: key factor of success

## The stakes

- Build most exciting student city
- Bring almost 70 000 students together in a shared dynamic
- encourage studying at one of the top universities in the world

## A four point strategy

- Improve campus mobility : *cycle paths, dedicated transport corridors for bus, new metro line ...*
- very high speed digital connectivity
- Different types of collective housing and individual homes
- new common equipment: *gymnasium and sport-fields, learning center, restaurant, cultural area...*



# In a nutshell...

...[www.universite-paris-saclay.fr](http://www.universite-paris-saclay.fr)



**basis: convergence of intelligence, dynamic processing, international horizon.**

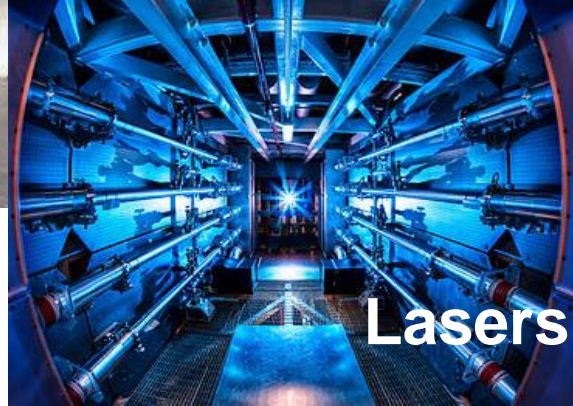
**Research:** develop excellence and meet the today and tomorrow scientific challenges , promote transdisciplinarity.  
10000 researchers and Professors

**Innovation:** value chain from early academic detection to industrial transfert, a significant investment to foster collaboration between academia and industry (300M€)

**Education:** a wide range of high level education from bachelor to PhD, success for all students  
70000 students

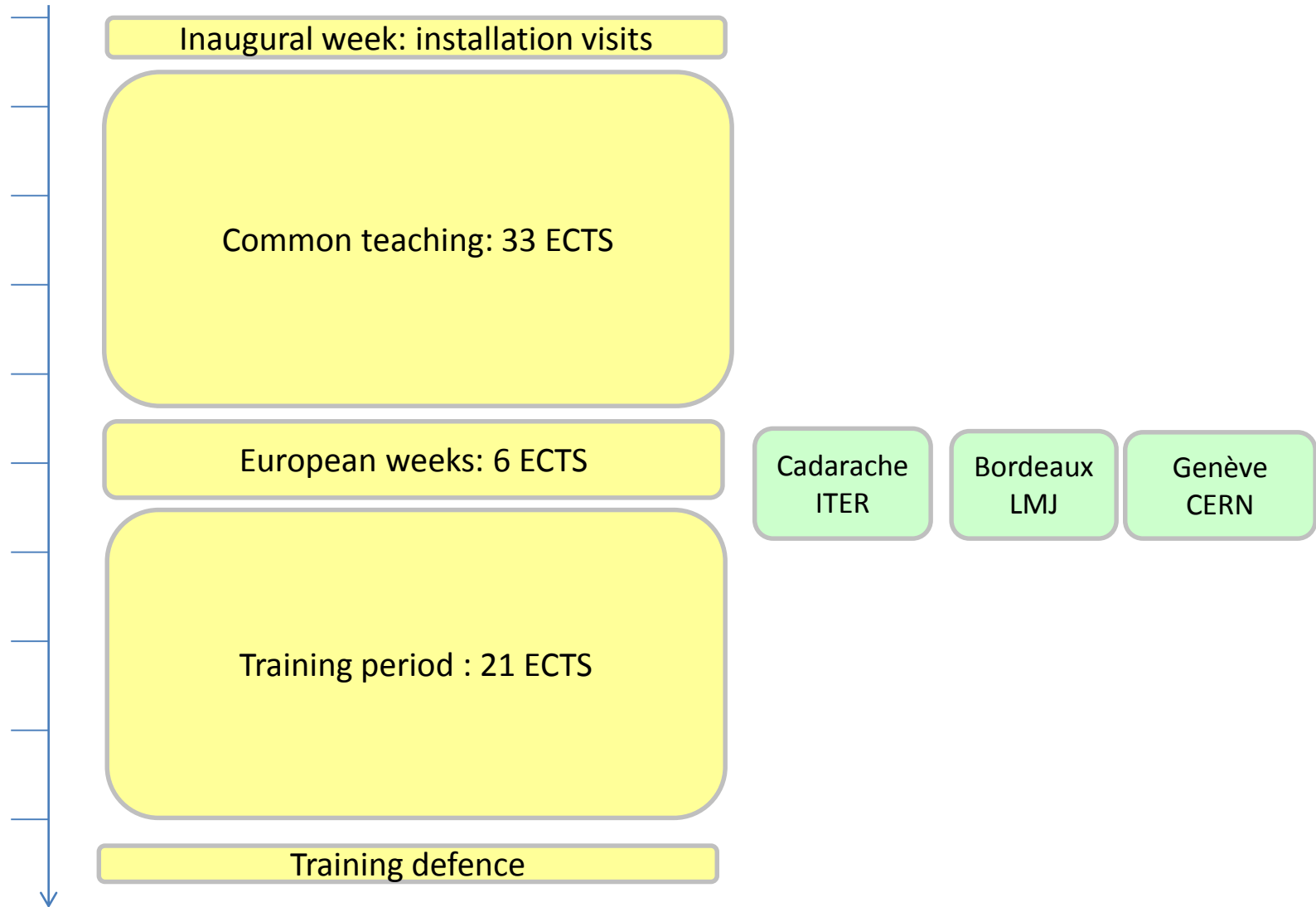
**Campus life:** sharing common dynamics in an exciting campus well integrated in their surroundings

# Master “Grands Instruments”, Large Scale Facilities



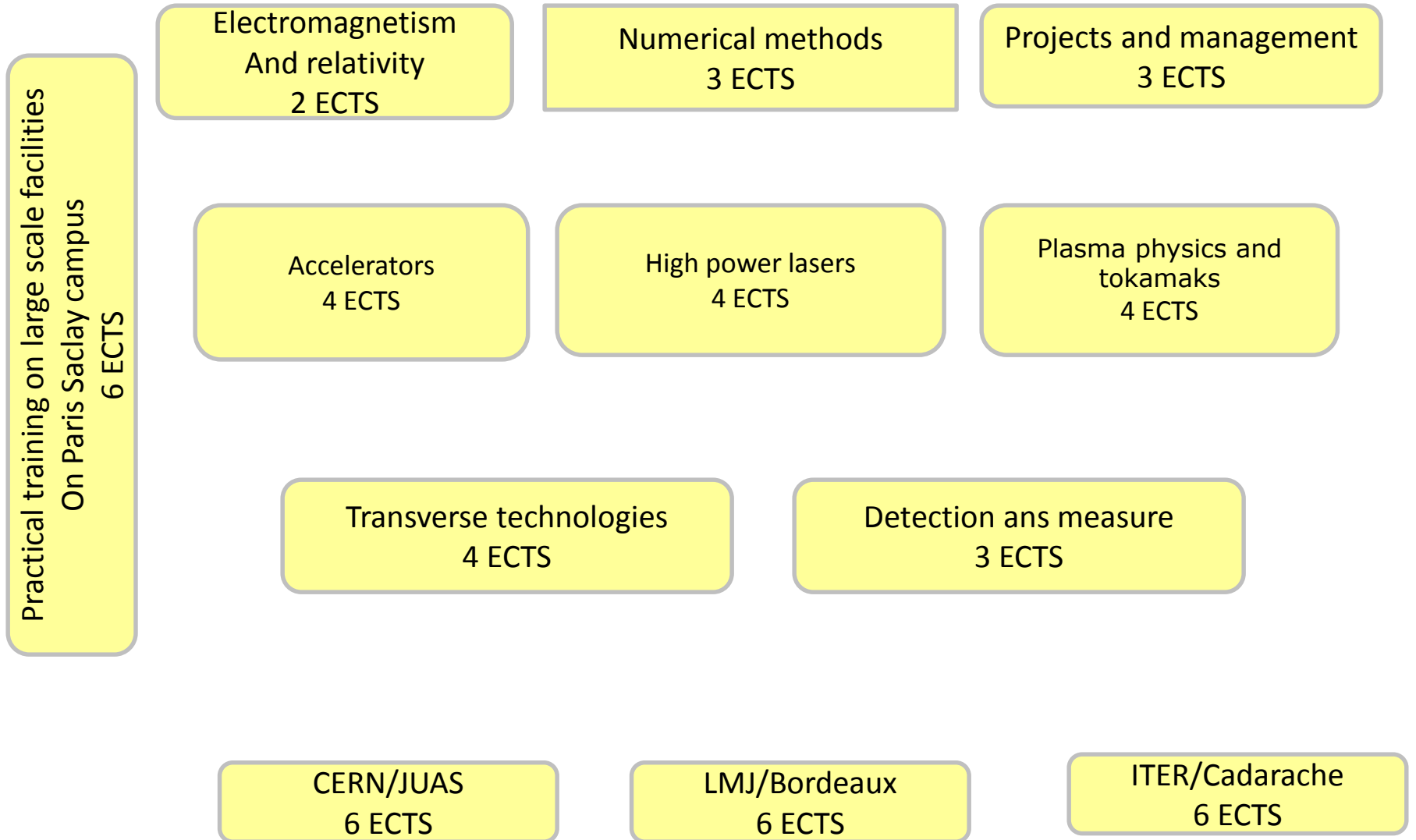


# GI & ORGANISATION



# GI &UE : 39

## ECTS DE COURS/TD/TP



## GI & TP

Lasers

Accélérateurs

Tokamaks

Paris-Saclay

Palaiseau/IOGS

Palaiseau/LULI

Palaiseau/LOA

Saclay/Laserix, Apollon

France-Sud

Bordeaux/CELIA

Orsay/LAL+IPN+CSNSM Palaiseau/LPP

Saclay/DMN

Saclay/IRFU

Orsay/Protonthérapie

Gif/SOLEIL

Genève/CERN

Cadarache/IRFM

# Status of Italian universities



SAPIENZA  
UNIVERSITÀ DI ROMA



UNIVERSITÀ DEGLI STUDI  
DI GENOVA



UNIVERSITÀ DEGLI STUDI DI NAPOLI  
FEDERICO II

# Status of Spanish universities

The logo for Universitat Autònoma de Barcelona (UAB) consists of the letters 'UAB' in a bold, sans-serif font. The letter 'A' is a dark brown color, while 'U' and 'B' are black.

Universitat Autònoma  
de Barcelona



VNIVERSITAT  
DE VALÈNCIA



UNIVERSITAT POLITÈCNICA  
DE CATALUNYA

# Review of JUAS sponsors

# Main sponsors of the European Scientific Institute (ESI)



The “Conseil Général de Haute Savoie” provides financial support to ESI which organizes JUAS



“Archamps Technopole” provides ESI with facilities for the organization of the school including amphitheatres and computing room

Europe



France



Germany



UK



Spain



Italy



Sweden



Switzerland





# Supporting and contributing to JUAS

## 19 Institutes and Laboratories (alphabetic order)

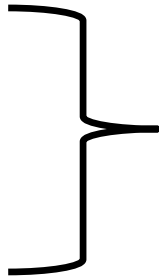
ALBA - CELLS	Light source (Barcelona – Spain)
CEA	Commissariat à l’Energie Atomique (Saclay - France)
CERN	Conseil Européen pour la Recherche Nucléaire (Genève - Suisse)
CNRS / IN2P3	Centre National de la Recherche Scientifique (Paris - France)
CPAN	Centro Nacional de Física de Partículas, Astropartículas y Nuclear (Spain)
DESY	Deutsches Elektronen-Synchrotron (Hambourg - Germany)
DIAMOND	Light source (Didcot Oxfordshire – England)
ESRF	European Synchrotron Radiation Facility (Grenoble - France)
ESS	European Spallation Source (Lund - Sweden)
Eucard-2	European Coordinated Accelerator Research and Development
GANIL	Grand Accélérateur National d'Ions Lourds (Caen - France)
GSI	GSI Helmholtzzentrum für Schwerionenforschung (Darmstadt - Germany)
HIC for FAIR	Helmholtz International Center [for Facility for Antiproton and Ion Research] (Darmstadt - Germany)
HZB	Helmholtz Zentrum Berlin (Berlin – Germany)
INFN	Istituto Nazionale per la Fisica Nucleare (Roma - Italy)
KIT	Karlsruhe Institute of Technology (Karlsruhe – Germany)
oPAC	Optimization of Particle Accelerator (Liverpool –United Kingdom)
PSI	Paul Scherrer Institute (Villigen - Switzerland)
SOLEIL	Light source (Saint Aubin - France)

# JUAS sponsoring from private companies



=> provides financial support for JUAS student

=> opens his company for a full day for practical works



cover the cost to print RF course booklets in color

*Thank to Fritz Caspers*

# Computing support for JUAS



# JUAS Web sites

Present: [www.cern.ch/juas](http://www.cern.ch/juas)

New: [www.esi-archamps.eu](http://www.esi-archamps.eu)

# ESI logistics and communication

# ESI – General Organization

# Evaluation received from students

## JUAS General Organization – (1)

### How did you hear about ESI ?

JUAS Web site

20%

Other Web site (sponsors, laboratories...)

3%

Former students

25%

Work

25%

University

27%

### How was your first contacts with the school ?

Did you find easily a way to contact the school ?

YES =	97%	NO =	3%
-------	-----	------	----

Did you receive a reactive answer?

YES =	94%	NO =	6%
-------	-----	------	----

Did the first contacts with the school give you a professional image ?

YES =	97%	NO =	3%
-------	-----	------	----



# Evaluation received from students

## JUAS General Organization – (2)

### Convivial venues (0 = bad → 5 = excellent)

Student room	4,7
ESI office	4,5
Coffee Break	4,4

### Lectures venues (0 = bad → 5 = excellent)

Amphitheater	4,5
Computer room	4,1
Workshop room	3,4

### Materials (0 = bad → 5 = excellent)

Internet access at school	3,4
Web site	4,3
Lecture notes	4,4
Indico	4,3

# ESI – Poster & Bookmark

INTENSIVE PROGRAM  
FOR MASTER & PHD STUDENTS

MODULAR COURSES  
FOR PROFESSIONALS

ACCREDITED BY  
PARTNER UNIVERSITIES (ECTS)

## TWO COURSES ON PARTICLE ACCELERATORS

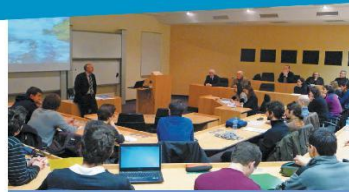
11 January to 18 March 2016

Course 1

➔ SCIENCES & PHYSICS  
11 January to 12 February

Course 2

➔ TECHNOLOGY & APPLICATIONS  
15 February to 18 March



School of **esi**  
European Scientific Institute

PARTNER UNIVERSITIES:



[www.esi-archamps.eu](http://www.esi-archamps.eu)

Original Poster can be  
send by post mail.

With the support of:



**TWO COURSES ON  
PARTICLE ACCELERATORS**

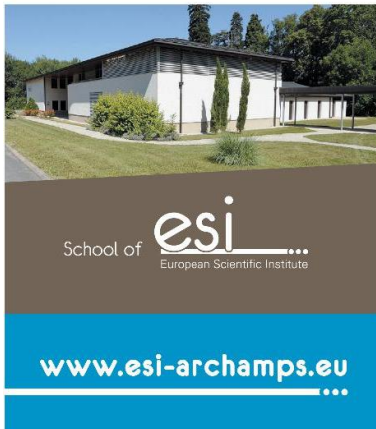
— 11 January to 18 March 2016

Course 1

➔ SCIENCES & PHYSICS  
11 January to 12 February

Course 2

➔ TECHNOLOGIES  
AND APPLICATIONS  
15 February to 18 March



Original Bookmarks can be send  
by post mail.



Welcome to the new ESI website

# Report about JUAS lecturers meeting at CERN

Monday 8<sup>th</sup> September 2014

*Morning:*

Building 160-1-009

9h:30

- 1 Welcome
- 2 Short introduction on ESI
- 3 Round table of JUAS lecturers
- 4 Brief summary of the 20<sup>th</sup> Anniversary at Grenoble
- 5 Brief summary of JUAS 2014 Advisory Board
- 6 Status of JUAS students 2015
- 7 Round table about pedagogical aspects
- 8 Balance between lectures and tutorials
- 9 Presentation of the Timetable 2015
- 10 Comments from lecturers
- [Coffee break](#)
- 11 CERN and ESRF visits (course 1)
- 12 CERN, PSI and HUG visits (course 2)
- 13 Examinations
- 14 JUAS certificates
- 15 Practical days at CERN and at Bergoz
- 16 Two days of practical works at CERN
- 17 Overlap on lectures
- 18 General comments on the evaluations received from students
- 19 Contribution to a second JUAS school in June-July

[12h: Lunch together](#)

*Afternoon:*

CERN Council Chamber

Building 503-1-001

14h:

- 20 Information about JUAS and partner Universities
- 21 Information about ECTS (European Credit Transfer System)
- 22 Follow-up IPAC'14
- 23 Computing support for JUAS
- 24 JUAS Web site
- 25 Indico to upload the lectures
- 26 Job opportunities publication
- 27 New seminars
- 28 Improvements for 2015
- 29 A.O.B.
- [Coffee break](#)

[Invitation of former students present at CERN or around for discussion and feed-back.](#)

# JUAS LECTURERS MEETING MINUTES

CERN - Monday 8<sup>th</sup> September 2014

## Participants:

Alemaney Reyes  
Benedetto Elena  
Caspers Fritz  
Chautard Frederic  
Darve Christine  
Ferracin Paolo  
Forck Peter  
Gauthier Marie  
Hoffmann Hans  
Holland Bob  
Kersevan Roberto  
Kleeven Wiel  
Lallement Jean-Baptiste  
Latina Andrea  
Lebrun Philippe  
Metral Elias  
Meyroneinc Samuel  
Pellegrini Dario  
Queralt Xavier  
Resta-Lopez Javier  
Rinolfi Louis  
Russenschuck Stephan  
Thuillier Thomas  
Wilson Martin (Skype)  
Zickler Thomas

## Apologies from:

Ballarino Amalia  
Bartolini Riccardo  
Bauche Jérémie  
Bousson Sebastien  
Bryant Phil  
Chigiato Paolo  
De Conto Jean-Marie  
Degiovanni Alberto  
Dimov Veliko  
Federmann Silke  
Henke Heino  
Losito Roberto  
Migliorati Mauro  
Miralbell Raymond  
Mondelaers Wim  
PapaphilippouYannis  
Perron Thomas  
Sterbini Guido  
Tommasini Davide  
Zimoch Elke

## Introduction

After a brief welcome by Louis, there was a round table of JUAS professors to present themselves. The slides used by Louis, as support for the discussions and exchanges, are attached.

The present Minutes are only focused on points where decisions were (or need to be) taken.

See attached document

Meeting very fruitful. JUAS lecturers ask to repeat it.



# JUAS in the community of particle accelerators

**IPAC15**

# RICHMOND VIRGINIA

MAY 3-8, 2015

HOSTED BY:  
**THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY**

**NEWPORT NEWS VIRGINIA, USA**

# USA

**INTERNATIONAL ORGANIZING COMMITTEE**

Andrew Horton, IJAs, Chair	Wen Neuhöfer, IJAs
Deepa Anand Kulkarni, IJAs/NSD/C	Karimou Ochi, IJAs
Joseph Duggan, U Wisconsin	Fabrizio Piatek, IJAs
Mark Boland, IJAs	Sean Schieber, IJAs
Angela Fain Goh, IJAs	Wen Södel, IJAs
Scott Henderson, Argonne	Vitor Sotoca, CAMD
Mark Hogan, IJAs	Markus White, IJAs
Andreas Wacker, IJAs	Zhenyong Zhan, IJAs

**SCIENTIFIC PROGRAM COMMITTEE**

Scott Henderson, Argonne, Program Chair	Gwo-Jen Liu, NSERC
Gianluigi Arduini, CERN	Lia Morselli, TRIUMF Canada
Elke Beise, Brookhaven, IJAs	Manuel Peral, CELSIUS/FAIR
John Cary, U Colorado	Qing Qiu, IJAs
Stephan Geisler, IJAs	Thomas Koenig, IJAs
Suzanna Grigg, IJAs/NSD	Yoshitaka Mizuno, IJAs
Kevin Jones, ORNL	Alan Todd, ARES
Is-Soo No, POSTECH	Jin Wei, IJAs
Liu Liu, UNIL, Seoul	

**LOCAL ORGANIZING COMMITTEE**

Andrew Horton, Conference Chair	Felix Kiesel
Scott Henderson, Argonne, Program Chair	Thom McCulloch
Fabrizio Piatek, Local Organizing Committee Chair	Tim Mowbray
Kristyn Adams	Kenneth Mui, IJAs
Hans Auel	Fabrizio Piatek
Julia Chapoy-Hoberts, Helmholtz-Berlin	Todd Scroggs
Eric Cibon	Jac Scudiero
Anthony Clark	Paul Turk
Eric Thompson	Stephanie Vermeulen

# IPAC 15

THE 15th INTERNATIONAL PARTICLE ACCELERATOR CONFERENCE  
at the GREATER RICHMOND CONVENTION CENTER

[www.ipac15.org](http://www.ipac15.org)

# Accelerator Conference award for JUAS

Each year one JUAS student receives a grant to attend the IPAC conference.

## There are requirements to attend IPAC:

Follow JUAS courses

Obtain the best marks at the examination

Continue in the field of particle accelerator

Present work at the conference

Serve as for other supported students (scientific secretary, JUAS stand, Poster, ...)





Philipp DIJKSTAL (German) from TU-Darmstadt (Germany), as JUAS Master student got the first rank at examination of course 1 and course 2. He will receive a grant for IPAC 2015.



Giovanna CAMPOGIANI (Italian) from University La Sapienza - Roma (Italy), as JUAS PhD student got the second rank at examination of course 1. She will receive a grant for IPAC 2015.

# JUAS laureates

Javier Barranco	UPC Madrid,	PAC 2007, US
Matthias Euler	TU-Darmstadt,	EPAC 2008, Genoa
Alexandre Pichard	INP-Grenoble,	EPAC 2008, Genoa
Christopher Bauer	TU-Darmstadt,	PAC 2009, Vancouver
Timo Bloch	TU-Darmstadt,	IPAC 2010, Kyoto, 23-28 May
Philipp John	TU-Darmstadt,	IPAC 2011, San Sebastian, 4-9 September
Javier Jongalez	Valencia – Spain,	IPAC 2011, San Sebastian, 4-9 September
Yan Dutheil	LPSC Grenoble,	IPAC 2012, New Orleans, 20-25 May
Robert Stegmann	TU-Darmstadt,	IPAC 2012, New Orleans, 20-25 May
Jorge Giner Navarro	Valencia university	IPAC 2013, Shanghai, 12-17 May
Alessio Mereghetti	Manchester univ.	IPAC 2013, Shanghai, 12-17 May
Michele Carla	ALBA-Barcelona	IPAC 2014, Dresden, 15-20 June
Nikolai Schmitt	TU-Darmstadt	IPAC 2014, Dresden, 15-20 June
Philipp Dijkstal	TU-Darmstadt	IPAC 2015, Richmond, 3 – 8 May
Giovanna Campogiani	La Sapienza-Roma	IPAC 2015, Richmond, 3 – 8 May



## Société Française de Physique

33, rue Croulebarbe-75013 Paris

*Division « Physique des Accélérateurs & Techniques Associées »*



### *Journées Accélérateurs de la SFP Roscoff, du 4 au 7 octobre 2015*

CIRCULAIRE N° 1

Paris, 16 février 2015



Jean-Luc Revol, ESRF, President



<https://indico.lal.in2p3.fr/event/2497/>

Nicolas Delerue, LAL, Organizer

# TIARA: European project



Test Infrastructures and Accelerator Research Area



Test Infrastructure and Accelerator Research Area

## Status Report

# Recommendations for promoting accelerator science and technology in Europe

Burrows, P. (JAI, University of Oxford) *et al*

07 November 2013

Date: 1/04/2015

Dear colleagues,

After discussion with Roy Aleksan, I am writing to ask if you would be willing for your institute to participate in education and training activities in accelerator science and technology, as part of the next-stage TIARA Consortium....

.... a strong recommendation was to construct an 'e-learning' course,....

Phil Burrows  
(TIARA preparatory phase WP5 leader)

The research leading to these results has received funding from the European Commission under the FP7-INFRASTRUCTURES-2010-1/INFRA-2010-2.2.11 project TIARA (CNI-PP). Grant agreement no 261905.

This work is part of TIARA Work Package 5: **Education and Training**.

The electronic version of this TIARA Publication is available via the *TIARA web site* at <http://www.eu-tiara.eu/database> or on the *CERN Document Server* at the following URL: <http://cds.cern.ch/search?p=TIARA-REP-WP5-2013-016>



# EuCARD<sup>2</sup>

- Frankfurt meeting
- Presentation at JUAS



# Summary of the 1<sup>st</sup> EuCAN Workshop “Universities meet Laboratories (ULA2014)”

G. Franchetti (GSI) and F. Zimmermann (CERN)

Based on contributions from

R. Aleksan (CEA), G. Anelli (CERN), R. Appleby (U. Manchester/CI), G. Arduini (CERN), R. Assmann (DESY), K. Aulenbacher (JGU Mainz), P. Bambade (CNRS/IN2P3/LAL), W. Barletta (USPAS & MIT), O. Boine-Frankenheim (TU Darmstadt/GSI), P. Burrows (U. Oxford/JAI), A. Faus-Golfe (IFIC), S. Guiducci (INFN-LNF), W. Herr (CERN), S. Kamada, (KEK), A. Letchford (RAL), M. Migliorati (Sapienza Rome), Máriaus Pavlovič (SUT Bratislava), H. Podlech (GU Frankfurt) L. Rinolfi (JUAS), L. Rivkin (EPFL & PSI), S. Russenschuck (CERN), E. Schleiff (GU Frankfurt), M. Seidel (PSI), H. Stoecker (GSI), J. Stroth (GU Frankfurt), A. Valloni (CERN), V. Ziemann (U. Uppsala)

## Global Summary

“Universities meet Laboratories” was a pioneering attempt to bring together representatives of the academic world and of laboratories, in order to confront the interface of joint research, communication and collaborations.

The workshop revealed a unanimous consensus among the participants from universities across Europe that, in general, the field of accelerator physics and technology appears to be often disadvantaged by an inadequate standing in the academic environment.



# Building the future of particle accelerators: collaborative R&D in the European context

M. Vretenar, CERN  
EuCARD-2 Coordinator

An introductory presentation for the JUAS 2015 cycle  
European Scientific Institute, Archamps, 16.02.2015





# EuCARD-2: the collaborative road to Accelerator R&D

**EuCARD-2 = European Coordinated Accelerator Research and Development**, an *Integrating Activity* co-funded by the European Commission under the *Capacity – Research infrastructure* Program

> 300 participants from 40 Institutes (Laboratories, Universities and Industries) of 12 European Countries (+ CERN and Russia)

48 months duration (01.05.2013 - 30.04.2017)

13 Workpackages covering different fields of advanced Accelerator R&D

23.5 M€ total cost, 8 M€ EC contribution

One website: <http://eucard2.web.cern.ch/>

One goal: **develop the technologies for tomorrow accelerators**

- Promote **public outreach** of accelerator science, and **education and training** of the future generation of accelerator scientists.

# Nordic Particle Accelerator School

*Christine Darve / ESS Lund*



EUROPEAN  
SPALLATION  
SOURCE

MAX IV



LUND  
UNIVERSITY



UPPSALA  
UNIVERSITET



AARHUS UNIVERSITY



UNIVERSITY OF JYVÄSKYLÄ

# Nordic Particle Accelerator School 2015

Lund University, Sweden  
August 17-23, 2015

Registration online by May 30, 2015:  
<http://www.eit.lth.se/index.php?ciuid=922&L=1>  
Contact: christine.darve@ess.se

## Topics:

A one week introductory course on the physics of particle accelerators, aimed at Bachelor and Master students in Physics and Electrical Engineering. Students will receive an introduction to accelerator based science and learn how modern particle accelerators work.

## Preparation team:

Lund University: Anders Karlsson, Sverker Werin  
MAX IV Laboratory: Pedro Fernandes Tavares, Simon Leemann  
European Spallation Source: Christine Darve  
Uppsala University: Maja Olivegard, Roger Ruber  
Aarhus University: Søren Pape Møller  
University of Oslo: Erik Adli  
University of Jyväskylä: Pauli Heikkinen  
CERN: Rüdiger Schmidt



Lund, Sweden

Lund is home to Scandinavia's largest particle accelerator facilities, the European Spallation Source and the MAX IV Laboratory. The school includes visits to both facilities.

## European Spallation Source

The world's most powerful proton accelerator



## MAX IV Laboratory

The next generation of  
synchrotron light sources

The **NPAS2015** will be hosted in Lund on August 2015, with partners institutes:

MAX IV, ESS, Uppsala, Aarhus, Oslo and Jyväskylä Universities.

- 20 students
- 6 days
- 3 ECTS equivalents

Registration and program available at:  
<http://www.eit.lth.se/index.php?ciuid=922&L=1>

The NPAS2015 will be the proof of a successful cooperation between Nordic universities and will act as a feeder school for JUAS.

A follow-up project aims to establish every 2-years, a 2-week school of accelerator (NPAS) expanding the first school edition from 20 to 40 students and using additional innovative materials and network.

## Application to Erasmus+, Strategic Partnership

Proposed 36-month Nordic Particle Accelerator Program structured in 3 work-packages:

WP01: Preparation and implementation of 2 Nordic Particle Accelerator Schools

WP02: Preparation and implementation of MOOCs and e-learning materials

WP03: Seminar, webinars and other networking activities

The aim of this proposed Strategic Program is to increase the European capacity of accelerator scientist training by establishing a Nordic centre for education and training in accelerator science in Lund, Sweden to benefit the ESS and the MaxIV laboratory.

NPAS will act as a feeder school for JUAS by preparing students at Bachelor/early Master for JUAS' intensive university-accredited programs.

Further partnership with the JUAS could foresee future school in Archamp.

As a possible follow-up of the earlier European program TIARA (Test Infrastructure and Accelerator Research Area), TIARA-REP-WP5-2013-005, the NPAP will give support to students who focus on accelerator science so that they become the European accelerator experts, who exploit, develop and improve current and future particle accelerators.



# A new facility on Archamps Technopole

*B. Holland, A. Seryi*

# The « FieldTech » Project

A project has been envisioned to strengthen ESI's position in the strategic and geo-sensitive global business of radiation sciences education.

- Highest quality teaching
- Best standards facility

## A vision built on key ESI features:

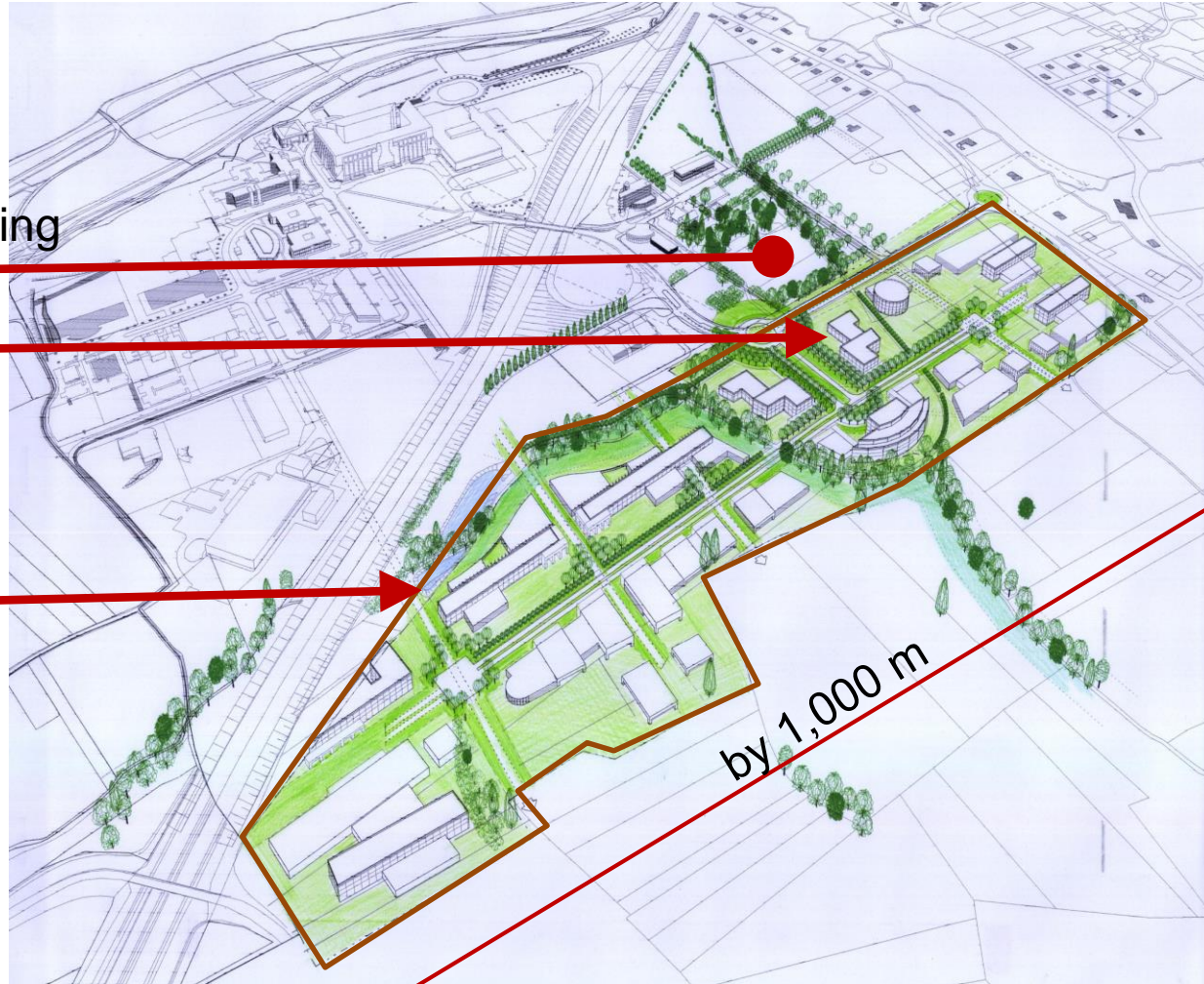
1. The “golden line” facilities ESRF / CERN / FEL-PSI
2. ESI/JUAS worldwide recognition in radiation science teaching.
3. The JUAS network of expertise
4. New land extension (very close to ESI building)
5. A dedicated 10 MW power line
6. Proximity of CIXP\* (All possible services available)
7. Fibre optic network - regular 100MBit/sec.
8. Quiet location – subnanometer/4Hz vibration qualified (ongoing)

\* *CIXP = CERN Internet eXchange Point*

Existing ESI building

Envisoned  
beam facility

Land  
extension  
project  
First delivery  
Q4 2016



## BEAM TECHNOLOGIES

## BEAM APPLICATIONS

ACCELERATOR ENERGY

BEAM WAVELENGTH

TUNABILITY

SCALABILITY

CAPITAL COST

OPERATING COST

LIFE SCIENCES

MATERIALS

LITHOGRAPHY

EDUCATION

RESEARCH

SERVICES



**REQUEST the JUAS EXPERTISE NETWORK for a PRELIMINARY POSITION PAPER**

# Options for Compact Light Sources

**Andrei A. Seryi**  
**John Adams Institute**

Video meeting with:  
*Archamps Technopole*  
March 13, 2015



# Background

- **Preliminary discussions**
  - ... indicated the interest of Archamps Technopole colleagues in desire to build a compact Light Source (FEL or other design) at Archamps
- **In this presentation**
  - ... we will outline several options of compact light sources:
    - Compact Compton Source
    - Compact SCRF Compton Source
    - Laser Plasma Light source
  - We will mention compact FEL only briefly – see extra slides