Newsletter
April 2012
Issue 1

Welcome to the First Newsletter of the EU Network LA³NET

Special Interest Articles

- **Announcement of annual LA³NET Prize**
- **Consortium structure and project roles**

Lasers can be used for the generation of high brightness electron and exotic ion beams, the acceleration of particles with the highest accelerating gradients, as well as for the characterization of many complex particle beams by means of laser-based beam diagnostics methods.
In addition, lasers can be used for achieving the highest time resolution and strongest fields for experiments in atomic physics, chemistry and biology, i.e. for studies into the dynamics of some of the most fundamental processes in nature. Without constant progress in laser technology and close collaboration between laser experts and accelerator scientists, many of today's most advanced experiments would simply be impossible.

The exploitation of **LA**sers for **A**pplications at **A**ccelerator facilities for ion beam generation, acceleration and diagnostics is the goal of this new **NET**work (**LA³NET**) within the FP7 Marie Curie Initial Training Network (ITN) scheme, with a project budget of up to 4.6 M€. The network presently consists of 25 partner institutions, including universities, research centres, and private companies. LA³NET is in the process of filling its 17 position vacancies and the first international meetings and schools are being organised.

The aim of LA³NET is to train early stage researchers in a large spectrum of laser-based applications at accelerator facilities. The projects are closely linked to an overall optimization of existing and future research infrastructures and through these developments the trainees will automatically contribute to and expand the experimental programs at these facilities. Via the network's many international training events, which are also open to researchers from outside the consortium, we hope to contribute to international collaboration and knowledge exchange.

With this first newsletter, we would like to ask you to participate in our activities and share our enthusiasm for this field.

Carsten P. Welsch, Coordinator

LA³NET Prize 2012

The network announces the first LA³NET Early Stage Researcher Prize 2012 which is open to researchers from within and outside the project. A certificate and €1,000 cash prize will be awarded to a researcher in the first five years of their professional career for an outstanding contribution to the field of the application of lasers at accelerator facilities.
The 2012 prize-winner will be invited to the School on Laser Applications to be held in GANIL, France in October 2012 to be awarded the prize.

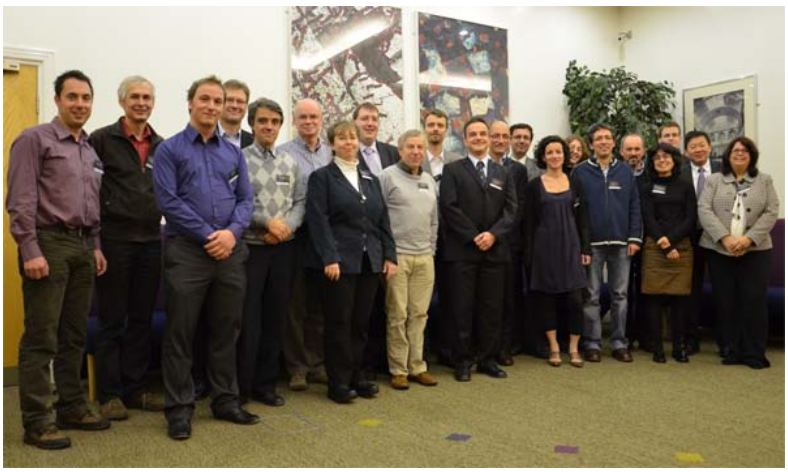
The **deadline for applications** is **30th June 2012** and full information on how to apply can be found on the LA³NET website.

www.liv.ac.uk/la3net/news/...
early_stage_researcher_prize_2012/

Consortium Structure and Project Roles

LA³NET is coordinated by the University of Liverpool and comprises eleven full beneficiary partners, twelve associated partners and a growing number of adjunct partners.

The beneficiary partners will all host between one and three early stage researchers (ESRs), each dedicated to a specific research project.



Associated and adjunct partners will play an important role in the network-wide training and some will provide secondment places for ESRs in relevant scientific or technological areas. Nine of the 25 partners currently engaged are from industry providing cross-sector opportunities for training and collaboration. Additional expressions of interests to join the network have already been received and will be discussed within the consortium.

Full Partners

Associated Partners

The Two New Adjunct Partners

Since the originally submitted proposal two new organisations have already accessed to the LA³NET consortium and discussions are being held with additional institutions. We are delighted to welcome Thorlabs GmbH (Germany) and the University of Nova Gorica (Slovenia) into the consortium !

Thorlabs is one of the leading suppliers of scientific equipment for research and development in the field of photonics. The company was founded 21 years ago and has ever since developed extremely rapidly. It now offers more than 12 000 products, ranging from simple lenses and mirrors to advanced laser stabilization feedback systems or 2 photon confocal microscopes. Thorlabs produces directly more than 90% of its products and thus has complete control over their quality and price stabilization. Further Thorlabs' know how is used on a daily basis to offer customers with customized solutions fitting their exact requirements. Thorlabs is present worldwide through several sales and production entities in the USA, Germany, France, UK, China, Japan and Sweden.

The University of **Nova Gorica** is the fourth university in Slovenia. It has built up an intense R&D program in the field of laser science and technology over the past few years, covering the following three main lines: Design and implementation of a seeded free-electron laser (EUFOS) on the Elettra storage ring at Sincrotrone Trieste; Design and commissioning of the single-pass seeded free-electron laser FERMI@Elettra at Sincrotrone Trieste and Development of a state-of-the-art light source (CITIUS) based on the principle of laser high-order harmonic generation in gas.

Project Management

Day to day project management is carried out by the EU Project T.E.A.M. from the University of Liverpool based at the Cockcroft Institute of Accelerator Science and Technology in Daresbury, UK.

The five person team are currently managing three FP7 Marie Curie Initial Training Network (ITN) projects, all coordinated by Prof. Dr. Carsten P. Welsch, with a combined total budget in excess of € 15 million.

In addition to LA³NET, these projects concern the optimisation of particle accelerators (oPAC) and the development of novel diagnostic techniques for accelerators (DITANET).

Each project comprises a consortium of more than 20 partners from all over the world.

Within the Project Team Glenda Wall is managing DITANET which is approaching successful completion at the end of May 2012. Dr. Rob Ashworth is the project manager for LA³NET, whilst Sue Davies is responsible for the financial project administration. Helen Williams provides administrative support via the coordinator and Alexandra Welsch is responsible for developing and managing the websites and newsletters for the two new projects, oPAC and LA³NET.

Steering Committee

The Steering Committee (SC) is responsible for the strategic management of the network and meets every six months to review progress and make decisions to ensure all project obligations are met. An elected ESR trainee representative will join the SC group in the future but for the time being the SC consists of the following elected members:

Dr. Rob Ashworth is the project manager for LA³NET. Rob is a biochemist and a corporate member of CIWEM with a PhD in sewage treatment using reed bed systems in the UK and Egypt. He also coordinated the FP7 research support role of the Enterprise Europe Network in England's North West.

Dr. Arnd Baurichter, VP Sales and Marketing of Danfysik, Denmark, is representing industry in the Steering Committee and has worked at international research centres and universities before moving to the industry sector.

Prof. Dr. Enrique Conejero Jarque is working at the University of Salamanca and Centro de Láseres Pulsados Ultracortos Ultraintensos in Spain on laser-plasma interactions in the ultrashort ultrastrong regime.

Prof. Dr. Allan Gillespie has held the Chair of Photonics at the University of Dundee since December 2004. His research currently focuses on FELs and lights sources, mobile computing and nanomaterials.

Dr. Nathalie Lecesne is leader of the Resonant Ionization Laser Ion Source (RILIS) project at GANIL, France. She studied in Orsay and Caen and has also worked at TRIUMF, Canada.

Prof. Dr. Carsten P. Welsch, University of Liverpool and Cockcroft Institute, UK, initiated the LA³NET project and is the scientific coordinator. His research is in accelerator R&D with a focus on low energy accelerators and beam instrumentation.

Positive First Steering Committee Meeting in Brussels

The six Steering Committee (SC) members met in Brussels on 23 March 2012 and held a highly constructive meeting reviewing progress and planning future activity. Topics of discussion centred on the recruitment of fellows, future events and dissemination activity. The approved minutes are available to project stakeholders on the LA³NET VOCAL site.

Recruitment has progressed well during the first round with potentially 7 positions to be filled out of the 17 places. For the **next recruitment round** with **deadline** of **30 May** all vacant positions will be published via the partner institutions, centrally through the coordinator and on EURAXESS:

ec.europa.eu/euraxess/index.cfm/jobs/index

The arrangements for the School on Laser Applications in GANIL in October 2012 were discussed and a draft schedule agreed along with provisional speakers to be contacted.

The overall position advertising strategy and best practice were discussed and a future recruitment strategy agreed.

The project website and template for the newsletter was reviewed and approved by the Committee. Other dissemination activities to raise the profile of LA³NET were described including sponsorship of a Young Researcher award at the LAP12 conference in Paris in June and representation at the DITANET industry stand at IPAC12 in New Orleans in May.

First LA³NET School on Laser Applications at GANIL, France

The school will follow the successful format pioneered in the DITANET project. It will be hosted by GANIL and organised by GANIL and the LA³NET consortium. Renowned lecturers will complement partner expertise to cover topics such as:

- Introduction to lasers;
- Beam shaping;
- Laser ion sources;
- Laser acceleration;
- Laser based beam diagnostics;
- Industrial applications;
- Knowledge transfer.

In addition to the lectures there will be study groups, poster sessions and two evening seminars on major international initiatives in the laser and light sources field.

There will also be opportunities for discussion and networking at evening events and during an excursion on the Wednesday afternoon.

The cost for participation including accommodation and full board is €800. Several scholarships for researchers outside the network will be available to cover the conference fee. You will find more information about the school and can register on the CERN Indico website**, application deadline 31 August 2012**:

indico.cern.ch
confId=177701

First Trainees

The first fellow to be recruited was **Jurjen Couperus** who **started with HZDR on 15 March 2012**. Currently three other fellows have accepted offers with a further three pending.

Jurjen Couperus

Jurjen studied Applied Physics at the University of Twente, the Netherlands. After finishing his Bachelor's degree in 2008, he continued his studies within the Optics and Biophysics master track of Applied Physics. During his education he developed a keen interest in lasers and their nonlinear applications. He became a student member in the Laser Physics and Nonlinear Optics research group.

In 2010, he did a 3.5-month internship in the Laser Particle Acceleration Division at the Helmholtz-Zentrum-Dresden-Rossendorf (HZDR) in Germany. There he focused on the development and implementation of on-site diagnostic for the 150 TW high power DRACO laser system.
In his master thesis, Jurjen focused on Laser Wakefield Acceleration (LWFA) of electrons. In a cooperation program between the University of Twente and the HZDR, he realized an interferometric setup where helium gas-jet targets for LWFA can be analysed. Using these target characterizations together with theory scaling laws, a set of initial parameters was determined for experiments with the DRACO laser system. In experiment, this lead to the first laser accelerated electrons at the HZDR.

In March 2012, Jurjen joined the LA³NET program. The program will enable him to continue his research as a trainee based at the HZDR. His work will mainly be focused on laser particle acceleration and laser driven Thomson x-ray backscattering on electron sources.

Welcome !

What is VOCAL?

VOCAL is a web-based site for information relating to the LA³NET project with access restricted to those involved in the project. It is a repository for formal and informal documents – from the official Grant Agreement and EC guides through to project-specific news and information about events.

There are live announcements and a blog as well as a calendar where documents relating to past and future events can be downloaded. Access permission will be provided to all partner members involved in LA³NET. Any requests for access or to reset passwords should be sent to Rob at Liverpool.

The content for VOCAL is controlled from Liverpool and so any contributions may be sent to the EU Project T.E.A.M. at Liverpool for uploading or for inclusion in future newsletters as appropriate. You can access the site by logging on via the link on:

www.liv.ac.uk/la3net/

DITANET Symposium: Quantum Systems and Research(ers) at Accelerators

DITANET is the Marie Curie ITN project that paved the way for LA³NET developing beyond-state-of-the-art diagnostic techniques for future accelerator facilities.

This symposium is one of the final events associated with the project to be held at the Cockcroft Institute in the UK on 16 May 2012. This event presents some of the highlights in antimatter research and beam instrumentation R&D. It will also provide an overview of the present challenges and opportunities in researcher training at all career stages.

In addition to the keynote talks, each participant will be given the opportunity to present their research work in the form of a poster contribution.

The symposium is free of charge but advance registration is required by 30 April 2012. Registration and further details

https://indico.cern.ch
confId=181600

Industry Stand at IPAC 2012

LA³NET will be represented at IPAC 2012 in New Orleans by members of the EU Project T.E.A.M. with an industry stand hosted by the DITANET project.

This will be the perfect opportunity to raise the profile of LA³NET internationally showing how we will build on the success of the DITANET project that is just reaching completion. In this way we will showcase the projects to be carried out by the ESR fellows, the training events offered and the network of partners involved from industry and academia. The stand will also be the ideal platform for publicising the remaining vacancies, the ESR Prize and the School on Laser Applications in GANIL.

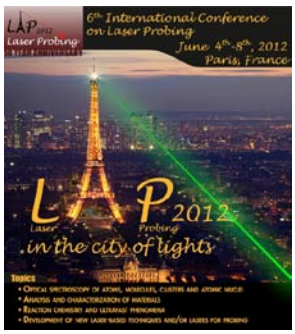
The stand will be open from the afternoon of Monday 21st until the afternoon Wednesday 23rd May and it would be good to meet up with other LA³NET members and researchers interested in the project who are also attending the event.

Young Scientist Award at LAP 2012 in Paris

LA³NET is sponsoring the Young Scientist Award at the 2012 International Conference on Laser Probing (LAP 2012) in Paris in June. A certificate and cash prize will be awarded to a graduate student or someone who has completed a PhD within the past two years for their contribution (poster or oral presentation) to the conference.

The Conference is aimed to highlight the state of the art in Laser Probing such as Optical spectroscopy of atoms, molecules, clusters and atomic nuclei, analysis and characterization of solid, fluid and gaseous materials and particles, reaction chemistry and ultrafast phenomena, development of new laser-based technique and/or lasers for probing.

Sponsorship of the award will provide the opportunity to showcase LA³NET to an international audience through a brief presentation about the project as part of the award ceremony.



Joke Box

Barman says, 'Sorry we don't serve faster-than-light neutrinos in here.'

A faster-than-light neutrino walks into a bar.

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www.liv.ac.uk/la3net

LA³NET Events	
Oct 15th - 19th 2012	First International School on Laser Applications, GANIL, France

Other Events	
May 16th 2012	DITANET Symposium: Quantum Systems and Research(ers) at Accelerators, Warrington, UK
May 20th - 25th 2012	International Particle Accelerator Conference, New Orleans, Louisiana, USA
June 4th - 8th 2012	6th International Conference on Laser Probing, Paris, France
July 11th – 15th 2012	Euroscience Open Forum, Dublin, Ireland

NOTICE BOARD

DEADLINE FOR THE NEXT RECRUITMENT ROUND
The deadline for the next recruitment round is 30th May 2012. Could all recruiting partners ensure that their vacancies are publicised on Euraxess, as well as through their institution.

DEADLINE FOR CONTRIBUTIONS TO THE NEXT NEWSLETTER
June 30th 2012

About LA³NET

The exploitation of Lasers for Applications at Accelerator facilities for ion beam generation, acceleration and diagnostics is the goal of this new Network within the FP7 Marie Curie Initial Training Network (ITN) scheme. In this frame, research centers, universities and industry partners from across Europe will develop beyond-state-of-the-art techniques and technologies through a joint inter-sectorial training program for early stage researchers within a unique European partnership.

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