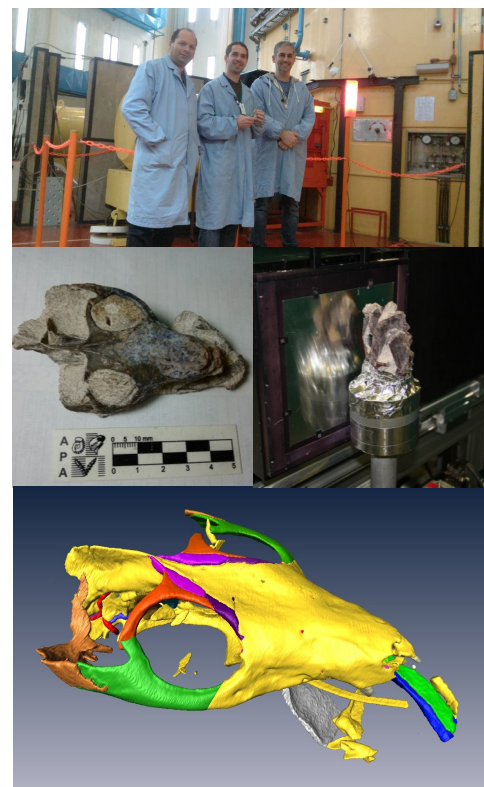




Networking

First mammalian fossils from Argentina studied with neutron imaging

Among the strategies aimed at developing its future user community, LAHN promotes the submission of proposals from Argentine research groups to neutron scattering laboratories worldwide. In this way, future LAHN users can familiarize themselves with neutron techniques and discover their potential impact on their own research. This has been the case with recent imaging experiments in the field of Paleontology. Together with ASTOR's team leader, Aureliano Tartaglione, researchers from the National Natural Science Museum, Fernando Novas and Federico Agnolín, as well as Leandro Gaetano from the Institute of Andean Studies (IDEAN, UBA-CONICET) and Michael Laaß, paleontologist from Duisburg-Essen University, conducted neutron tomography experiments of three specimens of mammalian fossils found in Talampaya National Park, in the Argentine province of La Rioja ("Los Chañares" and "Los Colorados" formations). Together they studied cynodonts from the Late Triassic between 220 and 230 million years ago. Being close ancestors of present-day mammals, their internal anatomy is of extreme relevance in evolutionary studies, and an ideal topic to explore with neutron tomography. Preliminary images were taken at the CNEA's imaging facility located in the RA-6 reactor in Bariloche, Argentina (picture above), and the study was completed at the instrument ANTARES in FRM-II, Germany. The amazing tomographic reconstructions are still being processed, and Argentinean paleontologists have been really impressed with the potential applications that this technique will offer once the ASTOR instrument becomes available at LAHN.



Top: Aureliano Tartaglione (ASTOR team leader), Leandro Gaetano (IDEAN) and Julio Marín (responsible for the imaging facility) at the RA-6 reactor in Bariloche, Argentina. Center: Picture of one of the studied skulls and experimental setup in ANTARES (FRM-II, Germany). Bottom: Preliminary segmentation of the skull of a *probatognathus jenseni* reconstructed from the tomography images collected at ANTARES.



Training and Education

The LAHN team took a training course in knowledge management techniques

Within the technical cooperation project IAEA ARG0016, we were visited by Mónica Sbaffoni, an expert in Nuclear Knowledge Management from IAEA. Several activities were organised in order to assess the project's initial situation and to help choosing the most appropriate tools and techniques that will shape the Knowledge Management Program at LAHN (PGC-LAHN).



Instrument development

ASTOR team members participated in the DENIM meeting at PSI, Switzerland

The Design and Engineering of Neutron Instruments Meeting (DENIM) takes place annually at different laboratories around the world. There, engineers and physicists get together to discuss the design, procurement, construction, installation, maintenance and upgrading of neutron beam instruments. This year, LAHN team members Aureliano Tartaglione and Santiago Bazzana, presented the current development of the ASTOR instrument design and radiation shielding calculations. The picture also shows Elbio Calzada (FRM-II) and Salvador Ortiz (LAHN).





Training and Education



ETNA 3^{ra} EDICIÓN 2018
 ESCUELA DE TÉCNICAS
 NEUTRÓNICAS APLICADAS
 Centro Atómico Constituyentes | 16 al 26 de octubre 2018



Great success for the 2018 Edition of ETNA

The LAHN School on Neutron Scattering Techniques ETNA2018 took place between October 16th and 26th in Buenos Aires, at Centro Atómico Constituyentes and Centro Atómico Ezeiza. It was organised by LAHN under the academic structure of Institute Dan Beninson. With an emphasis in experimental studies, the school aims at offering graduates their first training in neutron scattering techniques, either to become future neutron users or to participate as developers of neutron instruments at LAHN. This year, 30 participants were selected out from 89 students who registered for the school. Participant came from different scientific areas and from many Argentine cities (Córdoba, San Luis, Bahía Blanca, Buenos Aires, Bariloche) and Latinamerican countries (Uruguay, Ecuador and Perú). Topics were covered by several researchers from Argentina, with the participation of two international experts: Dr. Gabriel Cuello, from ILL (Grenoble, France) for neutron diffraction and Dr. Nikolay Kardjilov from HZB (Berlín, Germany), for neutron imaging. Both visits were possible thanks to a Technical Cooperation Project funded by IAEA (IAEA ARG0016). The school ended with a very impressive visit to the RA-10 construction site in Centro Atómico Ezeiza.



Networking



Outreach and Public Awareness



Training and Education

Four international experts visited LAHN in September and October 2018



Javier Campo, Director of ICMA, Zaragoza, visited CNEA as an external advisor for LAHN Directors Karina Pierpauli and Javier Santisteban.



Nikolay Kardjilov, instrument scientist at HZB (Berlin), deserved to taste MATE after delivering some excellent neutron imaging lessons at ETNA2018.



ETNA's invited speakers Gabriel Cuello (ILL, Grenoble) and Nikolay Kardjilov, visited the RA-10 construction site with Karina Pierpauli, Florencia Cantargi y Aureliano Tartaglione from the LAHN team.



Elbio Calzada (instrument engineer at FRM-II, Garching) delivered a seminar at the Dan Beninson Institute, in Centro Atómico Ezeiza.



Outreach and Public Awareness

LAHN was presented at various national and international events

In the last semester we presented the latest developments occurring at LAHN in various scientific meetings such as the European Crystallography Meeting (Oviedo, Spain); the Synchrotron Radiation and Neutrons in Art and Archaeology SR2A (Portsmouth,

UK); the SAM-CONAMET conference (Bariloche, Argentina) and the RAFA (Buenos Aires, Argentina). We also visited the Inorganic Chemistry Department & INQUIMAE Institute (FCEN, UBA) to discuss the project and delivered a talk on applications of neutron techniques to study Li-ion batteries.



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Installation of RA-10 reactor pool

On August 27th, one of the most iconic milestones of the RA-10 project was achieved: the installation of the reactor pool. With this fundamental component, the civil works reached a 50% progress, whereas the supply, fabrication and installation of components reached a 40%. In September, the conduct that connects the reactor pool with the mechanisms room was mounted.

The Mechanisms Room, located in the lower part of the reactor building, is a key part of the reactor, as it fasten all core components with the exception of the Control Rod Guide Box, that its fixed from the top.

The picture below shows the progress of the RA-10 site, including the LAHN guide hall, and auxiliary labs of LAHN.



Calls and Job Offers

Announcements

International fellowship program: PSI-FELLOW-II-3i. In the framework of the international fellowship program with the acronym: "PSI-FELLOW-II-3i", the PSI is inviting experienced researchers (Postdocs) from all over the world to submit their applications for research positions that are part of our new postdoctoral program. Our "3i or triple i" postdoctoral program offers unique opportunities for scientific and career development with international, interdisciplinary and inter-sectorial prospects. Our postdoctoral program is a Horizon2020 Marie Skłodowska-Curie COFUND Action (grant agreement 701647). **The deadline for applications is on 30 November 2018, 24:00 CET.**



Upcoming events

- [ECNS 2019: European Conference on Neutron Scattering 2019](#) July 1-5, 2019, St Petersburg, Russia
- [3rd J-PARC Symposium](#) (J-PARC2019), September 23-26, 2019, Tsukuba, Japan

[More events here](#)

Schools and Courses

- [50th IFF Spring School 2019 "Scattering! Soft, Functional and Quantum Materials"](#). 11th – 22nd of March 2019. Juelich, Germany.
- [HZB Photon School 2019](#). 11th – 22nd of March 2019. Wilhelm-Conrad-Röntgen-Campus, Berlin-Adlershof, Germany.
- [School and Conference on Analysis of Diffraction Data in Real Space](#). March 17-22, 2019, Grenoble, France
- [International School on Fundamental Crystallography](#), November 26 - December 1, 2018, Bogota, Colombia

Job Offers

Vacancy for a SCIENTIST at ILL, in the Science Division / Large Scales Structures Group (ref 18/45) <<https://www.ill.eu/en/careers/>>

II ARGENTINE CONFERENCE ON NEUTRON SCATTERING

SAVE THE DATE!
9 - 10 May, 2019

Auditorium "Cancillería General
de la Nación"
Buenos Aires.



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