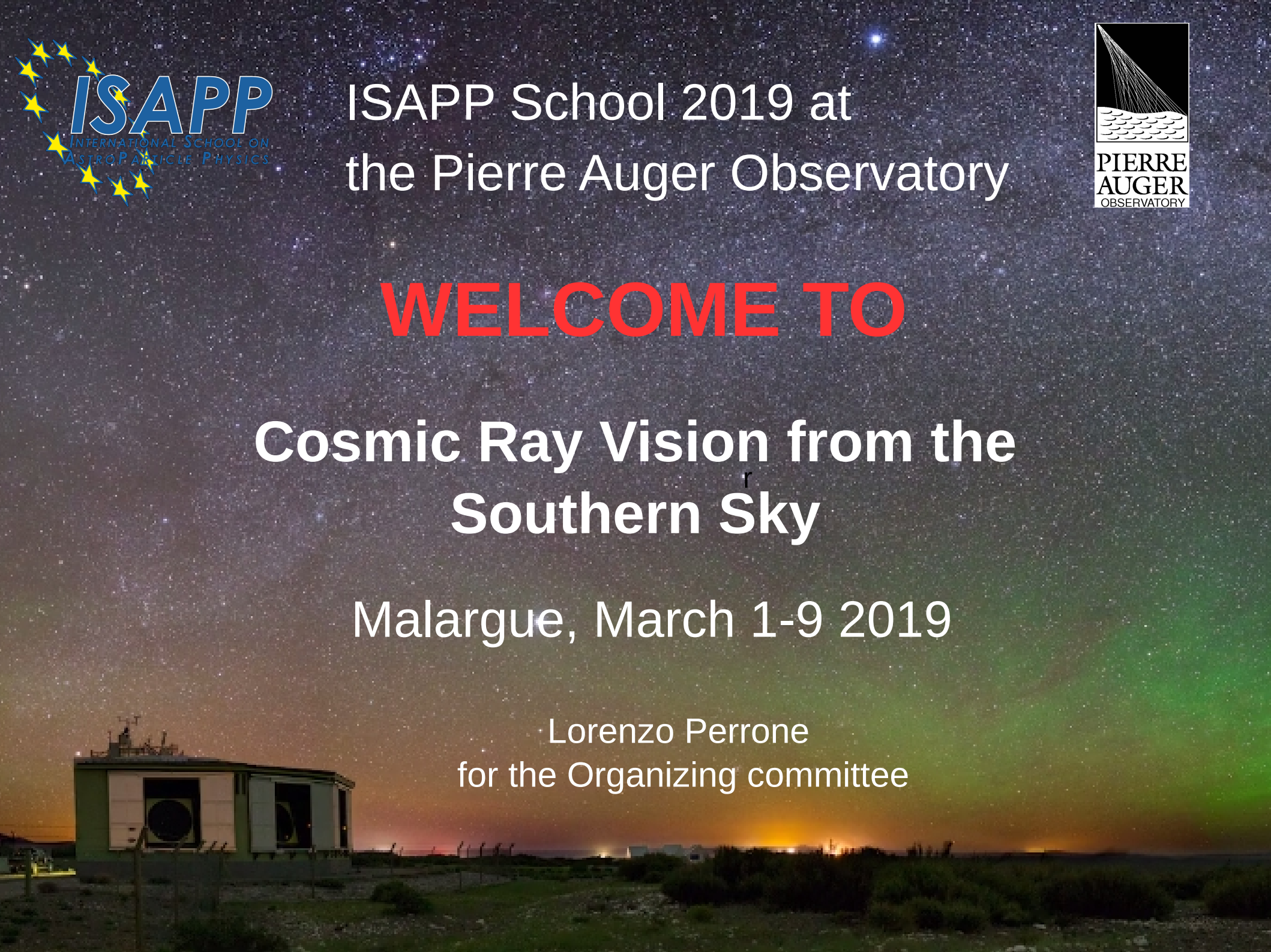

ISAPP
International School on Astroparticle Physics
ISAPP School 2019 at
the Pierre Auger Observatory
PIERRE AUGER OBSERVATORY
WELCOME TO
Cosmic Ray Vision from the Southern Sky
Malargue, March 1-9 2019
Lorenzo Perrone
for the Organizing committee

How and why this doctorate school edition is conceived

ISAPP and The Pierre Auger Observatory joint effort

- facilitate the participation from Latin American countries
- encourage the exchange between students on large scale
- profit from the unique location

“This initiative is supported by the International School on Astroparticle Physics (ISAPP https://www.isapp-schools.org/), a network including 39 institutions and doctorate schools which has the mission of disseminating Astroparticle Physics, training the future community of scientists in the field and encouraging exchanges of students. This current edition is also supported by the Pierre Auger Observatory with the aim of facilitating and promoting the participation of students from Latin-American countries”

https://www.isapp-schools.org/

ISAPP
International School on AstroParticle Physics

- Home
- ISAPP Aims
- Steering Committee
- ISAPP Schools
- Partner Institutes
- Related Links
- Internal

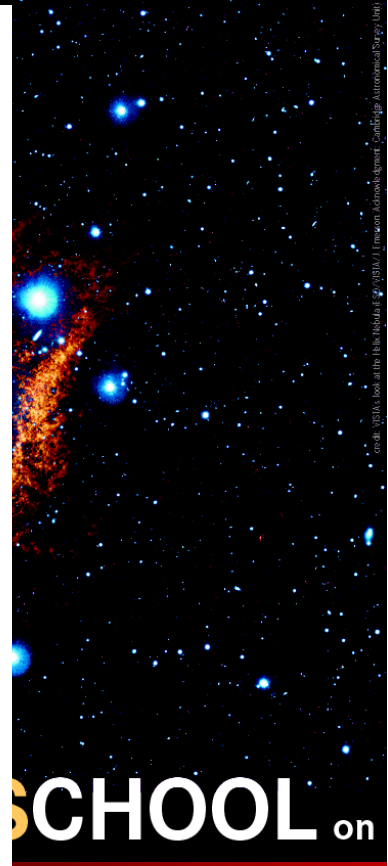
ISAPP – International School on AstroParticle Physics

European Doctorate School

A network of European Institutions has been created, with the purpose of organizing a common curriculum in Astroparticle Physics at the level of a Doctorate School.

The Institutions of the ISAPP network have subscribed an agreement. On the basis of the agreements subscribed by these Institutions, specialized courses concerning Astroparticle Physics are organized in a common International School on AstroParticle Physics (ISAPP). Bilateral and multilateral student exchanges concerning the research activities in this field are also foreseen, in view of their thesis preparation.

The network presently includes 39 Institutions. The agreement subscribed by the ISAPP Institutions is open to the possibility of new entries. Other Institutions negotiating their joining are welcome.



SCHOOL on

PHYSICS

cts concentrate on the main topics ysics:

nd astrophysics, dark matter, dark crowave background radiation, cos-mology and the early universe, cosmic rays, gamma rays, gravitational waves and multi-messenger astronomy.

ISAPP's mission is to promote exchanges between doctoral schools, and to develop a joint education through the organization of PhD summer schools and summer institutes on astroparticle physics (usually 2-3 per year, 10 days long each).

Each ISAPP school is conceived as an up-to-date didactic course of lectures at the level of a doctoral school and its structure perfectly fits with a PhD course.

More info and details about upcoming schools:

www.isapp-schools.org

https://www.isapp-schools.org

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ISAPP
International School on AstroParticle Physics

INTERNATIONAL SCHOOL on ASTROPARTICLE PHYSICS

The International School on AstroParticle Physics (ISAPP) is a network of more than 30 research institutions and doctoral schools from France, Germany, Israel, Italy, the Netherlands, Norway, Russia, Slovenia, Spain, Sweden and the United Kingdom.

ISAPP's mission is to promote exchanges between doctoral schools, and to develop a joint education through the organization of PhD summer schools and summer institutes on astroparticle physics (usually 2-3 per year, 10 days long each).

The schools' subjects concentrate on the main topics of astroparticle physics:

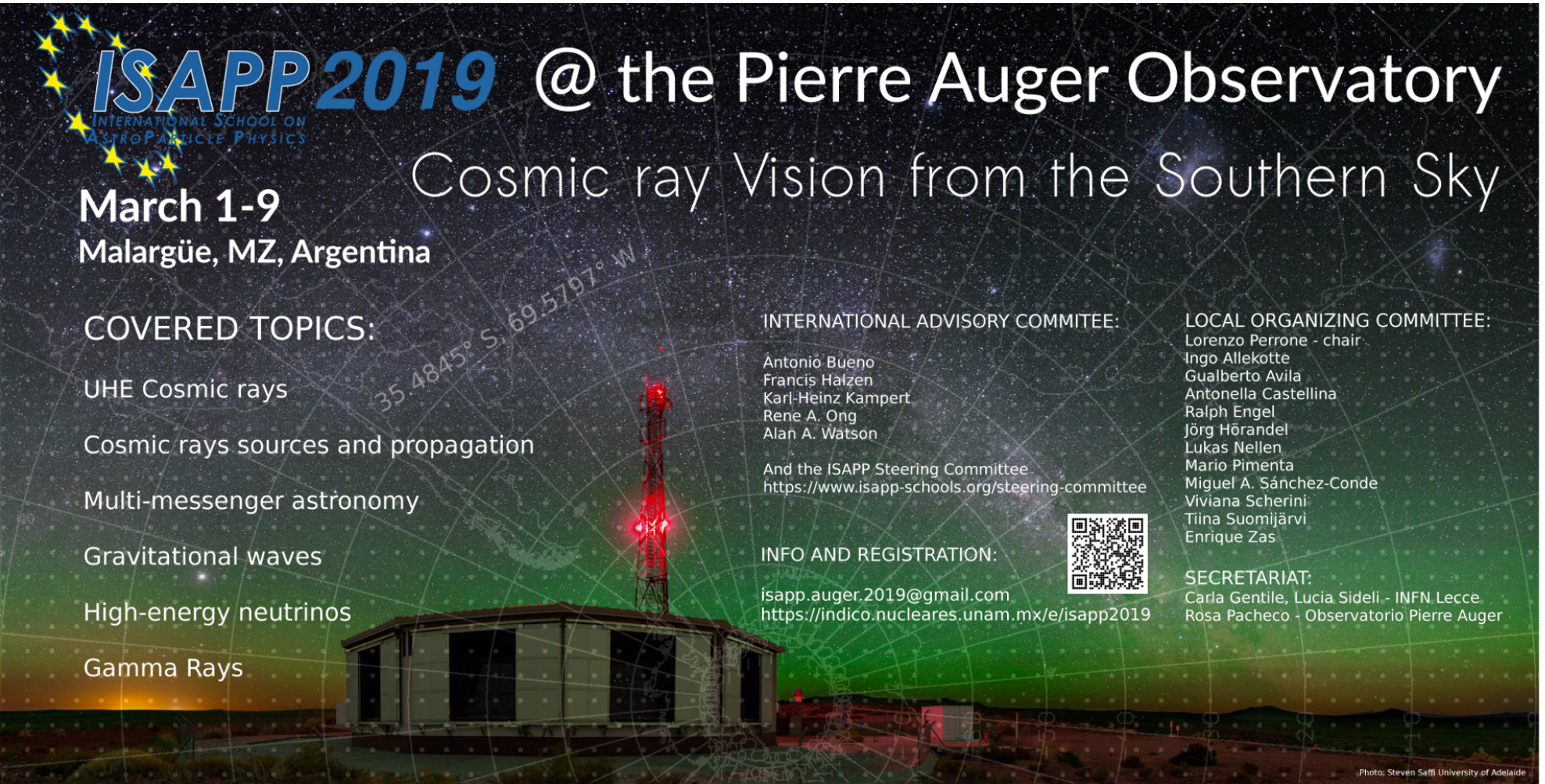
Neutrino physics and astrophysics, dark matter, dark energy, cosmic microwave background radiation, cosmology and the early universe, cosmic rays, gamma rays, gravitational waves and multi-messenger astronomy.

Each ISAPP school is conceived as an up-to-date didactic course of lectures at the level of a doctoral school and its structure perfectly fits with a PhD course.

More info and details about upcoming schools:
www.isapp-schools.org

School topics

“School topics will include UHE cosmic rays, cosmic ray sources and propagation, high-energy neutrinos, gamma rays and multi-messenger astronomy. Regular lectures will be given in the mornings and topic seminars about selected experiments in the afternoons. In the spirit of the ISAPP schools, lectures will be complemented by extensive exercises.”



School Website

http://indico.nucleares.unam.mx/e/isapp2019

1-9 March 2019
Pierre Auger Observatory
America/Mendoza timezone

registration for the ISAPP school 2019 @ the Pierre Auger Observatory: deadline Feb 22nd!

Organization and Support
isapp.auger.2019@gm...
lorenzo.perrone@le.inf...
+39 0832 297515
+54 0260 4471562

Cosmic Ray Vision from the Southern Sky

A special edition of the International School on Astroparticle Physics will be held at the Pierre Auger Observatory in Malargue, Mendoza, Argentina.

Covered topics include UHE Cosmic rays, high-energy neutrinos and gamma rays, multi-messenger astronomy and gravitational waves. Theory, exercises and hands-on sessions are forseen, along with seminars about selected experiments. Students are encouraged to bring posters showing their own research work, which will be presented in a dedicated poster session.

Master and PhD students, young researchers will have the opportunity to become part of the largest cosmic ray Observatory in the world and share their experience with the Observatory staff and researchers. Dedicated activities are planned to fully exploit this unique location.

PIERRE AUGER OBSERVATORY

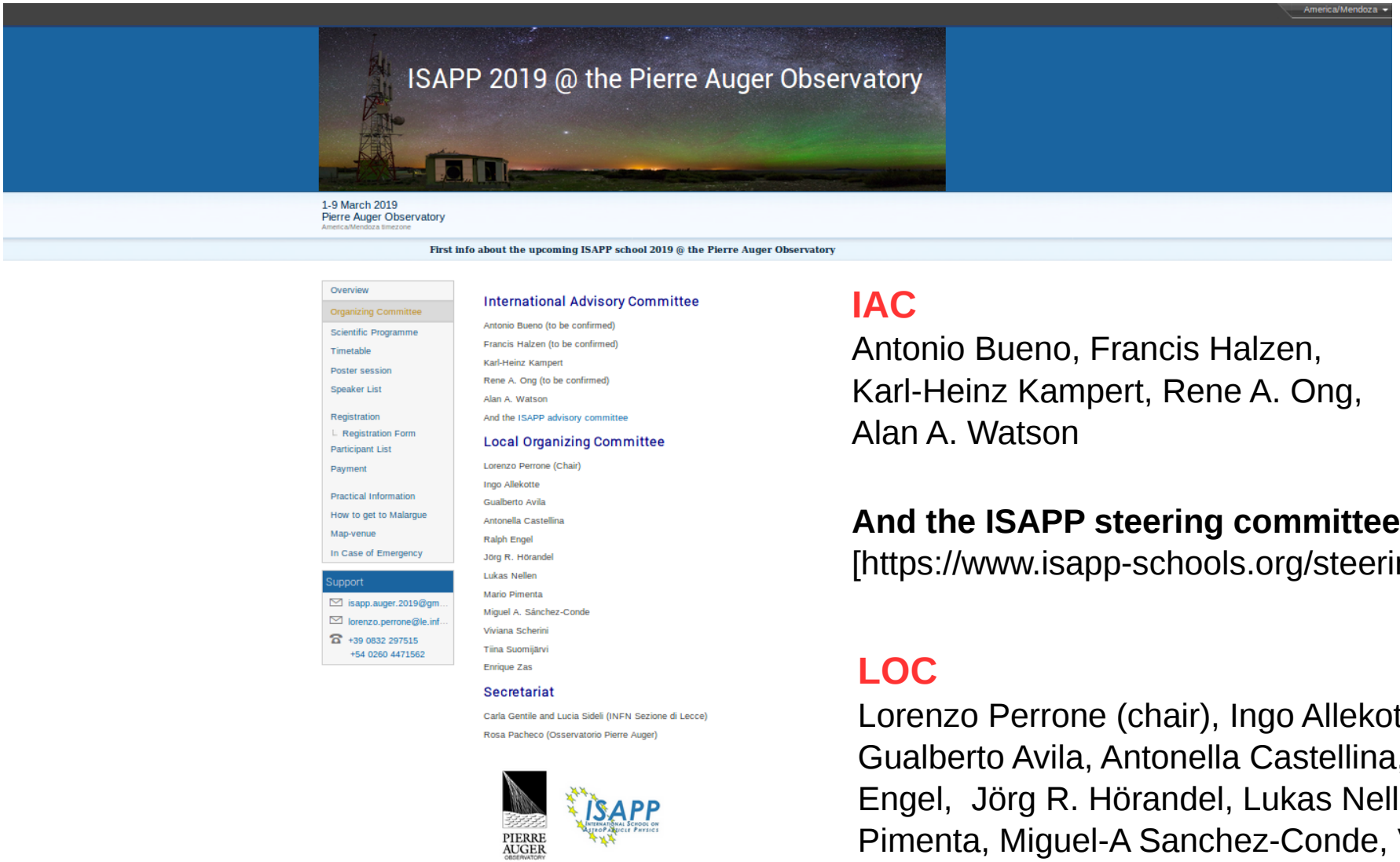
ISAPP International School on AstroParticle Physics

Starts 1 Mar 2019 10:00
Ends 9 Mar 2019 19:00
America/Mendoza

Pierre Auger Observatory
Convention and Exhibition Center Thesaurus
RN40 2950, Malargüe, Mendoza, Argentina

School Poster

LOC and IAC



IAC

Antonio Bueno, Francis Halzen, Karl-Heinz Kampert, Rene A. Ong, Alan A. Watson

And the ISAPP steering committee
[https://www.isapp-schools.org/steering-committee]

LOC

Lorenzo Perrone (chair), Ingo Allekotte, Gualberto Avila, Antonella Castellina, Ralph Engel, Jörg R. Hörandel, Lukas Nellen, Mario Pimenta, Miguel-A Sanchez-Conde, Viviana Scherini, Tiina Suomijärvi, Enrique Zas

Secretariat

Rosa Pacheco (Pierre Auger Observatory), Lucia Sideli and Carla Gentile (INFN, Lecce)

The Agenda in one shot

FORMAT

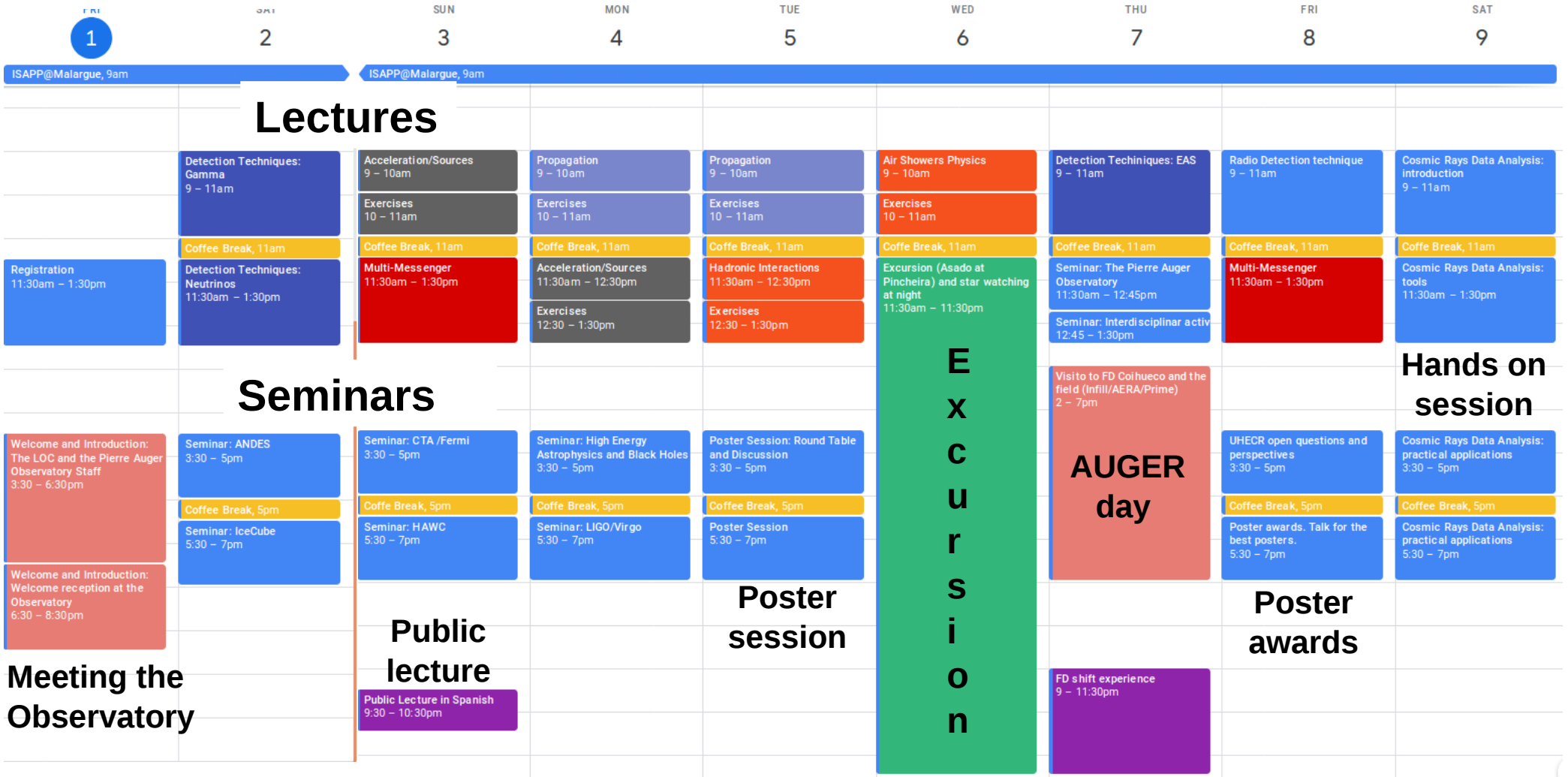
- Lectures with exercises

AND

- Seminars on specific items
- Public lecture (3/3)
- Poster Session (5/3)

SIDE ACTIVITIES

Interaction with the Observatory staff
Excursion and night sky observation (6/3)
Visit to the field (7/3)
Participating to a FD shift (7/3)
Hands-on session (9/3)



Lorenzo Perrone

Fri Mar 1 – Tue Mar 5, 2019 (Central European Time - Rome)

	Fri 3/1	Sat 3/2	Sun 3/3	Mon 3/4	Tue 3/5
	9am - ISAPP@Malargue				
9am		Detection Techniques: Gamma 9am - 11am	Acceleration/Sources 9am - 10am	Propagation 9am - 10am	Propagation 9am - 10am
10am			Exercises 10am - 11am	Exercises 10am - 11am	Exercises 10am - 11am
11am		Coffee Break 11am - 11:30am	Coffee Break 11am - 11:30am	Coffe Break 11am - 11:30am	Coffe Break 11am - 11:30am
12pm	Registration 11:30am - 1:30pm	Detection Techniques: Neutrinos 11:30am - 1:30pm	Multi-Messenger 11:30am - 1:30pm	Acceleration/Sources 11:30am - 12:30pm	Hadronic Interactions 11:30am - 12:30pm
1pm				Exercises 12:30pm - 1:30pm	Exercises 12:30pm - 1:30pm
4pm	Welcome and Introduction: The LOC and the Pierre Auger Observatory Staff 3:30pm - 6:30pm	Seminar: ANDES 3:30pm - 5pm	Seminar: CTA /Fermi 3:30pm - 5pm	Seminar: High Energy Astrophysics and Black Holes 3:30pm - 5pm	Poster Session: Round Table and Discussion 3:30pm - 5pm
5pm		Coffee Break 5pm - 5:30pm	Coffe Break 5pm - 5:30pm	Coffe Break 5pm - 5:30pm	Coffee Break 5pm - 5:30pm
6pm		Seminar: IceCube 5:30pm - 7pm	Seminar: HAWC 5:30pm - 7pm	Seminar: LIGO/Virgo 5:30pm - 7pm	Poster Session 5:30pm - 7pm
7pm	Welcome and Introduction: Welcome reception at the				
10pm			Public Lecture in Spanish 9:30pm - 10:30pm		

Lorenzo Perrone

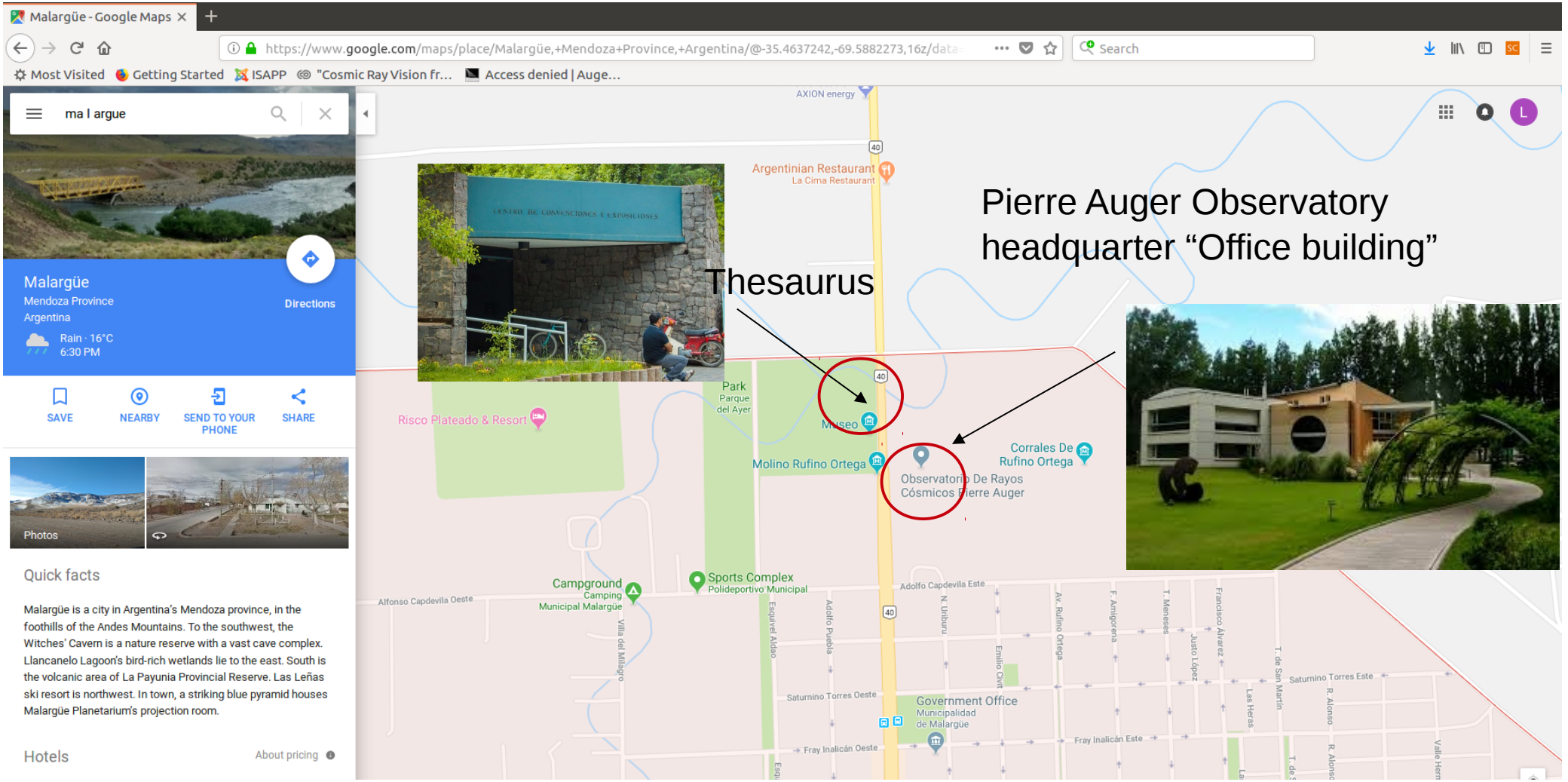
Wed Mar 6 – Sat Mar 9, 2019 (Central European Time - Rome)

ISAPP@Malargue

	Wed 3/6	Thu 3/7	Fri 3/8	Sat 3/9
9am	Air Showers Physics 9am - 10am	Detection Techiniques: EAS 9am - 11am	Radio Detection technique 9am - 11am	Cosmic Rays Data Analysis: introduction 9am - 11am
10am	Exercises 10am - 11am			
11am	Coffe Break 11am - 11:30am	Coffee Break 11am - 11:30am	Coffee Break 11am - 11:30am	Coffe Break 11am - 11:30am
12pm	Excursion (Asado at Pincheira) and star watching at night 11:30am - 11:30pm	Seminar: The Pierre Auger Observatory 11:30am - 12:45pm	Multi-Messenger 11:30am - 1:30pm	Cosmic Rays Data Analysis: tools 11:30am - 1:30pm
1pm		Seminar: Interdisciplinar activities at Auger 12:45pm - 1:30pm		
2pm		Visito to FD Coihueco and the field (Infill/AERA/Prime) 2pm - 7pm		
3pm				
4pm			UHECR open questions and perspectives 3:30pm - 5pm	Cosmic Rays Data Analysis: practical applications 3:30pm - 5pm
5pm			Coffee Break 5pm - 5:30pm	Coffee Break 5pm - 5:30pm
6pm			Poster awards. Talk for the best posters. 5:30pm - 7pm	Cosmic Rays Data Analysis: practical applications 5:30pm - 7pm
9pm		FD shift experience 9pm - 11:30pm		

Location

Convention and Exhibition Center Thesaurus



Right across the street from the Pierre Auger Observatory headquarter "Office building"

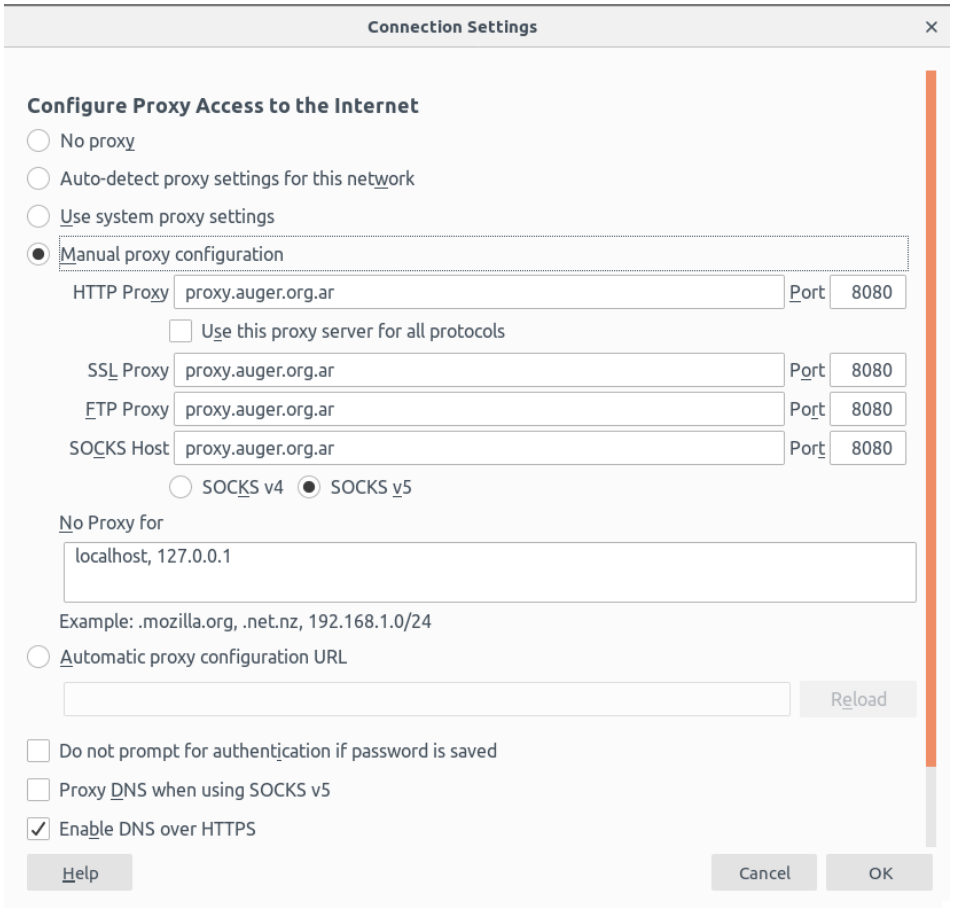
WI-FI Connections

Connection at Thesaurus, Red room (network id: Isapp auger passwd:estudiantes2019)

Open connection available at the Observatory headquarter

Proxy needed in most cases (some smart-phones working also without)

Please, configure your network settings as in the example



Where will the sessions be held?

Convention and Exhibition Center Thesaurus

Red Room: seminars and public lecture

Yellow room: lectures

Posters

Posters can be hung along the main corridor of the convention center. Panels are already available
Session poster is scheduled on March 5th, at 3.30 pm
Best poster award (talk) on March 8th at 5:30 pm.

Public lecture on Sun March 3 9:30 pm

Prof. Miguel Mostafa

Penn State University

USA

Las partículas más energéticas del universo

¡Las partículas conocidas como rayos cósmicos nos bombardean constantemente! Uno de los mayores misterios en astrofísica es el origen de los rayos cósmicos de más alta energía en el universo. Estos rayos cósmicos son los que detectamos con el Observatorio Pierre Auger. Son extremadamente exóticos (¡e interesantes!) porque cada uno de ellos tiene una energía que es millones de veces más alta que la energía de las partículas aceleradas por el Gran Colisionador de Hadrones, el acelerador de partículas más poderoso del mundo. En esta charla entre amigos vamos a discutir una pregunta muy importante que se hacen todos los habitantes de Malargüe. ¿Qué hacen los científicos del Pierre Auger? Y más importante aún, ¿para qué sirve todo esto?

Excursion on Wed March 6th : Castillo de Pincheira

Departure: 11:30 from Thesaurus, after coffee-break

Transport by bus (27 km from Malargue)

ASADO since 1 pm

Hiking in the afternoon

Light dinner at about 8 pm

Night sky observations since 9:30 pm
together with **Andrés Risi**
(Planetarium of Malargue)

Return to Malargue at about 11 pm

Recommendations: sun screen for the day
warm clothes for the evening

Visit to the field on Thu March 7th

Departure: 2 pm from Thesaurus, lunch boxes served along the trip

Visit to the FD site at Coihueco
(~ 40 km from Malargue)

Visit to the SD and SSD site in the field close to “El Sosneado”
(~ 50 km from Malargue)

Return to Malargue at about 7:30 pm

Participation in the night shift on Thu March 7th

We plan to participate in a data taking shift of the fluorescence detector in the late evening of March 7th at the end of the “Auger Day”

Hands-on session on March 9th

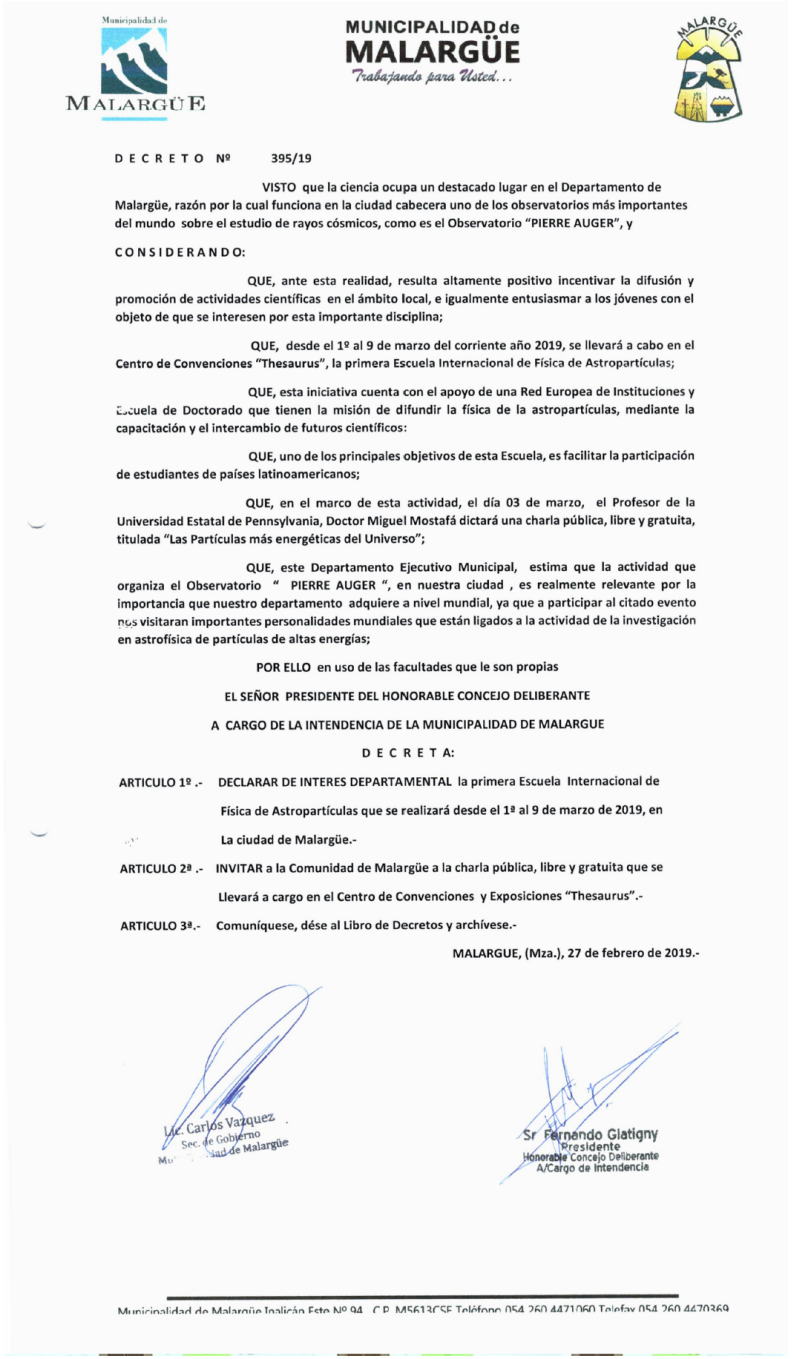
Subject:

The life of a cosmic ray from source to detector

Source → Propagation → Air shower generation → Detection

Self-managed session with guidance, profiting from your experience and expertise offered to the other participants.

Laptop recommended



Municipalidad de MALARGÜE

MUNICIPALIDAD de MALARGÜE
Trabajando para Usted...

MALARGÜE

DECRETO Nº 395/19

VISTO que la ciencia ocupa un destacado lugar en el Departamento de Malargüe, razón por la cual funciona en la ciudad cabecera uno de los observatorios más importantes del mundo sobre el estudio de rayos cósmicos, como es el Observatorio "PIERRE AUGER", y

CONSIDERANDO:

QUE, ante esta realidad, resulta altamente positivo incentivar la difusión y promoción de actividades científicas en el ámbito local, e igualmente entusiasmar a los jóvenes con el objeto de que se interesen por esta importante disciplina;

QUE, desde el 1º al 9 de marzo del corriente año 2019, se llevará a cabo en el Centro de Convenciones "Thesaurus", la primera Escuela Internacional de Física de Astropartículas;

QUE, esta iniciativa cuenta con el apoyo de una Red Europea de Instituciones y Escuela de Doctorado que tienen la misión de difundir la física de la astropartículas, mediante la capacitación y el intercambio de futuros científicos:

QUE, uno de los principales objetivos de esta Escuela, es facilitar la participación de estudiantes de países latinoamericanos;

QUE, en el marco de esta actividad, el día 03 de marzo, el Profesor de la Universidad Estatal de Pennsylvania, Doctor Miguel Mostafá dictará una charla pública, libre y gratuita, titulada "Las Partículas más energéticas del Universo";

QUE, este Departamento Ejecutivo Municipal, estima que la actividad que organiza el Observatorio " PIERRE AUGER ", en nuestra ciudad , es realmente relevante por la importancia que nuestro departamento adquiere a nivel mundial, ya que a participar al citado evento nos visitaran importantes personalidades mundiales que están ligados a la actividad de la investigación en astrofísica de partículas de altas energías;

POR ELLO en uso de las facultades que le son propias

EL SEÑOR PRESIDENTE DEL HONORABLE CONCEJO DELIBERANTE

A CARGO DE LA INTENDENCIA DE LA MUNICIPALIDAD DE MALARGUE

D E C R E T A:

ARTICULO 1º .- DECLARAR DE INTERES DEPARTAMENTAL la primera Escuela Internacional de Física de Astropartículas que se realizará desde el 1ª al 9 de marzo de 2019, en La ciudad de Malargüe.-

ARTICULO 2ª .- INVITAR a la Comunidad de Malargüe a la charla pública, libre y gratuita que se Llevará a cargo en el Centro de Convenciones y Exposiciones "Thesaurus".-

ARTICULO 3ª.- Comuníquese, dése al Libro de Decretos y archívese.-

MALARGUE, (Mza.), 27 de febrero de 2019.-

Lic. Carlos Vazquez
Sec. de Gobierno
Municipalidad de Malargüe

Sr Fernando Giatigny
Presidente
Honorable Concejo Deliberante
A/Cargo de Intendencia

Municipalidad de Malargüe Ingalicán Este Nº 94 C.P. M5613CSE Teléfono 054 260 4471060 Telefax 054 260 4470369

We got patronage and support from the city of Malargue

Thanks!

Wide advertisement for the school and for the public lecture

TV/ Radio interviews

Connection to the city very important

MAP of the city

Surroundings

Destinos de Interés

Laguna de la Niña Encantada
Espejo de agua cristalina rodeado de basalto negro de origen volcánico.
Tiempo de viaje: 40 minutos (aproximadamente)

Los Molles
Complejo termal con importante infraestructura hotelera, camino a Las Leñas.
Tiempo de viaje: 40 minutos (aproximadamente)

Pozo de las Ánimas
Singular formación geomorfológica denominada «dolina» (gran pozo con espejo de agua dulce al fondo).
Tiempo de viaje: 45 minutos (aproximadamente)

Valle de Las Leñas
Centro Internacional de Esquí más grande de Sudamérica, con una moderna infraestructura hotelera y servicios todo el año.
Tiempo de viaje: 60 minutos (aproximadamente)

Valle Hermoso
Sólo accesible en verano. Paisaje de singular belleza con espejo de agua. Servicio de camping y mini-restaurante de comidas típicas.
Tiempo de viaje: 120 minutos (aproximadamente)

Destinos hacia el Norte

Ciudad de Malargüe

Castillos de Pincheira
Curiosa formación natural que se asemeja a un castillo y fue refugio de los reconocidos caudillos Pincheira.
Actividades: trekking y cabalgatas. **Restaurante.**
Tiempo de viaje: 60 minutos (aproximadamente)

Dique Blas Brisoli Criadero de Truchas
Camping, coto de pesca y restaurante (Cuyam-Co) con platos elaborados a base de truchas. Se pueden alquilar equipos para pescar. **Restaurante.**
Tiempo de viaje: 10 minutos (aproximadamente)

Cascada de Manqui-Malal
Bello paraje natural, cuenta con refugios y restaurante.
Actividades: trekking y circuito de reconocimiento paleontológico.
Tiempo de viaje: 40 minutos (aproximadamente)

Volcán Malacara
Asombroso volcán, caminata entre cárcavas. Se debe ingresar con guía. Consultar en empresas de viajes y turismo. **Duración:** 2 horas.
Tiempo de viaje: 60 minutos (aproximadamente)

Laguna de Llancanelo
Reserva natural declarada sitio RAMSAR por su gran valor ecológico. Se puede realizar safaris fotográficos, avistaje de aves y trekking.
Tiempo de viaje: 90 minutos (aproximadamente)

Caverna de Las Brujas
Inolvidable recorrido por el interior de una caverna con formaciones de interés geológico (estalactitas y estalagmitas). Mayores de 7 años pueden realizar recorrido completo y menores de 4 a 6 años ingresan a la Primera Sala.
Tiempo de viaje: 90 minutos (aproximadamente)

Payunia
Inmensa reserva natural de volcanes y extensas planicies cubiertas de lava, con singulares colores negros y rojizos. Zona habitada por guanacos, choiques y otras especies. **Actividades:** safaris fotográficos, avistaje de fauna y cabalgatas.
Tiempo de viaje: 280 minutos (aproximadamente)

Destinos desde la ciudad hacia el Sur

Actividades Turísticas Aventura · Invierno · Naturaleza · Pesca · Termalismo · Turismo Científico · Turismo Cultural

Excursiones

Empresas de Viajes y Turismo • Operadores de Turismo Aventura
Aires de Libertad: Av. San Martín 129 - Tel.: 471416*
Amulen: Av. San Martín 82 - Tel.: 15604130
Choique: Av. Rufino Ortega 158 - Tel.: 15483604•15402439•470391
Huarpes del Sol: Av. San Martín 85 - Tel.: 15580899•15347748
Karen Travel: Av. San Martín 54 - Tel.: 472226

Operadores de Turismo Aventura
Erupción Malacara: Ruta Provincial 189 - Tel.: 15580899•15347748
Kiñe: Ruta 186 - La Agüita - Agua Escondida - Tel.: (011) 45242993•1536502152
Nord Patagonia Rafting y Kayaks: Av. San Martín 33 - Tel.: 15386328•470613
Tierra Adentro: Tel.: 15393554
Tierra Firme: Batallón Nueva Creación 185 - Tel.: 15517303
Valles y Aventura: Santa Fé 555 - Tel.: 15666602•15666190

Teléfonos de Interés

Código de área (02627)

Escuadrón de Bomberos	471030
Gendarmería Nacional Escuadrón 29	471063
Hospital Español (Privado)	470900
Hospital Regional Malargüe	471048
L.V.19 Radio Malargüe	471160
Policía de Mendoza Seccional 24	472226

Farmacias

Aconcagua Av. Rufino Ortega 458 - Tel.: 471393
Cogo Av. Gral. San Martín 370 - Tel.: 472200
Del Sur Juan A. Maza 1638 - Tel.: 471241
Malargüe I Gral. Villegas y E. Aldao - Tel.: 471340
Malargüe II Av. Gral. Roca 734 - Tel.: 471340
Río Grande A. Puebla y F. Malargüe - Tel.: 471340
San Antonio Av. San Martín 773 - Tel.: 471269
San Daniel Av. San Martín 973 - Tel.: 471518

Regionales

Casa de Campo & Los Patacones
Av. San Martín 33 - Tel.: 470957•155515502
Mi Viejo Almacén
Ruta 40 N S/N
Q Rico
Av. San Martín 757 - Tel.: 15481275
Summer Regalería, Armería y Pesca
Av. San Martín 401 - Tel.: 471759

Supermercados

Altué
San Martín y Cmte. Salas - Tel.: 471935
Super Vea
San Martín y V. del Milagro - Tel.: 472259
Super G
Roca 1175 - Tel.: 472108
San Martín 1150 - Tel.: 471323
San Martín 543 - Tel.: 470727

Bancos y Financieras

Banco Nación (Red Link)
San Martín e Inalicán - Tel.: 471082
Banco Superville (Red Banelco)
San Martín 361 - Tel.: 472255
Montemar Cía. Financiera
San Martín 483 - Tel.: 470892
Municipalidad de Malargüe (Cajero Red Banelco)
Inalicán 94

Internet

Ruca-Net
San Martín 455 - Tel.: 471698
Telecentro
San Martín 230

Please, have a look at the fliers you received in the school bag and in particular read the safety recommendations. More info available in the school website.

Acknowledgements

- ISAPP Network

- The Pierre Auger Observatory:
in particular, Ingo Allekotte, Gualberto Avila, Rosa Pacheco

- INFN Lecce for providing the support of one person in situ (Lucia Sideli)

- All the contributing Countries

- All speakers that accepted to contribute to this experience.

THANK YOU FOR PARTICIPATING IN THIS INITIATIVE

Don’t hesitate to contact me or the school secretariat or any member of the Observatory for questions or support