

43rd ISYA in Tonantzintla, Mexico, 17th July-4th August 2023

Table of contents	Page
• Summary	2
• Venue	2
• Organizers	2
• Announcement	3
• Student Selection	3
• Lecturers and Scientific Program	4
• Development of the School	6
• Complementary Activities	8
• Student's Feedback	8
• Lecturer's Feedback	9
• Directors' Final Remarks	9
• Appendix A: List of Students	11
• Appendix B: Schedule	13
• Appendix C: List of Students' Presentations	16
• Appendix D: Students' Feedback by Numbers	17
• Appendix E: Lecturers' Feedback by Numbers	24

Summary

The 43rd ISYA was hosted by the *Instituto Nacional de Astrofísica, Óptica y Electrónica* (INAOE) of the *Consejo Nacional de Humanidades, Ciencia y Tecnología* (Conahcyt) in Mexico. The school intended to train early graduate students in Astronomy & Astrophysics in Latin America and the Caribbean.

The school applications and activities were published in a dedicated webpage that INAOE designed: <https://www.inaoep.mx/~isya2023/>

Venue

The school was held within the premises of INAOE in Tonantzintla, Puebla. Tonantzintla is a small rural town with a famous church that attracts many visitors. It is also home to the first Mexican astronomical facilities outside of Mexico City.

Both non-INAOE students and lecturers were hosted at the INAOE in-campus residence. INAOE students slept in their homes, most of them in the same town and within walking distance to INAOE. Local students that lived in other towns were also hosted at INAOE whenever rooms became available.

INAOE had 3 large common-usage rooms for students: the teaching auditorium, a computer room and a meeting / group working room, open upon request 24/7. Lecturers were distributed in INAOE offices with local researchers to provide them with a more private working space while not lecturing.

Organizers (Name Surname)

DIRECTORS

Olga Vega (Local Director, INAOE)

Itziar Aretxaga and David Mota (ISYA program director and deputy director).

LOCAL ORGANIZING COMMITTEE

Olga Vega (Chair, Local ISYA Director), INAOE, Mexico

Miguel Chávez-Dagostino, INAOE, Mexico

Divakara Mayya, INAOE, Mexico

Alfredo Montaña, INAOE, Mexico

Mónica Rodríguez, INAOE, Mexico

Daniel Rosa-González (Head of Astrophysical Postgraduate Studies), INAOE, Mexico

José Ramón Valdés, (Head of the Astrophysics Department), INAOE, Mexico

Javier Zaragoza-Cardiel, INAOE, Mexico

Technical Support:

Montserrat Flores, INAOE, Outreach

Tobías Gallego, INAOE, Networking

Gustavo Hernández, INAOE, Computing
 Héctor López-Casique, INAOE, Web Page designer
 Gabriela López-Lucio ,INAOE, Graphical Design
 Gabriela Monctezuma, INAOE, Logistics
 Guadalupe Rivera, INAOE, Outreach/Public Relations

Announcement

The school was announced by email sent to all IAU members in target member countries in the Americas and OAO national nodes, through the Newsletter and social media of the IAU, through the regional network of the OAD based in Colombia, and through the distribution list of ISYA alumni and the ISYA All Alumni page in Facebook. We made a special effort to clarify that regional students in America were to be preferentially selected, and that the school was targeting graduate students and advanced BSc students with strong interest on Astronomy. This decreased the number of applications of students that would have been disqualified based on remoteness or academic background. Some difficulties were encountered by submitters, and part of them could comply with the webpage questionnaire, and some others had to send the documents by email.

Student Selection

We received 190 applications. Out of these, 13 were from non-regional candidates in Ethiopia, India, Iran, Italy, Malaysia, Morocco, Nigeria, Spain, UK, Uzbekistan.

The distribution of regional candidate applications (App), accepted (Acc) and finally attending (Att) students was as follows:

COUNTRY	App	Acc	Att	
Argentina	21	1	1	
Bolivia	1	1	1 [†]	
Brazil	45	2	2	
Chile	21	1	1 [*]	
Colombia	19	4	4	* 4 Colombian nationals studying in Chile (1) and Mexico (3) were selected
Costa Rica	3	2	2 [†]	
Cuba	4	2	2	† 1 selected Bolivian BSc student and 1 Costa Rican MSc student are doing their thesis with Mexican researchers, remotely.
Ecuador	2	1	1	
Honduras	2	1	0 [†]	
Mexico	44	19	20 ^{* †}	† The Honduras student did not arrive and he was replaced by an INAOE PhD student.
Panama	2	2	2	
Peru	1	1	1	
Salvador	3	1	1	
Uruguay	4	1	1	
USA	3	0	0	

The selection of students was done by a small committee of two local organizers and the ISYA program directors. There were many more deserving candidates than available places at the school. We initially aimed at accepting ~30 students plus local INAOE students (1st year MSc students, mainly). All local INAOE students that wished to attend some of the lecture courses in the Auditorium were allowed to participate too, but they were not registered as official ISYA students.

After sending the acceptance letters we had a few rejections due to passport and visa delays. Students were replaced by others in the waiting list whenever possible.

The final list of 39 attending students to the ISYA can be found in Appendix A. The distribution of attending students was 51% national and 49% regional, with a gender split of 36% female and 64% male students.

Their level of studies was 29/39 MSc students and MSc candidates, 4 PhD students and 6/39 BSc students doing research for their final thesis.

An MSc student from Cuba also attended the 2015 school in Honduras. He was encouraged to apply to school abroad, as the level of supervision in his home institution for the topic he is intending to tackle is not adequate.

Lecturers and Scientific Program

Lecturers were selected by the local and ISYA program directors to meet the needs of the proposed program, which had an emphasis on database exploitation. A balance of blackboard and practical hands-on classes was intended, with practical classes being mostly in the afternoons. The lecturers, topics, final assignation of time and gender was as follows (name+surname):

- Exoplanets, *Yilen Gómez Maqueo Chew* (IA-UNAM, Mexico) [5x1.5hrs] (F)
- Stellar Astrophysics, *Alessandro Bressan* (SISSA, Italy) [6x1.5hrs] (M)
- Interstellar Medium, *Mónica Rodríguez* (INAOE, Mexico) [2 x 1.5 hrs] (F) and *Roberto Gálvan-Madrid* (IRyA, Mexico) [3 x 1.5 hrs] (M)
- Galaxies, *Daniela Calzetti* (UMass-Amherst, USA) [5x1.5 hrs] (F)
- Cosmology, *David Mota* (University of Oslo, Norway) [5x1.5 hrs] (M)
- Spectral/SED Fitting Techniques and Applying them to Databases, *Roberto Cid-Fernandez* (Universidade Federal de Santa Catarina, Brazil) [6x1.5 hrs] (M)
- Machine Learning in Astronomy, *Sara Webb* (Swinburne University of Technology, Australia) [8x1.5 hrs] (F)
- Observational Optical Astronomy, *Erika Benítez* (IA-UNAM, Mexico) [5x1.5 hrs] (F)
- Observational Millimetre Astronomy, *Arturo Gómez Ruíz* (GTM-INAOE-CONACyT, Mexico) [3x1.5hrs] (M), *Alfredo Montaña* (INAOE, Mexico) [3x1.5 hrs] (M) and *Luis Zapata* (IRyA, Mexico) [3x1.5 hrs] (M).

- Introduction to Python, *Daniel Rosa-González* (INAOE, Mexico) [4x1.5 hrs] (M)
- Career Development Workshop, *Itziar Aretxaga* (INAOE, Mexico) [4x1.5 hrs] (F) and *David Mota* (University of Oslo, Norway) [1x1.5 hrs] (M)

We, thus, had 14 lecturers (including directors): 9 from Mexico, 1 from USA, 1 from Brazil, 1 from Australia, 1 from Italy, 1 from Norway. The gender split among lecturers was 43% female, 57% male. There was a higher than usual fraction of national lecturers partly because some courses were split among different Mexican lecturers to represent national institutions with strong research in those areas.

We also had a team of experienced project tutors, all but one INAOE researchers, to offer guidance to the students:

- Emanuele Bertone
- Alessandro Bressan (SISSA, Italy)
- Miguel Chávez
- Divakara Mayya (project coordinator)
- Alfredo Montaña (also a lecturer)
- Raúl Mújica
- Mónica Rodríguez (also a lecturer)
- Daniel Rosa González (also a lecturer)
- José Ramón Valdés
- Javier Zaragoza-Cardiel

and a team of teaching assistants (mostly graduate students and postdocs) for the practical courses and projects:

- Luz Itzel Álvarez Cruz (PhD student, INAOE)
- Enrique Buendía (PhD student, INAOE)
- Guillermo Cerdán (Technician/Observer, Schmidt Camara, INAOE)
- Miguel Ángel López Santamaría (PhD student, INAOE)
- Jessica Luna Cervantes (MSc student, UNAM)
- Teresa Orozco (Postdoc, INAOE)
- Marianela Quirós (PhD student, INAOE)

The final schedule of classes and activities is detailed in Appendix B.

Academic activities included a set of projects that groups of 3 students had to develop during homework time (Appendix C). Group projects were coordinated by Divakara Mayya (INAOE). The groups were defined by school directors to enhance the mix of students from different countries and experience levels (BSc, MSc, PhDs). Project results were presented at the end of the school. The list of projects is included in Appendix C.

Students were scheduled to observe with the 1m *Observatorio Astronómico Nacional* telescope, and visit the Large Millimeter Telescope Alfonso Serrano and the High-Altitude Water Cherenkov Observatory. Other practical hands-on classes were planned within the following courses: Observational Optical Astronomy, Observational mm Astronomy, Spectral/SED Fitting Techniques and Applying them to Databases, Machine Learning in Astronomy, Exoplanets, Interstellar Medium and a crash-course Introduction to Python.

The program also included 5 sessions on Career Development: CV and paper writing, applications for jobs/schools, challenges such as impostor syndrome and implicit biases (gender and other minority biases), work ethics, and flash talks by alumni.

Development of the School

One of the accepted students (from Honduras) did not arrive to the school despite having confirmed participation. He was replaced by a local INAOE student.

We had a few-day absence of 4 students with various medical problems. These were treated at INAOE medical facilities and local hospitals and the prescribed rest was observed. During the last week several students also developed symptoms that included headaches, congestion and sore throats, and we enforced use of masks at indoors school activities during the last 3 days of the school to prevent further propagation of the causing agent. Performed rapid COVID-19 tests on symptomatic individuals were negative. The number of sick or symptomatic participants during the school was unusually high compared to previous schools. These cases seemed to be linked to preexisting conditions, a reaction to volcanic ash in the ambience, bug bites and general flu-like symptoms.

One student was also absent for a few days in order for him to travel to Mexico City to defend his MSc thesis, and three other students excused themselves from a few hours of the school to attend the defense of their thesis projects in a virtual manner.

Two lecturers from Mexico stayed in the school for one week, and the rest stayed for 2 to 3 weeks.

School activities happened within the premises of INAOE. Most lunches and dinners were also held at INAOE, except for four days in which participants had box lunches at mid-day.

The final schedule was packed with activities, and students mostly complied with all of them. We gave students explicit instructions not to work after 11pm and rest on weekends and free afternoons to avoid burn-out with the intense academic program.

The activities in the school were carried out according to plan, with some minor scheduling changes.

Observations were carried out during the planned 3 nights up to 11pm, even if the sky was cloudy. Lecturer Erika Benítez was able to target objects in clear-sky areas.

One Friday was used to visit the Large Millimeter Telescope and the High-Altitude Water Cherenkov Observatory in Sierra Negra, 3 hours away from INAOE by bus, and the corresponding classes of that day were shifted to the following Saturday.

The school had 20 dedicated computers. Most lecturers prepared python notebooks for practices, and these were mostly efficiently done in a combination of the school computers and ~20 laptops that belonged to the students themselves. School computers did not all have the high-performance capacity needed for practice (≥ 60 GB RAM in some instances), but students managed to follow the practice in groups of ~8 with the most powerful computers when the most computer intensive calculations were needed. This was not ideal, but it was the best we could do at the time. The LOC reported not to have had access to the computers until a few days before the school started and they were not checked for performance. Furthermore, the computer room was small and too hot for the number of students, but the school computers were available to the 43ISYA with the condition not to move them from that room. Portable ventilators alleviated the temperature conditions.

All lecture notes were made available to the students in pdf format through Slack, which was the usual communication application for academic exchanges.

Most students had a good enough command of English to interact with lecturers and fellow students efficiently.

We performed a roster of 1-min flash talks on individual research projects that the students are carrying out for their degrees in their home universities. All students were asked to give a flash talk. These short talks prepare them for quick presentations of poster results and interactions at conferences. For most students these sessions were the first opportunity they had to speak in English in public. The list of presentations is included in Appendix C. From the 39 students, 36 presented flash talks. Also 20 of the students presented their results in poster format, displayed during the whole school and discussed during coffee breaks in the afternoons.

The student presentations were all of very high quality. Group projects were developed under the close supervision of project tutors and the end result was very articulate presentations about a diversity of topics students had not worked on before.

We offered students personalized IAU mentorship upon request and emphasized the role and use of mentors during the Career Development Workshop. The ISYA directors will keep sending to their email addresses announcements for schools and studentships, as in previous editions of the ISYA. Many of the students were looking for opportunities to pursue MSc/PhDs abroad and lecturers spoke to them about the experience and opportunities in their departments and countries.

Complementary Activities

Optional free cultural activities during the weekends and free afternoons included:

- A tour to Puebla City.
- A tour to Teotihuacan archeological site.
- A tour to Cacaxtla archeological site and Tlaxcala city.
- A tour to the Cholula Pyramid.
- A talk about the symbolism of the Cholula Pyramid
- A projection of the science fiction movie “Cygnus”, filmed at the LMT site, and commentary by the film director Hugo Félix Mercado.

A good representation of the LOC accompanied participants in all these activities.

The LOC organized both a reception and closing dinner at the INAOE premises, and every free/fun-activities afternoon was accompanied with a special Mexican dinner. Lecturers were also treated to a dinner out in Puebla during the first weekend, and they had a few excursions to dinner to nearby Cholula (5 km away) with local lecturers. Local students also introduced Cholula entertainment to their colleagues on weekends.

Students’ Feedback

The direct transcription of the students’ feedback forms can be found in Appendix D. We present here the directors’ analysis. In this school we opted to hand in electronic questionnaires to save on paper. The number of replies is below what we have had in other schools: 82% vs. nearly 95% in the past.

The students value very positively all academic activities: the satisfaction with seminal and hands-on classes is 100% and 84% (scores 5+4), respectively. They declare to have learned from all courses at some level, 65% could follow the courses well, and 97% to have identified topics they need to learn more about. The perception of balance between seminal and hands-on classes was good: 81% agree.

They report problems in the computer infrastructure and computer room that were also apparent to LOC and directors: 50% express the room was uncomfortable (scores 1+2) vs. 18% that thought it was comfortable (scores 4+5), but they value the support provided to solve the problems with computer use (43% agree vs. 25% disagree).

Some students would have liked to have more time to devote to group projects, but most think that the time spent in them was right (59%). Directors emphasized during the school that obtaining an end result for the projects was not the most important aspect, but making progress together. The experience of working in groups to develop a project was valued positively (96%), the school content had prepared them for the challenge (81%) and they

had received good supervision (91%). They unanimously value as positive both the flash talk and group presentation exercises.

Observations with the 1m telescope was valued as a positive experience (84%) and those students that went to LMT/HAWC valued the experience unanimously as positive. Some students could not go to LMT/HAWC due to the high-altitude (4600m) of the site and medical problems.

The students also show a positive outlook into the future and the opportunities ISYA has offered them: 97% recognize they have developed an international network, 91% have identified better their research interests, 100% recognize ISYA has broaden their perspective on astronomy and have benefited from attending the school.

Accommodation, food, travel to school and school applications are all within reasonable good scores. Also the leisure time and planned cultural tours and activities are marked as mostly good by the students.

Lecturers' Feedback

The direct transcription of the lecturers' feedback forms can be found in Appendix E.

Lecturers seem happy about the set up and response from the students, but they are dubious about the course having reached all students due to their inhomogeneous level (2 disagree vs. 1 agree , 2 ambivalent). They all appreciate the invitation and declare that their time was well invested in the school.

ISYA Directors' Final Remarks

The directors are pleased with the development of the school and the commitment of lecturers and students to make the most out of the three weeks. We suffered more than in previous schools from sickness of participants. The LOC acted promptly to assist sick participants.

In the directors' view, the lectures and labs were all at a level to reach the students at some level, although by design, the last lectures of each course were at a more advanced current research level.

Among the lecturers, tutors, assistants and LOC of the 43rd ISYA we can find the following ISYA alumni: Olga Vega (Local Director, 2005-Mexico), Roberto Galván (lecturer, 2005-Mexico), Jose Ramón Valdés (LOC, project tutor, 1989-Cuba). Special mention is to be given to Jose Ramón Valdés (nowadays Head of the Astrophysics Dept. of INAOE) who pushed from the beginning to bring the ISYA to INAOE, and to Olga Vega, who commanded the LOC in a very efficient manner.

The rest of the lecturers and project supervisors were all new to ISYA. Project supervision was performed at an exceptional level and commitment by the project tutors. Very often at least 3-4 supervisors were in the project class at 7pm. The project presentations showed that dedication. Student's talks were of excellent quality for both project presentations and flash talks.

ISYA directors think the 43rd ISYA was very successful, meeting the expectations of local and IAU organizers in the progression of Astronomy opportunities for research students in the region.

Appendix A: List of Students

Surname	Name	Degree	Institution	City	Country	M/F
Aguilar Torrez	Edmundo	MSc stdt	U. Chiapas	Tuxla Gutiérrez	Mexico	M
Ayala Cruz	Joseph Luis	BSc student/Obs. Assistant	Observatorio Astronómico de Quito	Quito	Ecuador	M
Barrios López	Daniela Fernanda	MSc stdt	Universidad de Antofagasta	Antofagasta	Chile	F
Batista	José	BSc stdt	University of Panama	Panama City	Panama	M
Beleño Molina	Daniel Alberto	PhD stdt	Univ. de Sonora	Hermosillo	Mexico	M
Cabrera	Mauro	MSc stdt	U. de la Republica	Montevideo	Uruguay	M
Cano Fernandez	Ludving Adolfo	BSc stdt	Mayor de San Andrés University	La Paz	Bolivia	M
Cano Gómez	Ximena	MSc stdt	University of Antioquia	Medellín	Colombia	F
Carrillo Santamaría	Jesús David	MSc stdt	IA-UNAM	CDMX	Mexico	M
Castillo Contreras Miranda	Hilver Paulina	BSc stdt BSc stdt	U. de la Habana Universidad de las Américas Puebla	La Habana S.A. Cholula	Cuba Mexico	M F
Da Silva Cunha Batista	Júlia Thainá	PhD stdt	Federal University of Santa Catarina.	Florianopolis	Brazil	F
Díaz Fonseca	José Mauricio	MSc stdt	Pedagogical and Technological University of Colombia	Tunja	Colombia	M
Fernandez Ramirez	David	MSc stdt	IPN	CDMX	Mexico	M
Franco Becerra	Catalina	MSc stdt	Pedagogical and Technological University of Colombia	Tunja	Colombia	F
González de la Mora	Bianca	MSc stdt	IRyA-UNAM	Morelia	Mexico	F
González Díaz	Raúl	PhD stdt	INAOE	Tonantzintla	Mexico	M

Grisales-Casadiegos	Jennifer	MSc stdt	Universidad Industrial de Santander	Bucaramanga	Colombia	F
Hernandez Cruz	Luis Andres	MSc stdt	INAOE	Tonantzintla	Mexico	M
Illescas	Denis	PhD stdt	Instituto Interdisciplinario de Ciencias Básicas / Universidad Nacional de Cuyo	Mendoza	Argentina	M
Lara Sabala	Joshua Emanuel	MSc stdt	INAOE	Tonantzintla	Mexico	M
Leandro	Edwin Santiago	MSc stdt	Universidad de Costa Rica	San José	Costa Rica	M
Lira Franco	Marco	MSc stdt	INAOE	Tonantzintla	Mexico	M
López	Diana	BSc stdt	University of Panama	Panama City	Panama	F
López Pozos	María Isabel	MSc stdt	INAOE	Tonantzintla	Mexico	F
Madrigal	Luis Fernando	MSc stdt	INAOE	Tonantzintla	Mexico	M
Martínez Calles	Antony Fernando	BSc graduate	Universidad de El Salvador	San Salvador	El Salvador	M
Mora	Donaldo Emilio	BSc graduate	IA-UNAM	CDMX	Mexico	M
Chávez						
Moraes de Andrade	Stephanie	MSc stdt	UNIVAP	Jacarea	Brazil	F
Morales-Gutierrez	Catalina	BSc stdt	Universidad de Costa Rica	San José	Costa Rica	F
Palomo Treviño	Joshua Sigfrido	MSc stdt	IPN	CDMX	Mexico	M
Portilla	Mauricio	MSc stdt	INAOE	Tonantzintla	Mexico	M
Quintero Salazar	Holman Daniel	MSc stdt	Universidad de Guanajuato	Guanajuato	Mexico	M
Ramos Lazaro	Jenny Margot	MSc candidate	Universidad Nacional Mayor de San Marcos.	Lima	Peru	F
Romero Cruz	Guillermo Fernando	MSc stdt	INAOE	Tonantzintla	Mexico	M
Silva Castro	Alan Uriel	MSc stdt	INAOE	Tonantzintla	Mexico	M
Silva Silverio	Luz	PhD stdt	INAOE	Tonantzintla	Mexico	F

Silvestre Gutiérrez Sosa Armas	Xochitl Veronica Raidel	MSc stdt MSc stdt	INAOE Meteorological Station of Guira de Melena	Tonantzintla Guira de Melena	Mexico Cuba	F M
---	-------------------------------	--------------------------	--	-------------------------------------	--------------------	------------

Appendix B: Schedule

	17 July	18 July	19 July	20 July	21 July	22 July	23 July
8:00-9:00	Breakfast						
9:00-10:30	School Openning	YGM: ExoP 2	AB: Stellar Astro 2	YGM: ExoP 4	IA: CD 2 (A)		
10:30-11:00	Tea/Coffee Break						
11:00 – 12:30	AB: Stellar Astro 1	RG: ISM 1	IA: Career Develop 1	RG: ISM 2 (2)	AB: Stellar Astro 3 (A)		
12:30-14:00	YGM: Exoplanets 1	DR: Py1	YGM: ExoP 3 (2)	CASH TIME!	YGM: ExoP 5 (2)		
14:00-15:30	Lunch						
15:30-17:00	SW: Machine Learning 1	DR: Py 2	RCF: databases 1 (A)	DR: Py 3 (3-5pm 2)	RCF: databases 2 (2)	Fun Activities	Fun Activities
17:00_17:30	Tea/Coffee Break			DR: Py 4 (5-6pm 2)			
17:30 -19:00	EB: Obs. Optical Astro 1	YDM: Gr Py 1	EB: ObsOpt 2 (2)	Cholula Talk (6-7:30pm)	EB: ObsOpt 3 (2)		
19:00-20:30	IA/OV: Group organization	Group Projects	Group Projects		Group Projects		
8:30pm	Dinner						
	24 July	25 July	26 July	27 July	28 July	29 July	30 July
8:00-9:00	Breakfast						
9:00-10:30	DC: Galaxies 1	DC: Galaxies 2	DM: Cosmo 1	DC: Galaxies 3		RCF: databases 4	
10:30-11:00	Tea/Coffee Break						
11:00 – 12:30	AB: Stellar Astro 4	LZ: Obsmm 1	AB: Stellar Astro 5	MR: ISM4		RCF: databases 5	
12:30-14:00	RG: ISM 3	SW: Machine Learning 3	LZ: Obsmm 2	RCF: databases 3		SW: Machine Learning 4	
14:00-15:30	Lunch				LMT/HAWC visit	Lunch	Cacaxtla visit
15:30-17:00	EB: ObsOpt 4 (2)	EB: ObsOpt 5 (2)		LZ: Obsmm 3		SW: Machine Learning 5	
17:00_17:30	Tea/Coffee Break		Cholula visit	Tea/Coffee Break			
17:30 -19:00	SW: Machine Learning 2	YDM: GrPy 2		DM: CD 3			
19:00-20:30	Group Projects	Group Projects		Group Projects		Fun Activities	
8:30pm	Dinner						Fun Activities
21:30 - 23:00	Group projects	Group projects		Group projects			

	31 July	1 Aug	2 Aug	3 Aug	4 Aug
8:00-9:00	Breakfast				
9:00-10:30	DC: Galaxies 4	DM: Cosmo 3	DM: Cosmo 4	DM: Cosmo 5	Group Presentation 1
10:30-11:00	Tea/Coffee Break				
11:00 – 12:30	DC: Galaxies 5	AGR: Obsmm 5	MR: ISM 5	AB: Stellar Astro 6	Group Presentation 2
12:30-14:00	DM: Cosmo 2	SW: Machine Learning 6	AGR: Obsmm 6	IA: CD 4	AGR: Obsmm 9
14:00-15:30	Lunch				
15:30-17:00	RCF: databases 6	SW: Machine Learning 7	AM: Obsmm 7	SW: Machine Learning 8	IA: CD 5
17:00_17:30	Tea/Coffee Break				
17:30 -19:00	AM: Obsmm 4	Fun Activities	YDM: GrPy 3	AM: Obsmm 8	School Closing
19:00-20:30	Group Projects		Group Projects	Group Projects	Free
8:30pm	Dinner				Closing Dinner
21:30 - 23:00	Group projects	Fun Activities	Group projects	Group projects	Closing Dinner

Key:

AB	Alessadro Bressan	YDM	Divakara Mayya
AGR	Arturo Gómez Ruiz	YGM	Yilen Gómez Maqueo Chew
AM	Alfredo Montaña		
EB	Erika Benítez		
DC	Daniela Calzetti		
DR	Daniel Rosa		
DM	David Mota		
IA	Itziar Aretxaga		
LZ	Luis Zapata		
OV	Olga Vega		
MR	Mónica Rodríguez		
RG	Roberto Galván		
RCF	Roberto Cid Fernandes		
SW	Sara Webb		

Appendix C: List of Students' Presentations (1 min flash talks and posters)

Surname	Name	Title
Aguilar Torrez	Edmundo	Effects of cosmic rays on the interstellar medium in super star clusters
Ayala Cruz	Joseph Luis	Gravitational wave modeling
Barrios López	Daniela Fernanda	Recharacterization of open clusters in optical and near-infrared wavelengths using machine learning methods
Batista	José	Parametrization of near-Earth asteroids via Gauss Method and photometry
Beleño Molina	Daniel Alberto	Physical properties of PNG 047.8+02.4
Cabrera	Mauro	Structure, kinematics and time evolution of the Galactic Warp revealed by Classical Cepheids
Cano Fernandez	Ludving Adolfo	Structure and Kinematics of an Accretion Jet-Disk System
Cano Gómez	Ximena	Characterization of the arms of spiral galaxies from the study of stars in the galaxy's disk
Carrillo Santamaría	Jesús David	Mass transfer effects in the evolution of binary systems
Castillo	Hilver	Analysis of candidate hypercompact HII regions
Contreras Miranda	Paulina	Mapping Galaxy SEDs using SOMS
Da Silva Cunha Batista	Júlia Thainá	Stellar Populations and emission lines properties in S-PLUS galaxies
Diaz Fonseca	Jose Mauricio	Distribution of spiral structure in galaxies with multiple arms
Fernandez Ramirez	David	Planetary Nebulae Luminosity Function
Franco Becerra	Catalina	Chemical abundances of dwarf and giant stars in open clusters
González de la Mora	Bianca	Studying the Tensions in the Standard Cosmological Model Using Alternative Cosmological Tracers
González Díaz	Raúl	BETIS: Bidimensional Exploration of the warm-Temperature Ionized gas
Grisales-Casadiegos	Jennifer	(<i>ABSENT</i>)
Hernandez Cruz	Luis Andres	Estimation of Magnetic Field Strength in Molecular Clouds
Illescas	Denis	Kinematics of star clusters in the Small Magellanic Cloud
Lara Sabala	Joshua Emanuel	Automating the determination of astrophysical $\log(gf)$ in the UV
Leandro	Edwin Santiago	Black hole binaries with natal kicks
Lira Franco	Marco	Megastar
López	Diana	Searching Angular Momentum using Masers in Molecular Clouds
Lopez Pozos	Maria Isabel	Tidal disruption of stars by binary black holes in dense star clusters
Madrigal	Luis Fernando	Environmental Cluster Effects on Galaxies in the Nearby Universe: Unraveling nature vs. Nature Debate
Martínez Calles	Antony Fernando	Aircraft and satellite design
Mora Chavez	Donaldo Emilio	Flux variability in TeV-blazar ON231

Moraes de Andrade	Stephanie	The importance of the Fourier Transform for analysis of spiral galaxies
Morales-Gutierrez	Catalina	Impact of inhomogeneous reionization on 21cm intensity mapping measurements of cosmological parameters (<i>Poster</i>)
Palomo Treviño	Joshua Sigfrido	Study of the interstellar medium and optical counterparts of ultraluminous X-ray sources
Portilla	Mauricio	(<i>ABSENT</i>)
Quintero Salazar	Holman Daniel	The gaseous forest and the cosmic lighthouses (Ly-alpha forest)
Ramos Lazaro	Jenny Margot	The evolution of carbon-chain chemistry from prestellar to protostellar cres in Taurus Molecular Clouds
Romero Cruz	Guillermo	Stellar Feedback in the Central Region of NGC1087 using GTC-
	Fernando	MEGARA Instrument Data from the BEARD Program
Silva Castro	Alan Uriel	The 3D dynamics of barred galaxies
Silva Silverio	Luz	A Deep learning framework for the detection of Baryon Acoustic Oscillations in the submillimeter galaxy population
Silvestre Gutiérrez	Xochitl Veronica	Development of a gamma-hadron ray separation methodology: a modern network approach
Sosa Armas	Raidel	Mars forming Earth

GROUP PROJECTS

Mayya & Zaragoza: Determination of elemental abundances using nebular lines

Montaña: Characterizing distant extreme star-forming galaxies

Bressan & Chávez: The study of stellar interiors with stellar evolution codes

Valdés & Mújica: 3D structure of asteroids

Montaña: Characterizing distant extreme star-forming galaxies

Zaragoza: Dust and gas masses in nearby galaxies using DustPedia archive

Rodríguez: Chemical composition of the Orion nebula

Rosa-González: Hunting galaxies around BLLac objects

Bertone & Chávez: Near UV light curves of delta-Scuti stars

Mayya & Bressan: Determination of ages of stellar populations from HST/JWST/GAIA data

Appendix D: Students Feedback by Numbers

This is a direct transcription of the feedback forms filled by the students: 32/39 students filled the form. Some questions were left blank by some students. Some of the students identified themselves. Disclosing their identity in the feedback form was optional.

Any significant correction or addition to their texts is indicated by []

Please mark 5 (strongly agree) to 1 (disagree) the following sentences, based on your experience at 43 ISYA

Applications:

		5	4	3	2	1	
The website told me everything I needed to know to prepare for the school	Strongly agree	25	6	1			Disagree
The application form was easy to fill in	Strongly agree	22	5	3	1	1	Disagree
I understood well the questions	Strongly agree	29	2	1			Disagree
I received a prompt reply to my application	Strongly agree	29	3				Disagree

Comments:

S20: Everything was totally clear

S21: I have problems with my application form. The bottom clear does not work.

S24: The application form and process is easy to understand, I had no problems during the application period

S25: My only suggestion is to improve the site where we filled the application, it had some issues, that said, it was beyond amazing how quick the organizers reached to us regarding incomplete applications due to the issues in the site

S27: Everything related to the ISYA application was very good

S28: The application went well thanks to the support of the management (Olga and Itziar)

S30: I think that the application was clear and easy to do.

Lectures

		5	4	3	2	1	
The “blackboard” lectures were a very useful part of the ISYA training	Strongly agree	28	4				Disagree
The hands-on classes were a very useful part of the ISYA training	Strongly agree	19	8	4	1		Disagree
The time spent on school activities was right	Strongly agree	12	11	8	1		Disagree
I could follow most of the lectures/labs well	Strongly agree	6	15	11			Disagree
The lectures/labs were well presented	Strongly agree	15	13	3			Disagree
The lecturers responded well to my questions	Strongly agree	27	4				Disagree
I have identified in this school material I need to study further	Strongly agree	28	3	1			Disagree
I found it easy to get on with the lecturers	Strongly agree	17	12	3			Disagree
The lecture room was comfortable	Strongly agree	20	10		1		Disagree
The computer room was comfortable	Strongly agree	2	4	10	8	8	Disagree
The computer support was good enough for me to follow the practice of the school	Strongly agree	4	10	10	5	3	Disagree
I think there was a good balance of hands-on and seminal lectures	Strongly agree	14	12	6			Disagree
I found the Career Development (Job hunting, CV/paper writing, Ethics) sessions useful	Strongly agree	26	5	1			Disagree
The organizational support was good	Strongly agree	28	4				Disagree

Comments:

S1: I would have preferred the lectures to actually use the board and not just projections, maybe only for plots, and at the end the lectures send their notes as well. That would make the lectures easier to follow and engage with.

S9: For the next year, ISYA should provide a computer room that can support all the students that's in the program, because the room was small, and with about 40 people inside of it gets warm during the time, it's hard to breath and sometimes I couldn't pay attention in the classes because I felt warm.

S11: Good organization

S20: I was in-love with the blackboard lectures, but not so much with the hands-on classes. There was a lot of problems in the computer room (internet, compatibility with some programs used by lecturers, temperature of the room), and this occasionally doesn't allow me to follow the practice. At the end, all these problems was progressively solved. Another thing is the time spent on school activities. I know that this school is very intensive, but in that sense we are tired all the time. In some lectures we fight to be awake, not because of the topics (all were interesting) but because we were really tired. Maybe that can be fixed establishing more free spaces (e.g., all lectures in all days last until 5, then group projects).

S22: It would be nice if all science lectures were accompanied by practical activities to familiarize the lecture's work and reinforce the topics in classes.

S23: the computer room needed a bit more ventilation

S24: I had a bit of trouble following the programming sessions because I hadn't programmed in Python before (but I do have some previous programming experience in C++), even still I was able to follow the exercises with help from my colleagues, for following ISYAs I would strongly recommend that the programming extra material is well explained so that newcomers to programming aren't lost on the way.

S25: Overall the labs sessions and lectures were really good, there were some problems with the computer room during the lab sessions but they were ironed out, my only suggestion is that for the labs session, probably send the programs and files to use before we use them, helps a lot to smooth the class.

S27: Sometimes it was a bit complicated to work in the computer room because not all the computers had the necessary software to carry out the exercises.

S28: It is true that there are only a few days and that you have to take advantage of the time, but there were times when academic performance was affected by mental fatigue. After dinner little could be done on the projects, except two days before the presentation, for obvious reasons. I would like to say that for me it was a dream to have being in the classroom receiving classes from the best in the field, but the classes that I enjoyed the most were those of professors David and Daniel

S29: The main disagreement about the computer room has to do with the failures of the computers working with virtual machines.

S30: Lectures were an excellent way to introduce many research subjects. On the other hand, the lecturers were a good election.

S31: There were many daily lectures. This was pedagogically counterproductive because at a certain point the brain was saturated with so much information and attention span drastically decreased.

Observations and Project training

		5	4	3	2	1	
The group project was challenging but I learned about the topic and about working in a group environment	Strongly agree	27	4	1			Disagree
The time spent on projects was right	Strongly agree	11	8	9	3	1	Disagree
The lectures prepared me adequately for the project	Strongly agree	15	11	6			Disagree
The tutoring I got for my project was good	Strongly agree	27	2	2	1		Disagree
I found the project supervisors helpful and easy to get on with	Strongly agree	28	2	2			Disagree
The observing nights were good training for me	Strongly agree	19	8	3	1	1	Disagree
It would have liked to have more observing training	Strongly agree	19	6	5	1	1	Disagree
The visit to LMT/HAWC was of interest to me	Strongly agree	29	1				Disagree

Comments:

S1: While somewhat fun, the project felt more of an afterthought. Rather than the point of the school, giving more time just for the project and not only at night would've been a lot better.

S11: The observation was good, however the weather wasn't the best, preventing reaching the observational part.

S20: I wish I had more time to work on the group project. Like I said in the last comments, maybe start to work around 5, stop to dinner at 8 and work a little bit more to sleep early in the night, so in that way we can rest better (normally, with this work rhythm, we sleep around 12 or 1am, and then wake up around 7am).

S21: I think the total amount of hours dedicated to the project was okay but working on the projects after 8 hours of classes was very challenging. In my case, I had a very great group, but working with a tired mind did not make easy to discuss and solve the problems. As a suggestion, work in the projects in the morning for some days could be a good idea to try.

S24: I had a bit of trouble following the programming sessions because I hadn't programmed in Python before (but I do have some previous programming experience in C++), even still I was able to follow the exercises with help from my colleagues, for following ISYAs I would strongly recommend that the programming extra material is well explained so that newcomers to programming aren't lost on the way.

S25: The project was a great way to introduce us to how teamwork and collaborations work, also at least in my case the advisors were amazing, they really gave us all the knowledge and tools to develop the project and they were very open to questions and suggestions. I really liked the observing nights, and as someone who had not worked on such activities, it was a great experience. I wished there were more but I also understand that time constraints were an impediment, but overall they were great.

S27: I would have liked to have a little more practical observation exercises.

S28: I would have liked to have more observations, but it would have been impossible because it was cloudy all the time.

S30: Organization of group project could be better, in particular the participation of all collaborators.

Presentation exercises

		5	4	3	2	1	
The individual flash talks were a good exercise	Strongly agree	28	2				Disagree
The group presentations were a good exercise	Strongly agree	28	3				Disagree
The time spent on this activity was right	Strongly agree	23	3	4	1		Disagree
This exercise was well organized	Strongly agree	26	5				Disagree
I learned some tips on how to make my presentations more effective	Strongly agree	31					Disagree

Comments:

S1: Maybe try to not put that hard of a language barrier for the people with problems in this.

S9: The individual flash talk and the group presentation gave me more confidence to present works in next conferences/symposiums.

S11: The flash talk and final presentations was a challenge for me, It was a good practice but we need more preparation time.

S20: With no doubt this were one of my favourite activities of the school. This exercises help me a lot to improve my soft skills and also understand all the mistakes I made. With this I am sure I can do my best in another opportunity.

S24: I had never done a flash talk before thus it was very useful experience

S25: The presentations were a great way to introduce our work, and to develop skills for the future.

S27: Everything related to the presentations were very good exercises and they prepared me very well on how I should do presentations in the future.

S28: Itziar is a genius!! Thank you for the opportunity to test me

S30: About presentation exercises I don't have any comments. I'm in full agreement with the affirmations.

Accommodation:

		5	4	3	2	1	
Transportation from my home town to the school was efficiently done	Strongly agree	26	2	3	1		Disagree
Distance from the residence to the lecturing halls and cafeteria were OK to walk	Strongly agree	28	3	1			Disagree
The rooms were good	Strongly agree	27	4	1			Disagree
Breakfasts were good	Strongly agree	18	6	5	2		Disagree
Lunches/Dinners were good	Strongly agree	21	4	4	3		Disagree
Generally, the living infrastructure for ISYA was good	Strongly agree	23	7	2			Disagree
INAOE/Tonantzintla was a good place to hold this ISYA	Strongly agree	27	4	1			Disagree

Comments:

S1: The breakfast could've been more varied and bigger.

S2: Many cookies of the same time at the coffee break.

S3: INAOE itself was a good place, Tonantzintla no.

S5: The WiFi connection in the rooms was very bad in the last days of the school, it makes difficult to work in these areas during the preparation of the presentations of the group projects.

S11: The breakfast was not [what] I expected, but the fact that they gave it to us is appreciated, it lacks a change of menus, since it was always a combination between eggs and chilaquiles

S14: The vegetarian options got better but they initially weren't good at all.

S20: Everything was perfect. The only thing I hate, not related with the school, was the bells sounds at midnight. Was hard for me to get used to because I'm a light-sleep person.

S21: A tank of fresh and hot water nearby the bungalows is needed. The breakfasts were delicious to me, but a good idea will be including more variety of foods and fruits. Another thing is that the rooms just has a single chair and desk. Chairs and desk in the outsides of the rooms would be a good idea. More toilet paper.

S22: I consider that, regarding accommodation, it would be good to provide water containers in the [bed]rooms.

S24: The place is amazing, it made my stay very enjoyable, I would only point out that internet access was unreliable in our rooms and non-existent in the last week.

S25: The location of the ISYA was good, the INAOE were great hosts, i dont have any complaints or suggestions to make.

S27: In general, the entire INAOE infrastructure was very good.

S28: I'd like to thanks to thank the cleaning and kitchen staff for making our stay in that wonderful place more pleasant

S29: Rooms did not have access to internet.

S30: Accommodation supported by INAOE and organizers was good.

S31: For two weeks we did not have internet in the bungalows (the internet only worked the first week).

Cultural tours and Leisure time:

		5	4	3	2	1	
There was enough leisure time in this school	Strongly agree	6	9	9	7	2	Disagree
Having a free/fun afternoon during the working week was good	Strongly agree	18	6	7	1		Disagree
The Puebla tour was good	Strongly agree	22	4	3			Disagree
The Teotihuacan tour was good	Strongly agree	26	2	1			Disagree
The Cacaxtla tour was good	Strongly agree	21	5	3			Disagree
Generally, this part of the ISYA was good	Strongly agree	24	6	1	1		Disagree

Comments:

S1: An extra tour on the third week would've been appreciated.

S5: I didn't go into the trips to Puebla, Teotihuacan and Cacaxtla, because I already visited all these places before. [the student did not reply to many of the questions above]

S7: I would like at least one whole day to rest and have free time.

S11: The proposed activities were good, the only bad thing is that there was not much time to explore the place by myself and if there was it was very little.

S14: They were good but having an activity every weekend is tiresome!

S20: Cultures tours and leisure time was totally good. The point is that this activities requiring some kind of effort (to walk, to climb, etc), so is not properly a rest day.

S22: It would be a good idea to take a bit longer leisure time in order to improve the productivity of the school.

S24: While the scheduled “fun activities” were indeed fun, I feel that it could also have been good to have a “free” day per week, so that we could rest and interact with our colleagues in our own time.

S25: I really liked the activities, they were a good way to distract us and have a good time, the locations we visited were also great, I liked how there was a variety of activities.

S27: In general, the excursions were excellent and the time for free activities was well distributed

S28: Would have liked more time for practice sports

S30: Tourist trips were an excellent decision. After school activities was good have a 'free time'.

The future

		5	4	3	2	1	
I developed an international network as a result of this ISYA	Strongly agree	25	6	1			Disagree
The ISYA helped me to better identify and understand my research interests	Strongly agree	23	6	3			Disagree
The ISYA encouraged me to strengthen my research in astronomy	Strongly agree	26	4	2			Disagree
Through the ISYA I acquired a broader view on the research done in astronomy	Strongly agree	27	5				Disagree
I have benefited significantly from attending this ISYA	Strongly agree	30	2				Disagree
I would recommend fellow students to apply to the next ISYA in the region	Strongly agree	32					Disagree

Comments:

S1: In general, the two comments I would have are, start the school one hour later to have better and more sleep, and on the last day don't have a class, after the project presentations almost everyone won't pay attention to it, just have closing activities on the final day.

S7: The organization was wonderful, and I would recommend ISYA to more outstanding students.

S20: I totally recommend this school. I think the person who came to the school in the last 3 weeks is completely different of the person I am right now. I am very happy, grateful and also with a lot of motivation to do my best on my PhD studies. Thank you Itziar and Olga for your excellent commitment on the perfect organization of this school. Also, special thanks to Divakara for be my advisor in such an interesting project.

S25: I feel that attending the ISYA has helped me to understand and learn a lot of topics in astronomy that I have never studied, this helped me to broaden my knowledge in astronomy, and at the same time I have identified what are topics that I am more interested to study and make research, the contacts I made have also open the possibility of where to continue my studies, it was a very valuable experience I would recommend it to all students interested in the beautiful world of astronomy.

S27: In general, the ISYA was a great opportunity to learn new topics about Astronomy and have a vision of the things that are done in the rest of the world. I hope it continues for many more years.

S28: Many of the good friendships that I have today are thanks to the two schools in which I participated. Thank you very much for the opportunity

S30: ISYA experience is important for all of astronomy students because it offers an unique opportunity to share ideas in both academic and scientific fields.

Other comments:

S11: I don't have doubt that after attending the ISYA, I learned and reinforced many topics in astrophysics, however I would like to emphasize the fact that we needed a rest time like a nap since in the end there is a lot of information that is shown to you and sometimes the brain is so tired that we don't remember what they are trying to explain to us, but as least we are left with an idea.

S24: I'm really grateful to everyone involved in this ISYA, I feel that it has made me realise and see things from a different point of view, I have a renewed commitment towards astronomy and my career overall, it has also allowed me to meet really wonderful people that have shown me kindness and friendship.

S25: I would like to thank the organization committee the opportunity to participate in such amazing school, this experience has helped in the development of my career and the knowledge and contacts (and friendships) I made are something I will always be grateful for. Thank you and see you soon.

S28: The ISYA was a gift!! Thank you very much

Appendix E: Lecturers' Feedback by Numbers

This is a direct transcription of the feedback forms filled by the lecturers. Any modification or notes by directors are marked by []

6/14 lecturers (we excluded school directors and most INAOE members) filled the form.

ORGANIZATION BEFORE THE SCHOOL

		5	4	3	2	1	
The website/emails told me all I needed to know on how to prepare my lecture course	Strongly agree	5	1				Disagree
The website/emails told me all I needed to know to go and come back from the school	Strongly agree	5					Disagree
Communication with ISYA program directors was efficient and they replied to my queries timely	Strongly agree	6					Disagree
The planning of my trip to/from the school was easily done through the IAU Office	Strongly agree	3				1	Disagree

A) LECTURES/STUDENTS AT THE SCHOOL

		5	4	3	2	1	
The school infrastructure was appropriate for me to lecture efficiently	Strongly agree	1	2	3			Disagree
The lecturing time I requested was awarded by the school	Strongly agree	6					Disagree
I found the students could follow my lectures at a reasonable pace	Strongly agree	1	4	1			Disagree
The background of the students was too diverse for the lectures to reach them all at some level	Strongly agree	1	1	3		1	Disagree
On hindsight, I would have needed more time / another arrangement to lecture my topic efficiently	Strongly agree	1		2		3	Disagree
I believe my lecture course helped the students in advancing their graduate studies and will make them stronger candidates for any other graduate school they apply to.	Strongly agree	2	4				Disagree
I believe my course was well related to the rest of the courses at the school.	Strongly agree	4	2				Disagree
Generally, the ISYA environment was good and productive.	Strongly agree	6					Disagree
I am willing to maintain contact and mentor some of the students I met at the school	Strongly agree	5	1				Disagree
I believe my time and effort was worth it, and I promoted the education of the students attending.	Strongly agree	6					Disagree

Comments:

Regarding the infrastructure, the auditorium where theoretical lectures took place was good. I really appreciate that there was a successful effort to have a water dispenser there. Thank you. But the computer lab was not sufficient. It was too hot for 40 students, plus the lecturers and the 20 computers. At least during the first week, wifi was not accessible at the computer lab and there were only very limited ethernet connections (< 5 available cables). Towards the end of the first week, some additional fans were added which helped, but from my point of view they were not enough. The AC in the room did not work. I also really appreciate the effort by the support IT staff, Mario Carrillo.

Although the background of the students was diverse, I believe the lectures were structured to provide information at most levels. The question about how well the lectures reached the students, however, should be asked to the students.

This is probably my fault: I should have organized better or requested one more lecture to deal more with the basic equations. I think the students could follow regardless of their varied background. The main point to improve was the small space and ventilation in the computer room. I believe the latter was fixed after the day I used it.

Even through the students had a diverse knowledge background, I think I was able to using some more basic overarching astronomy themes in our Machine learning course which meant they didn't need specific background to hopefully follow along with why we were doing the things we did (e.g. building star galaxy classifiers, or PhotZ predictors)

C) INFRASTRUCTURE

		5	4	3	2	1	
The transportation from airport to school was efficiently done	Strongly agree	2					Disagree
The hotel rooms were good	Strongly agree		2	3			Disagree
The meals were good	Strongly agree	2	3	1			Disagree
The local organizational support was good	Strongly agree	6					Disagree
INAOE was a good location to carry out the ISYA	Strongly agree	2	3				Disagree
The selected city was a good location for the school	Strongly agree	4	2				Disagree

Comments:

The bungalows were a bit noisy, but the noise level was livable. The noise did not wake me up. The main problem was that they were not very clean. For example, the shower leaked when used and towards the end of the week there was a bad smell coming from the drains. It was difficult to air out the bungalow because there were no fans. The internet connection in bungalow 12 was not good, I had to be by the window and/or to open the door and window to be able to connect.

Lodging and meals were basic but covered the essentials. Having potable water closer to the lodgings would be desirable.

The INAOE dorms need some maintenance. I had to disconnect the fridge because there were sparks whenever the cable moved (bungalow 20). I understand that budget these days might not be enough for this.

General Comments:

I would like to thank the ISYA SOC and LOC for the invitation as a lecturer for this edition of the ISYA. It was a hard week, with 5 lectures (one per day). If there is a next time as a lecturer, I will not cram all my lectures in one week. But I want to emphasize that the experience was very rewarding. It was a pleasure to work with all of you and the students.

Overall, I feel the organizers went above and beyond to ensure that the school run smoothly, and that the students and lecturers had some social time and fun activities together. It was truly a great experience. Thank you!

Overall, my experience as a lecturer at ISYA-2023 (Mexico) was extremely positive. The interactions with the students were really good. The organizers have made a really good job.

Itziar Aretxaga

INAOE, Mexico

ISYA Program Director

David Mota

Univ. of Oslo, Norway

ISYA Deputy Director