

44th ISYA in Cape Town, South Africa, 19th November-9th December 2023

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Summary

The 44th ISYA was hosted by the South African Astronomical Observatory (SAAO) in Cape Town, South Africa. The school intended to train early graduate students in Astronomy & Astrophysics in Africa, with an emphasis in Southern African countries.

The school applications and activities were published in a dedicated webpage that SAAO designed: <https://isya2023.saa0.ac.za>

Venue

The school was held at the Auditorium within the premises of *the Observatory - the location of the headquarters of SAAO in Cape Town*. For two days the school moved to Sutherland to do observations with SAAO telescopes, visit SALT, and we also scheduled some lectures there.

The lecturers were hosted while in Cape Town in the hotel *City Lodge in Pinelands*, while two thirds of the students were accommodated in Campus Key hotel and one third were in the beginning at the Green Elephant (for the first two weeks of the school) and later at the All Africa House (the last week of the school). The change of hotel was because in the Green Elephant the students were in dormitory-type accommodation (several students in one room) with common showers and a noisy environment, and these conditions were difficult for them. Commute from students' hotels to SAAO was about half an hour, done by bus.

While in Sutherland we were all hosted in Sutherland hotel, with students sharing accommodation and lecturers assigned individual rooms.

The Observatory had a large teaching auditorium that also served as the computer room, where the lectures and labs were held. In Sutherland we used the Community Training facility as a classroom, which was a bit narrow for the lectures, but acceptable. On the last day, due to a longer than usual power outage, we moved to the hotel restaurant, powered by generators, that could host us to maintain some of the scheduled program of lectures.

Organizers (Name Surname)

DIRECTORS

Moses Mogotsi - Local Director, SAAO
Daniël Groenewald - Local Deputy Director, SAAO
Itziar Aretxaga - ISYA program director
David Mota - ISYA deputy director

LOCAL ORGANIZING COMMITTEE

Zara Randriamanakoto – SAAO
Solohery Randriamampandry – SAAO
Sally Macfarlane – SAAO
Sabyasachi Chattopadhyay – SAAO
Glenda Snowball – SAAO
Valencia Cloete – SAAO
Nazli Mohamed – SAAO

Technical support and teaching assistants:

Antoine Mahoro - SAAO

Daniel Egbo - SAAO

Hannah Worters - SAAO

JC Viljoen - SAAO/NWU

Mikhail de Villiers - SAAO/UCT

Narges Hatamkhani – SAAO

Announcement

The school was announced by email sent to all IAU members in target member countries in Africa and OAO national nodes, through the Newsletter and social media of the IAU, through the regional network of the OAD based in South Africa, 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 Southern Africa 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.

Student Selection

We received 172 applications. Out of these, 14 were from non-regional candidates in Armenia, Brazil, Ecuador, Pakistan, Russia, India, Iran, Taiwan, UK and Malaysia.

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

Nationality	App	Acc	Att
Algerian	8	0	0
Angolan	2	0	0
Botswanan	3	2	2
Burkinan	2	1	1
Cameroonian	1	1	1*
Egyptian	21	0	0
Ethiopian	12	0	0
Ghanaian	3	1	1 [†]
Ivorian	2	0	0
Kenyan	9	2	2
Malagasy	9	2	2
Mauritian	1	0	0
Moroccan	4	0	0

Mozambican	4	1	1
Namibian	2	2	2
Nigerian	22	1 [±]	0
Rwandan	3	0	0
South African	17	11	11
South Sudanese	1	0	0
Sudanese	7	1	1 [†]
Tanzanian	4	2 [±]	1
Ugandan	9	1	1
Zambian	8	1	1
Zimbabwean	2	1	1 [†]

† Students registered in South African institutions at the time of application

* Student registered in an Ethiopian institution

± Student cancelled participation after invitation

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

After sending the acceptance letters we had a couple of rejections due to passport and visa delays, and also one student could not come because the ISYA dates overlapped with his start at a PhD school abroad. Students were replaced by others in the waiting list whenever possible.

The final list of 28 attending students to the 44th ISYA can be found in Appendix A. The distribution of attending students was 48% national and 52% regional, with a gender split of 55% female and 44% male students and 1 non-binary student.

Their level of studies was 21/28 MSc students and MSc candidates, 3/28 PhD students and 4/28 BSc students doing research for their final thesis.

Lecturers and Scientific Program

Lecturers were selected by the local and ISYA program directors to meet the needs of the proposed program. A balance of blackboard and practical hands-on classes was intended, with practical classes being mostly in the afternoons. The lecturers and topics were as follows:

- Stellar Structure and Evolution, Itumeleng Monageng (SAAO/UCT, South Africa) [M], 5 slots
- Galaxy Evolution, Michelle Cluver (Swinburne University of Technology, Australia) [F], 6 slots
- Cosmology, David Mota (U. Oslo, Norway) [M], 4 slots
- Galactic (MW) Astronomy, Francesca Figueras (University of Barcelona, Spain) [F], 5 slots
- Interstellar Medium, Alexander Tielens (Leiden University, Netherlands) [M], 4 slots
- Solar System and Exoplanets, Jane Luu (MIT, USA) [F], 3 slots
- Virtual Observatory and Databases, Itziar Aretxaga (INAOE, Mexico) [F], 3 slots
- Radio Astronomy, James Chibueze (North-West University, South Africa) [M], 5 slots
- Astrostatistics Lab, Juan Rafael Martínez Galarza (Harvard & Smithsonian, USA) [M], 5 slots
- Optical Observational Techniques, (mini-course), Rudi Kuhn (SAAO, South Africa) [M], 1 slot
- Career Development Workshop, Itziar Aretxaga (INAOE, Mexico) and David Mota (University of Oslo, Norway) [F/M], 4 slots

We, thus, had 10 lecturers (including directors): 3 from South Africa, 1 from Australia, 1 from Mexico, 1 from the Netherlands, 1 from Norway, 1 from Spain and 2 from USA. The gender split among lecturers was 40% female, 60% male. Most lecturers stayed for 2 to 3 weeks in the school, and all of them interacted closely with students.

In addition to these lectures, we had a series of two talks on “Biosignatures and Technosignatures” by Daniel Czech (University of California, Berkeley), and a talk on “The IAU and the Center for Protection of the Sky” by the IAU Interim General Secretary Piero Benvenuti.

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

We also had a team of teaching assistants (mostly graduate students and postdocs) for the observing practice, practical courses and projects:

- Antoine Mahoro – SAAO
- Daniel Egbo – SAAO
- Hannah Worters – SAAO
- Jassie C Viljoen - SAAO/NWU
- Mikhail de Villiers - SAAO/UCT
- Narges Hatamkhani – SAAO

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 Moses Mogotsi (SAAO). 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 visit the optical Southern African Large Telescope (SALT) in Sutherland and observe with other 1-2m class telescopes in the site. The data was acquired during full Moon, and while valid for observational practice, it was not designed to be used for the Group Projects. Pre-acquired SALT data was used instead. Other practical hands-on classes were planned within the following courses: Virtual Observatory and Databases, Radio Astronomy, Astro Statistics and Galactic Astronomy.

The final program also included 4 sessions on Career Development: CV, applications for jobs/schools, challenges such as impostor syndrome and implicit biases (gender and other minority biases), and work ethics.

Development of the School

School activities happened mostly within the premises of SAAO - Observatory. Most lunches and dinners were also held at the Observatory, except for four days in which participants had box lunches at midday and the 4 days spent in Sutherland and travelling.

The final schedule was packed with activities, and students mostly complied with all of them. We gave students explicit instructions not to work after 8:30pm (when the bus was scheduled to return to their hotels) 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. We had to cut 2 classes from the intended 5 series on Solar System and Exoplanets by Jane Luu and 1 on Optical Observational Techniques by Rudi Kuhn, due to power outages and delays in Sutherland. We also gave one of the originally planned Career Development slots to Galactic Astronomy to include a hands-on practice with Gaia data guided by Francesca Figueras. Other than that, the program run as expected.

Observations were carried out during the planned 2 nights using 1-2m SAAO telescopes in Sutherland up to 3pm. Students were split into four groups and rotated among 3 telescopes and SALT. In SALT they witnessed how the queue was run by their lecturer Rudi Kuhn, also the SALT astronomer on duty those nights. The trip to Sutherland and back to Cape Town took 5 hours by vans.

The school had 10 dedicated laptop-computers connected to internet through WIFI. Most lecturers prepared python notebooks for practices, and these were mostly efficiently done in a combination of the school laptops-computers and laptops that belonged to the students themselves, all with virtual machine installations. The students managed to follow the practice in groups of 3 other than for some Radio Astronomy practice, where the configuration of their virtual machines did not allow the aperture synthesis imaging planned. In the VO and databases classes the connectivity was not ideal as the students could not download data required for the practice without overloading the WIFI.

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

All the students had a very good command of English to interact with lecturers and fellow students efficiently.

Within the Career Development sessions 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. The session was followed by an analysis on what could be improved for each of the presentations. The list of presentations is included in Appendix C.

The students' group presentations were also of high quality. Group projects were developed under the close supervision of project tutors and the result was articulate presentations about a topic 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 program 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/leisure activities during the weekends and afternoons included:

- A tour to Cape Point.
- A tour to Kirstenbosch Gardens.
- One cultural night when the students dressed in their traditional national attires
- Three nights after dinner with games and quizzes.

The LOC organized both a reception at the SAAO premises and a closing dinner in a nearby restaurant. The IAU invited lecturers to a dinner out during the second week on the occasion of the visit of the IAU Interim General Secretary to SAAO due to the celebration of the General Assembly in 2024.

Students' Feedback

The feedback form with the questionnaire, answers, statistical analysis and comments from the students can be found in Appendix D. We present here the directors' analysis on their answers. In this school we opted to hand in electronic questionnaires to save on paper. We got 24 replies out of 28 students.

The students value very positively all academic activities: the satisfaction with seminars and hands-on classes is high. The majority of the students declare to have learned from all courses at some level, and most to have identified topics they need to learn more about. The perception of balance between seminars and hands-on classes was good.

Some students express that the lecturing room was uncomfortable, mainly due to the air conditioning and temperature regulation. There was a split between students feeling the temperature was too high and those feeling it was too cold. The majority value the support provided with the computers in spite of the need to share 1 computer among 3 students.

Some students would have liked to have more time to devote to group projects, but most think that the time spent on them was right. 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, the school content had prepared them for the challenge and they had received good supervision. They unanimously value as positive both the flash talk and group presentation exercises.

The trip to Sutherland was valued as a positive experience, and all the students valued the experience of doing observations with SAAO telescopes unanimously as positive.

The students also show a positive outlook into the future and the opportunities ISYA has offered them: the majority recognizes they have developed an international network, they have identified better their research interests, and that the ISYA has broadened their perspective on astronomy and that they have therefore greatly benefited from attending the school.

Travel to school, school applications and food are all within reasonable good scores. The feedback on the accommodation is however split between those students who were lodged in Campus Key (good scores) and those students who were lodged in The Green Elephant (low scores). This was expected as the conditions in the Green Elephant were far from ideal. Thanks to the local organizing committee the students were moved to the All Africa House, with better living conditions.

The leisure time and planned cultural tours and activities are marked as mostly fair to low by the students. From the comments, it is clear that the main reason put forward by the students is the school long days, with high number of hours of lectures, and the work intensity.

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. Lecturers that required computational resources for exercises express that it could be improved. 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.

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 44th ISYA we can find the following ISYA alumni: Juan Rafael Martínez Galarza (lecturer, 2005 Mexico), Daniël Groenwald (Local Deputy Director, 2012 South Africa), Antoine Mahoro (project assistant, 2017 Ethiopia).

Lecturers Francesca Figueras, Juan Rafael Martínez Galarza and James Chibueze had taught in previous ISYAs. The rest of the lecturers and project supervisors were all new to ISYA.

Project supervision was at a very good level and commitment. Very often at least two supervisors were in the project class up to 8:30pm. The project presentations showed that dedication. Student's talks were of excellent quality for both project presentations and flash talks.

ISYA directors think the 44th ISYA was very successful, meeting the expectations of local and OYA organizers in the progression of Astronomy opportunities for research students in the region.

Appendix A: List of Students

SURNAME	NAME	DEGREE	INSTITUTION	CITY	COUNTRY
Baloyi	Nhlengani (NJ)	MSc student	University of South Africa (UNISA)	Johannesburg	South Africa
Bechoo	Keshav	MSc student	University of Kwa-Zulu Natal	Durban	South Africa
Chisabi	Mukadi	BSc Honours			Zambia
Fadul	Abubakar	MSc student	African Institute for Mathematical Sciences (AIMS)	Cape Town	South Africa
Gaolape	Boitumelo	MSc student	International University of Science and Technology	Palapye	Botswana
Govender	Saarisha	BSc student	University of Kwa-Zulu Natal	Durban	South Africa
Homera	Brenda	MSc student	North-West University	Potchefstroom	South Africa
Hug	Rigardt	MSc student	North-West University	Potchefstroom	South Africa
Idala	Yonas Samwel	MSc graduate	The University of Dodoma	Dodoma	Tanzania
Iiyambo	Emilia Nandjamba	MSc student	University of Namibia	Windhoek	Namibia
Katjaita	Hiiko	MSc graduate	University of Namibia	Windhoek	Namibia
Kgwatalala	Lister	MSc student	International University Of Science and Technology	Palapye	Botswana
Kinyumu	Marcelina	MSc student	Kenyatta University	Nairobi	Kenya
Letsoalo	Jane	MSc student	North-West University	Potchefstroom	South Africa
Macaringue	Laurinda	BSc Honours	Universidade Eduardo Mondlane	Maputo	Mozambique
Maheso	Dimakatso Jeannett	MSc student	University of Johannesburg	Johannesburg	South Africa
Nazziwa	Lukiya	PhD student	Mbarara University of Science and Technology	Mbarara	Uganda
Ndunge Mbonteh Roland	Mbonteh Roland Ndunge	MSc student	Addis Ababa University	Addis Ababa	Ethiopia
Nel	Johan	MSc student	Centre for Space Research (CSR)	Potchefstroom	South Africa
Ngwane	Thobekile	MSc student	South African Astronomical Observatory	Cape Town	South Africa
Nyangi	Samuel	BSc Honours	University of Nairobi	Nairobi	Kenya

Papiah	Tasmiya	MSc student	University of KwaZulu Natal	Dunbar	South Africa
Pillay	Coral	BSc Honours	University of the Witwatersrand	Johannesburg	South Africa
Rakototafika	Miora	MSc graduate	University of Antananarivo	Antananarivo	Madagascar
Seconna	Lisa	MSc student	University of Cape Town	Cape Town	South Africa
Seidu	Mavis	PhD student	North West University	Potchefstroom	South Africa
Tantely	Bénite	MSc student	University of Antananarivo	Antananarivo	Madagascar
Zoungrana	André	PhD student	Astrophysics Observatory	Ouagadougou	Burkina Faso

Appendix B: Schedule

	19 Nov	Day 1 20 Nov	Day 2 21 Nov	Day 3 22 Nov	Day 4 23 Nov	Day 5 24 Nov	Day 6 25 Nov	Day 7 26 Nov
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
9:00		OPENING (with SAAO director, AfAS, ISYA directors)	ISM2	TRIP TO SUTHERLAND			TRAVEL TO CPT	
10:30		COFFEE	COFFEE					
11:00		EXOPLANETS 1	EXOPLANETS 2					
12:30		LUNCH	LUNCH		LUNCH	LUNCH		
13:30		COMPUTER SETUP	RADIO 1		ISM3			
15:00		COFFEE	COFFEE		COFFEE	COFFEE		
15:30	ARRIVAL	ISM1	GALAXIES 1		OPTICAL TECHNIQUES 1			
17:00	DINNER (Braai South African style Barbeque)	CAREER DEV 1	VO 1	DINNER	OPTICAL TECHNIQUES 1	EXOPLANETS 3		
18:30		DINNER	DINNER	Telescope Tour	DINNER	DINNER		
19:30		ACTIVITY	FREE EVENING		Leave to Plateau	Leave to Plateau		
20:30		END OF DAY		STAR GAZING	OBSERVING	OBSERVING		
				VISIT TO SALT	OBSERVING (until 03:00)			

	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
	27 Nov	28 Nov	29 Nov	30 Nov	1 Dec	2 Dec	3 Dec
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
9:00	CAREER DEV 2	GALAXIES 2	COSMOLOGY 1	GALAXIES 3	GAL STRUCTURE 3	WEEKEND ACTIVITIES	WEEKEND ACTIVITIES
10:30	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE		
11:00	ISM 4	GAL STRUCTURE 1	GAL STRUCTURE 2	COSMOLOGY 2	COSMOLOGY 3		
12:30	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH		
13:30	RADIO 2	ASTROSTAT 1	ASTROSTAT 2	OAD/AFAS	ASTROSTAT 4	KBSOC SH	CAPE POINT
15:00	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE		
15:30	SAAO Historical TOUR	VO2	VO3	ASTROSTATS 3	CAREER DEV 3		
17:00	GROUP PROJECT	Talk by IAU GS Piero Benvenuti	GROUP PROJECT	GROUP PROJECT	GROUP PROJECT		
18:30	DINNER	DINNER	DINNER	DINNER	DINNER		
19:30	GROUP PROJECT	ACTIVITY	GROUP PROJECT	GROUP PROJECT	CULTURAL EVENT		
20:30	END OF DAY	END OF DAY	END OF DAY	END OF DAY	END OF DAY		

	Day 15	Day 16	Day 17	Day 18	Day 19
	4 Dec	5 Dec	6 Dec	7 Dec	8 Dec
	Mon	Tue	Wed	Thu	Fri
9:00	STARS 1	COSMOLOGY 4	GALAXIES 5	GALAXIES 6	STDT PRESENTATIONS 1
10:30	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE
11:00	GALAXIES 4	STARS 2	STARS 3	STARS 5	STDT PRESENTATIONS 2
12:30	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
13:30	SETI & BIOSIGN 3	SETI & BIOSIGN 2	STARS 4	GAL STRUCTURE 4	LAB GAIA ARCHIVE 5
15:00	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE
15:30	RADIO 3	RADIO 4	ASTROSTAT 5	RADIO 5	CAREER DEV 5
17:00	GROUP PROJECT	GROUP PROJECT	GROUP PROJECT	GROUP PROJECT	CLOSING
18:30	DINNER	DINNER	DINNER	DINNER	DINNER
19:30	GROUP PROJECT	ACTIVITY	ACTIVITY	GROUP PROJECT	
20:30	END OF DAY	END OF DAY	END OF DAY	END OF DAY	

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

Surname	Name	Title
Baloyi	Nhlengani	Using machine learning to detect star clusters in Gaia DR3
Bechoo	Keshav	On-sky characterization and analysis of HIRAX prototype and dish verification arrays

Chisabi	Mukadi	Timing and noise analysis of five millisecond pulsars observed with MeerKAT
Fadul	Abubakar	Looking for complex organic molecules in a protoplanetary disk
Gaolape	Boitumelo	Investigating star formation rate indicators in spiral galaxies
Govender	Saarisha	Age and Metallicity Determination of the open stellar cluster M67
Homera	Brenda	Cataloguing compact sources for SFR studies in MERGHERS pilot fields
Hug	Rigardt	Benchmarking exoplanet transit depths with the SAAO Lesedi telescope
Idala	Yonas Samwel	Understanding the emission of fast radio bursts
Iyambo	Emilia Nandjamba	Identification of hadronic events in HESS data using a novel photosensor clustering
Katjaita	Hiiko	Studies on using trigger level information for gamma-hadron rejection in HESS
Kgwatalala	Lister	Spectroscopic study of selected candidate Maia type stars observed in the TESS fields
Kinyumu	Marcelina	Properties of isolated galaxies ($0.005 < z < 0.080$)
Letsoalo	Jane	The masses of Milky Way Globular Clusters Gaia data
Macaringue	Laurinda	Determining radio halo/mini-halo upper limit
Maheso	Dimakatso Jeannett	Spectral and temporal analysis of SGRBs and the MGF, GRB200415A
Nazziwa	Lukiya	Modelling of ion acoustic solitary structures in magnetized three component electro-positron-ion plasma
Ndunge Mbonteh Roland	Mbonteh Roland Ndunge	On the connection between solar surface magnetic flux density and solar UV variability
Nel	Johan	Accurate cross-matching for next generation optical and radio surveys
Ngwane	Thobekile	Developing instrumentation and software for rapid follow-up and characterization of near-Earth asteroids
Nyangi	Samuel	Measurements of galactic hydrogen with a tabletop radio telescope (TTRT)
Papiah	Tasmiya	Analysis of drone beam mapping data for the HIRAX testbed array
Pillay	Coral	Identifying dual AGN with MeerKAT and MeerKAT+
Rakototafika	Miora	Photometric study of the star cluster population in Apr 147
Seconna	Lisa	Investigating the influence of the host environment on star formation in CRGs through the properties of their young massive star cluster population
Seidu	Mavis	Triggered star-formation in star forming regions
Tantely	Bénite	Investigating the lifecycle of two radio galaxies in the XMM-LSS fields
Zougrana	André	Morphological and spectroscopic study of small solar system bodies trajectory simulation and impact risks in Burkina Faso

GROUP PROJECTS

The group projects consisted in doing a spectral analysis of different objects both galactic and extragalactic using SALT spectroscopic data. The students were divided in groups of 3 and each of the groups analyzed individual objects.

Appendix D: Students Feedback

See below the “STUDENT ISYA 44 Evaluation Form”. 24/28 students filled the form. Some of the students identified themselves. Disclosing their identity in the feedback form was optional.

Appendix E: Lecturers´ Feedback by Numbers

See below the “LECTURERS ISYA 44 Evaluation Form”. 4/12 lecturers filled in the form (we excluded school directors and INAOE members) filled the form.

Itziar Aretxaga

INAOE, Mexico

ISYA Program Director

David Mota

Univ. of Oslo, Norway

ISYA Deputy Director