Monday 5th

8:00-9:30		Registration
9:30-9:35		Welcome
9:35-10:00	Anthony Readhead (invited)	Overview of blazar science
10:00-10:25	Eileen Meyer (invited)	Extragalactic Jets from Radio to Gamma-rays
10:25-10:40	Aminabi Thekkoth	Understanding the Broadband spectral evolution of FSRQs using 3C 279 as a case study (**Cancelled**)
10:40-10:55	Lorena Hernandez-Garcia	Multiwavelength monitoring of the nucleus in PBC J2333.9-2343: the giant radio galaxy with a blazar-like core
10:55-11:10	Shivangi Pandey	Spectroscopic reverberation mapping of Quasar PKS 0736+017: Broad-Line Region and Black-hole Mass
11:10-11:40		Coffee break
11:40-12:05	Tulia Sbarrato (invited)	Too many or just right? The look and nature of massive blazars in the early Universe
12:05-12:30	Markus Boettcher (invited)	Multi-wavelength and multi-messenger modeling of blazars
12:30-12:45	Susmita Das	Acceleration and Radiative Cooling Timescales in the Jets of Blazars from AstroSat Observations
12:45-15:00		Lunch/Mini lunch workshop : The AleRCE Broker
15:00-15:25	Lea Marcotulli (invited)	Cosmic evolution of the most distant and powerful jets
15:25-15:40	Amal Abdulrahman	High Energy emissions from the large scale jets of Active Galactic Nuclei
15:40-15:55	Baheeja Cholakkal	Probing the characteristic emission of blazars
15:55-16:10	Kenji Yoshida	Gamma-ray flux distribution analysis on 145 gamma-ray bright blazars
16:10-16:40		Coffee break
16:40-16:55	Soeb Razzaque	Modeling multi-messenger emissions from the blazar TXS 0506+056
16:55-17:00	Suvas Chaudhary	Blazar Variability (**Cancelled**)
17:00-17:05	Francesco Massaro	A WISE perspective of the blazar hunt in the gamma-ray sky
17:05-17:10	Tapio Pursimo	Optical follow-up observations of Gaia Alerted LAT sources
17:10-17:15	Evaristus Iyida	Orientation and Beaming Effects in Jetted AGNs

Tuesday 6th

9:25-9:50	Jae-Young Kim (invited)	Event Horizon Telescope observations of M87, Sgr A*, and blazar jets
9:50-10:05	Leonid Gurvits	High-redshift AGN under the ultimate VLBI magnifiers
10:05-10:20	Luca Ighina	Multi-wavelength properties of the kpc-scale jet in the highest-redshift blazar
10:20-10:35	Gabriele Giovannini	The young relativistic jet in 3C84
10:35-10:50	Georgios F. Paraschos	Investigating the jet launch in 3C 84
10:50-11:05	Jeffrey Hodgson	A detailed look at the kinematics and Gamma-ray emitting regions of 3C84
11:05-11:35	Coffee break	
11:35-12:00	Matthew Lister (invited)	MOJAVE in the multi-messenger era
12:00-12:25	Thalia Traianou (invited)	Physics of μas structures of Blazars
12:25-12:40	Carolina Casadio	The advantage of high resolution in the jet collimation profile of BL Lacertae
12:40-12:55	Elena Nokhrina	Parabolic accelerating AGN jets
12:55-14:20	Lunch/Mini lunch workshop: DIFMAP v/s ngDIFMAP: new generation DIFMAP for radio data analysis	
14:20-14:45	Tuomas Savolainen (invited)	Space-VLBI view of the internal jet structure
14:45-15:00	Aleksandr Popkov	Constraining the mechanisms of the extreme brightness generation in blazars
15:00-15:15	Po-Chih Hsu	Milliarcsecond Core Size Dependence of the Radio Variability of Blazars
15:15-15:30	Jun Yi (Kevin) Koay	Origin of the 15 GHz Interday Variability of Blazars from the OVRO Monitoring Program
15:30-15:45	Florian Roesch	Rapid Radio Flaring in the Doppler-crisis Blazar S2 0109+22
15:45-16:15	Coffee break	
16:15-16:30	Francesco Massaro	Dragon's Lair: on the large-scale environment of BL Lac objects
16:30-16:45	Agniva Roychowdhury	First results from CAgNVAS: a catalogue of VLA proper motions in extragalactic jets
16:45-17:00	Yuri Kovalev	VLBI-Gaia offsets of AGN positions: jets and more
17:00-17:15	David Fernandez	Exploring connections between the VLBI and optical morphology of AGN and their host galaxies
17:15-17:30	Ananda Hota	RAD@home citizen science discovery of an AGN spewing a large unipolar radio bubble onto its merging companion galaxy
17:30-17:35	Megha Rajoria	RAD@home Inter-University Collaboratory for citizen science in galaxy evolution with multi-wavelength RGB images.
17:35-17:40	Avinash Kumar	RAD@home RGB-maker web-tool for citizen science research in multi-wavelength study of AGNs with radio jets

Wednesday 7th

9:25-9:50	Koushik Chatterjee (invited)	Distorting jets in GRMHD simulations of accreting black holes
9:50-10:05	Naoki Isobe	Importance of far-infrared observations for investigation into particle acceleration process in hot spots of radio galaxies.
10:05-10:20	Vasily Beskin	The first adiabatic invariant and the brightness temperature of relativistic jets
10:20-10:35	Ishika Palit	Propagating Poynting flux dominated jets (**Cancelled**)
10:35-10:50	Gourab Giri	Understanding the peculiarities of peculiar winged radio galaxies
10:50-11:20		Coffee break
11:20-11:45	Nick MacDonald (invited)	Jets, Blobs, and Circular Polarization: Using PLUTO & RADMC-3D to Model Time Domain Variability in Blazars
11:45-12:00	Yuh Tsunetoe	Investigating Jet-Disk Structure through Linear and Circular Polarization Images
12:00-14:30		Lunch
14:30-14:55	Monika Moscibrodzka (invited)	Hot spots around Sgr A*: constraints from ALMA polarimetric observations
14:55-15:20	Yosuke Mizuno (invited)	Relativistic Jet Simulations and Modeling in Horizon Scale
15:20-15:35	Andrzej Zdziarski	Pair production and jet power in Galactic and extragalactic jets
15:35-15:50	Krzysztof Nalewajko	Magnetic dissipation in relativistic jets: instabilities, minijets, plasmoids
15:50-16:05	Kenichi Nishikawa	3D PIC Simulations for Relativistic Jets with a Toroidal Magnetic Field
16:05-16:20	Sriyasriti Acharya	MHD instabilities and their impact on the emission signatures of blazar jets
16:20-16:50		Coffee break
16:50-17:05	Tej Bahadur Chand	Inverse Compton emission from relativistic particles accelerated at shear layers in relativistic jets
17:05-17:10	Anna Lisa Celotti	Particles acceleration with Magnetic Reconnection in large scale RMHD simulations
17:10-17:15	Ravi Pratap Dubey	Particle acceleration in relativistic jets: turbulence and shocks triggered by different injection nozzles
17:15-17:20	Andrzej Zdziarski	A simple analytical model of magnetic jets
Conference Dinner		

Thursday 8th

9:00-9:25	Alice Pasetto (invited)	Mapping the 3D magnetic field configuration of M87
9:25-9:50	Ivan Agudo (invited)	The Polarized Emission of AGN at Millimeter Wavelengths as Seen by POLAMI
9:50-10:05	Preeti Kharb	Looking at the Radio-loud/Radio-quiet AGN Divide with Multi-scale Radio Observations
10:05-10:20	Janhavi Baghel	Radio Polarimetric Observations of Palomar-Green Quasars and BL Lacs
10:20-10:35	Nikos Mandarakas	Identifying γ-ray emitting blazars in the PASIPHAE era
10:35-11:00	Dmitry Blinov (invited)	Revealing the mechanism behind optical polarization plane rotations in blazars
11:00-11:15	Callum McCall	Exploring activity states and colour evolution in blazars with RINGO3 on the Liverpool Telescope
11:15-11:45		Coffee break
11:45-12:00	Sebastian Kiehlmann	Towards a high-cadence, long-term, global optopolarimetric monitoring program for blazars
12:00-12:15	Ioannis Liodakis	Non-stop Polarization Experiment: pushing the limits of polarimetric monitoring of blazars
12:15-12:30	Ryo Imazawa	The Microvariability and Wavelength Dependence of Polarization Vector of BL Lacertae in the Outburst 2020 to 2021
12:30-12:45	Elena Shablovinskaya	Intraday variations of polarization vector in blazars: a key to the optical jet structure?
12:45-14:45		Lunch Mini-lunch workshop: IXPE data analysis
14:45-15:10	Lawrence Peirson (invited)	IXPE: Science so far
15:10-15:35	Haocheng Zhang (invited)	Scientific potentials for MeV Polarimetry
15:35-15:50	Alessandro Paggi	A Multi-Wavelength View of Polarization in BL Lac Sources
15:50-		Coffee break – Open Discussion – Free afternoon

Friday 9th

9:00-9:25	Maria Charisi (invited)	Multi-messenger observations of supermassive black hole binaries
9:25-9:50	Elina Lindfors (invited)	Studies of Active Galactic Nuclei with Current and Future Gamma-ray Observatories
9:50-10:05	Eli Kasai	Optical Spectroscopy of Blazars for the Cherenkov Telescope Array
10:05-10:20	Olivier Hervet	AGN at very high energies, recent highlights from VERITAS
10:20-10:35	Zahoor Ahmad Malik	Model-independent redshift estimation of BL Lac objects through very-high-energy observations
10:35-10:50	Lea Heckmann	Multi-messenger characterization of Mrk501 during historically low X-ray and γ-ray activity
10:50-11:15		Coffee break
11:15-11:40	Sasha Tchekhovskoy (invited)	Simulations of Black Hole Powered Jets
11:40-12:05	Anabella Araudo (invited)	Acceleration of UHECRs in AGN jets and backflows
12:05-12:30	Susumu Inoue (invited)	Multimessenger emission of active galactic nuclei
12:30-14:10		Lunch
14:10-14:35	Erin O'Sullivan (invited)	Exploring the extreme universe with the IceCube Neutrino Observatory and IceCube-Gen2
14:35-14:50	Alexander Plavin	Growing evidence for blazars being neutrino sources
14:50-15:05	Florian Eppel	VLBI Scrutiny of a New Neutrino-Blazar Multiwavelength-Flare Coincidence
15:05-15:20	Anastasiia Omeliukh	Interpreting the activity of blazar PKS 0735+178 with particle interactions in the jet
15:20-15:35	Athira M. Bharathan	Multi-wavelength emission from candidate neutrino blazars during different activity states
15:35-15:50	Anthony Readhead	The Evolution of Compact Symmetric Objects
15:50-16:20		Coffee break
16:20-16:45	Amir Levinson (invited)	Symposium symmary
16:45-16:50		Closing remarks

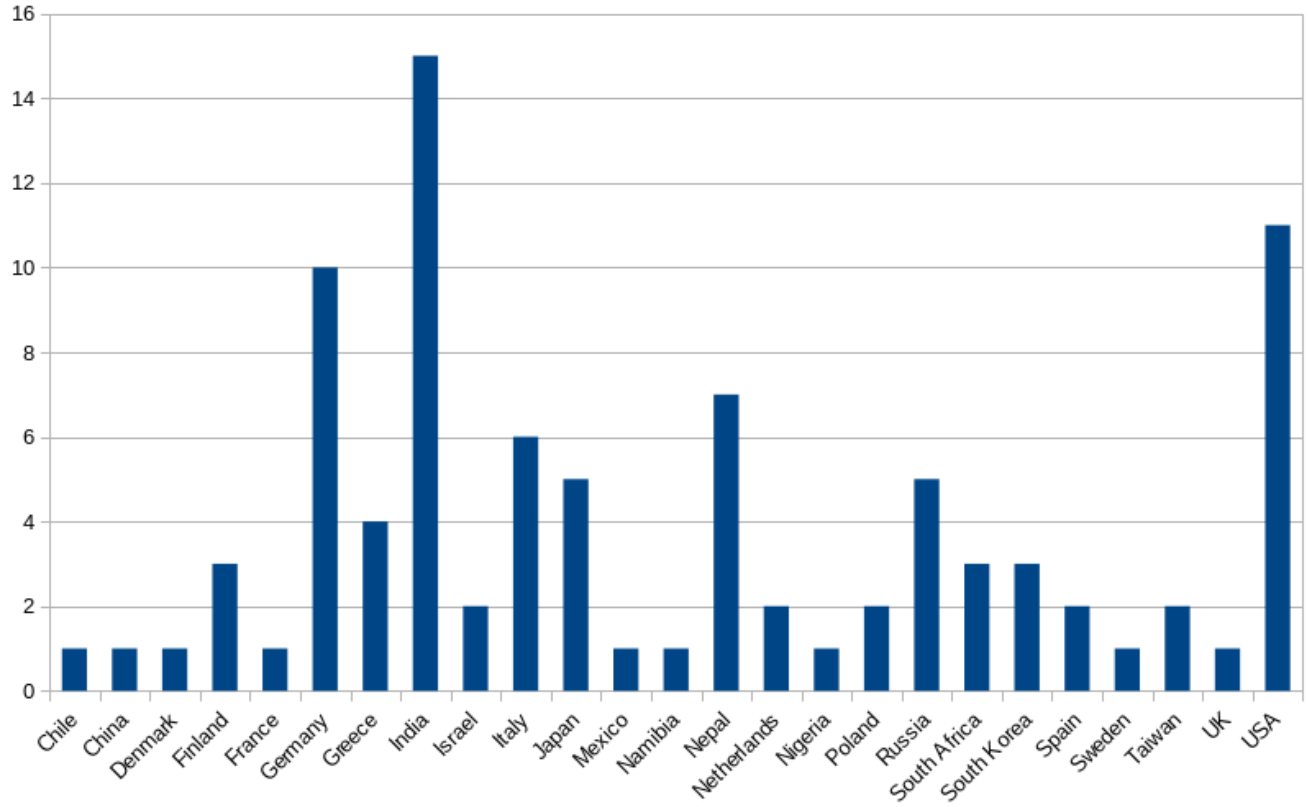

Figure 1: Number of participants per country.

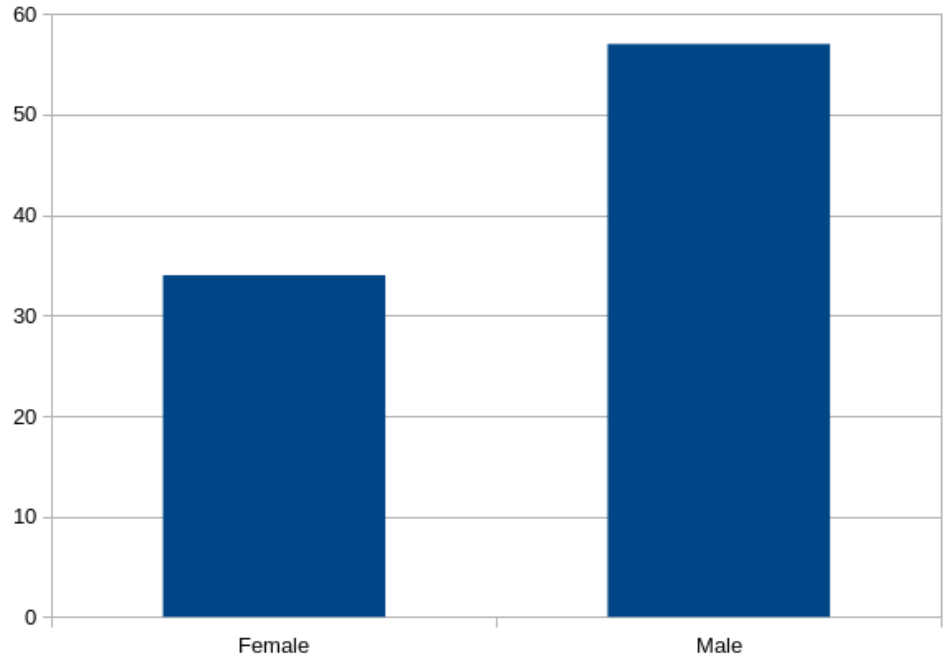

Figure 2: Number of female (34) and male (57) participants.

Executive summary

The symposium lasted for 5 days covering all aspects of blazar science. The first day focused on the multiwavelength studies and modeling covering variability studies, light curve modeling, spectroscopy, Spectral Energy Distribution modeling, cosmic evolution and very high-redshift sources. The second day focused on single-dish and Very Long Baseline Interferometry results covering blazars and radio galaxies, Event Horizon Telescope and RadioAstron results, as well as large-scale environment and interstellar scintilation. The third day focused on relativistic magnetohydrodynamic simulations, particle acceleration and dissipation processes, and radiative tranfer. It covered jet launching simulations, radio galaxy lobe dissipation mechanisms, magnetohydrodynamic instabilities, magnetic reconnection, and other. Day four focused on the multiwalength polarization observations and modeling, covering radio, optical, and X-ray results as well as prospects of MeV polarization from future facilities. The fifth day focused on the multimessenger emission from blazars and radio galaxies, covering the neutrino-AGN connection, supermassive black hole binaries, and gravitational wave emission.

Typically, each day comprised of four sessions from 9am to around 5:30pm separated by two coffee breaks and lunch offered on site. During the lunch breaks we organized mini-lunch workshops on different topics related to the scientific theme of the day that lasted for about one hour each. In addition, we organized junior-senior lunches by randomly assigning senior and junior scientists to different lunch groups aiming to “break the ice” and foster discussion and collaboration between symposium participants. The conference dinner took place during the third day (Wednesday 9th of December) in a traditional Newari restaurant that was accompanied by a show of traditional Nepali dances. The fourth day included free time in the afternoon for the participants to explore the many historical and UNESCO world heritage sites located in the Kathmandu valley. After the end of the scientific program on Friday, we organized an half-day excursion to UNESCO’s world heritage site of Bhaktapur.

During the symposium, we organized a vivid and diverse outreach program led by the Nepal Astronomical Society (NASO). The program included visits to schools by the symposium’s participants, on-site training

seminars on teaching astronomy for high-school teachers and public talks. We also coordinated with RAD@home India and organized training sessions for citizen science related to radio galaxies and blazars.

Figure 3: Symposium's participants at the venue.

Figure 4: Symposium's participants during the excursion at UNESCO's world heritage site of Bhaktapur.

Scientific highlights

During the first day Professor Anthony Readhead gave an overview of blazar science describing the six multimessenger tools scientists have in their arsenal as well as current open questions in blazar science. Dr. Tullia Sbarrato showed that radio-loud quasars are overrepresented, which may be due to obscuration of quasars and/or due to quenched extended emission, while Dr. Lea Marcotulli showed that blazar activity peaks at z~4.3, and that blazars account for a significant fraction of the X-ray and gamma-ray background.

During the second day, Professor Jae-Young Kim presented recent results from the Event Horizon telescope and the multiwavength campaign for M87. Professor Tuomas Savolainen showed results from RadioAstron demonstrating the existance of helical structures in the inner jets of M87 and other blazars, most likely attributed to Kelvin-Helmoholtz instabilities.

During the third day, Dr Koushik Chatterjee talked about jet launching simulations in the magnetically arrested disk regime, and how those compare to the Event Horizon Telescope observations of M87 and Sagittarius A*. Dr. Nicholas Macdonald showed state-of-the-art plasma simulations combined with radiative tranfer modules to study variability as well as polarization.

During the fouth day, Dr. Alice Pasetto showed efforts to map the 3D magnetic field structure of M87 using Faraday conversion and depolarization. Dr. Dmitry Blinov demonstrated that optical rotations of the electric vector position angles in blazars are not only connected to gamma-ray activity, but show repeating patterns of gamma-ray flares. Dr. Lawrence Peirson gave an overview of the first year of X-ray polarization observations from the Imaging X-ray polarimetry Explorer, and Dr. Haocheng Zhang gave of an overview of the prospects for MeV polarimetry and the key science questions that will be addressed with future missions.

During the fifth and final day, Dr. Maria Charisi talked about the potential of using multimessenger data to probe the supermassive black hole binary population and prospects for Vera C. Rubin’s Legacy Survey of Space and Time to pave the way for pulsar timing arrays and future missions to detect low frequency gravitational waves. Professor Erin O’Sullivan gave an overview of IceCube results and what the future holds for IceCube-gen2, while Dr. Susumu Inoue and Dr. Anabella Araudo talked about the acceleration of neutrinos and Ultra High-Energy Cosmic Rays in winds of radio-quiet AGN and backflows of AGN jets.