



Introduction to the LIGO India Newton-Bhabha project

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Grant Aims

1. Advanced science and technology skills training through learning to develop, operate and exploit LIGO India
2. Encourage entrepreneurial activity
3. Implement an outreach programme to inspire STEM take-up in schools and universities.

The Grant

- LIGO India Newton-Bhabha: 300k, 3 years (May 2017- May 2020)
- Staff time, travel, meetings, consumables
- GCRF uplift: 42k (fully committed)
- Laser stabilisation setup, outreach (VR/books/ST Quest)
- Institutional Award: 40k (to be spent Dec 2018)
- Flexible pot, travel, consumables, capacity building

Collaboration Agreement

UNIVERSITY NEWS

University news

Archive of news

2017

→ January

→ February

→ March

→ April

→ May

→ June

GRAVITATIONAL WAVES RIPPLE INTO HIGHER EDUCATION IN INDIA

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An important agreement has been signed in India that will open the way to closer working between scientists in India and their counterparts in UK universities.

The LIGO India agreement was signed officially at the British Council offices in New Delhi between a consortium of universities in India led by IUCAA (Inter-University Centre for Astronomy and Astrophysics), in Pune, and a consortium of UK universities led by the University of Glasgow. The signatories were Principal and Vice-Chancellor Professor Sir Anton



Official Development Assistance (ODA) Compliance

- Economic development/development need: LIGO India is clear case
- Contribution to sustainable development: Legacy via detector upgrades/new community of highly skilled entrepreneurs/researchers.
- Reduction in poverty/equitable education: STEM/outreach activities
- Success and its measure: new linkages/pilot projects/capacity building for LIGO India

Workpackages

- WP1: Project management (Hammond / Raychaudhury + representatives from all Institutes)
- WP2: Data analysis and Modelling (Heng / Andersson / Sutton / Raychaudhury)
- WP3: Low thermal noise coatings and suspensions (Reid / Hammond / Rajalakshmi / Prabhakar):
- WP4: Interferometer modelling & simulation (Daw / Rapol)
- WP5: Entrepreneurial Activities (Gibson / Raychaudhury / Indian Trade Embassy):
- WP6: Outreach Activities (Vecchio / Souradeep)

Justification of Resources (UK funds)

- UK Staff costs (total £64k)
- Overseas trips UK-India (total £74k). 14x 1 week trips and 21x 4 week trips
- UK support of Indian researchers travelling to the UK (total £22k). UK will support 30% costs, with 70% coming from LIGO India (matched funding)
- UK workshop (total £7.5k)
- Consumables for pilot projects (total £27k)
- Project administrator: Mariela Masso-Reid (works across LIGO India and China GCRF project)

Indian Matched Funding

- Staff costs (total £6.6k, in-kind support)
- Postdoctoral researcher costs (total £41k, in-kind support)
- Support of Indian researchers travelling to the UK (total £51k). Funded at 70%, with 30% coming from UK Newton-Bhabha
- Consumables and Equipment (total £45k for consumables and £135k in-kind support for equipment).
- Other (total £10,584). Indian workshops, IUCAA Administrator

Year	2017			2018				2019				2020	
Quarter	2	3	4	1	2	3	4	1	2	3	4	1	
Short trips to UK	5			6				2					
Long trips to UK	4			9				3					
Short trips to India	4			6				4					
Long trips to India	4			9				8					
Projects	[Grey bar spanning all quarters]												
Workshops	UK			India				India					
Summer schools	UK				UK								
Remote meetings	x	x	x	x	x	x	x	x	x	x	x	x	
Deliverables	D1			D2		D3		D4		D5		D7	
Outreach in India					D6								
Milestones	M1			M3				M2		M4			
	M5							M6					

- Late start of grant means we are low on year 1 visits
- Opportunities exist for travel support, just need to fill in light touch application

Projects in Planning

- Anil Prabhakar (IIT Madras)/Umakant Rapol (IISER)/Korak Biswas to Sheffield: laser stabilisation
- Siddesh Pai (RRCAT) to Glasgow: suspensions
- Archana Pai (IIT Bombay) to Glasgow
- Abishaek Das (IUCAA) to Southampton
- Kabir Chakravarti (IUCAA) to Southampton
- Any missed?
- **Need more visits both to UK and to India. There are funds to spend.**

- Research opportunities/visits
- Advisory board make-up
- Opportunities for Indian 10m prototype
- School based activities in India/workshops
- Building opportunities around impact/entrepreneurship
- Linkage to OzGrav (e.g. VR)
- Website/logo: can we run a competition in India?
- Better linkage to events in India
- Reporting on the projects
- Incorporating RRCAT/IPR
- Indian matched fund update

Enjoy the Meeting

Please leave a copy of your slides so we can add to the wiki



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IISER PUNE

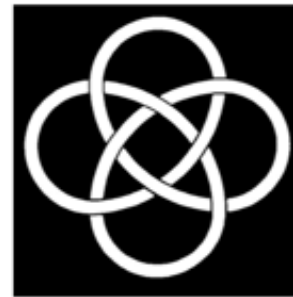


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