Procedure for IndIGO / IndIGO-LSC membership and access to LIGO DCC

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IndIGO is envisioned as an umbrella organization for Gravitational Wave (GW) research in India encompassing theorists, numerical relativists, astrophysicists, data analysts, experimenters and engineers. IndIGO is a member of the Gravitational Wave International Committee (GWIC) and the LIGO Scientific Collaboration (LSC).

Procedure for IndIGO membership

Faculty: Email to the **Chair, IndIGO** with your CV, list of publications and a brief statement of your proposed research or academic activity related to Gravitational Waves.

Long term Students and Postdocs : Email to the **Chair, IndIGO** with your CV, list of publications and a brief statement of your proposed research or academic activity related to Gravitational Waves. **In addition,** students should arrange for a letter of recommendation from their thesis advisors and postdocs from their mentors or faculty member they are working with.

The current **Chair of IndIGO** is Bala Iyer (✉: `bri AT rri dot res dot in`)

The decision on the IndIGO membership application in the above two categories is made by the Executive Committee of the IndIGO Council.

LIGO-India team members: IndIGO membership is automatic in this case. The Director or Coordinator of the Lead Institute just emails **Chair, IndIGO** the list of members of the LIGO-India team with their brief CV for IndIGO membership.

Procedure for IndIGO-LSC membership

A member of IndIGO can become a member of the LIGO Scientific Collaboration (IndIGO-LSC) by committing to the activities of LSC working groups or proposing new activities of interest to the LSC.

These activities are outlined in the Data Analysis[1] and Instrument Science[2] white papers respectively. It should be discussed with the respective LSC working group chairs BEFORE the IndIGO-LSC membership is sought. Activities toward LIGO-India are generally considered as LSC-qualifying activities, including facility design and construction, technical and project management, and preparations and training for detector installation and commissioning. Requests for LSC membership because of LIGO-India activities should be discussed through the LIGO-India Director. Short-term participation in IndIGO-LSC activities does **not** require an IndIGO membership. The IndIGO-LSC member with whom the student intends to work must request for the membership by providing details of the project and its duration to the IndIGO-LSC PI who can authorize it in consultation with the IndIGO-LSC subcommittee keeping the IndIGO Chair informed.

The LIGO Scientific Collaboration (LSC) is a self-governing collaboration seeking to detect gravitational waves, use them to explore the fundamental physics of gravity, and develop gravitational wave observations as a tool of astronomical discovery. The LSC is the entity within LIGO that carries out LIGO's scientific research program. Memoranda of Understanding between member groups and the LIGO Laboratory establish the individual group responsibilities to allow the LSC to perform its functions. The LSC and the LIGO Laboratory work in a mutually supportive fashion to accomplish LIGO's goals. Scientists and engineers at the LIGO Laboratory participate fully as members of the LSC in the entire LSC program. The LIGO Laboratory makes full use of the talents of LSC members at non-Lab institutions in carrying out the Lab's responsibilities for operation of the instruments and for the development of new instruments. LSC is responsible for reviewing and approving the presentation and publication of all major results of LSC research. It adopts a Publication and Presentations policy and maintains appropriate review and approval mechanisms. Authorship rights on LSC-wide publications are determined on an individual basis through discussion between the PI of each group and the LSC Spokesperson. For more details refer to the LSC Charter[3], ByLaws[4] and Publication policy[5].

Each LSC group has a designated Principal Investigator ("PI") who manages its membership. To obtain LSC membership, one applies to the PI of the LSC working group to which you will contribute, summarizing your research work plan for the LSC with a time-line and finally providing three percentage numbers explained in the table below:

1.	FTE %	The fraction of time a member spends as part of the group. This is less t 100% for multi-homed members, and 100% for members who belong to LSC only through one group.

[1] LSC Data Analysis White Paper: https://dcc.ligo.org/public/0062/T1100322/003/PublicWhitePaper.pdf

[2] LSC Instrument Science White Paper: https://dcc.ligo.org/public/0062/T1100309/005/wp2011.pdf

[3] LSC Charter: https://dcc.ligo.org/public/0066/M980279/000/M980279-05.pdf

[4] LSC ByLaws: https://dcc.ligo.org/public/0008/M050172/005/LSC%20ByLaws%20M050172-05.pdf

[5] LSC Publications Policy: https://dcc.ligo.org/public/0026/T010168/003/T010168-03.pdf

2.	Research %	The fraction of time each group members has available for research (faculty who teach will have less than 100% of their time available research).
3.	LSC %	The percentage fraction of available research time devoted to LSC a LIGO related research and service.

Membership in the LSC grants you a **ligo.org** account that is needed to access the dcc and information accessible only to LSC members. In this regard, note

    a. the application for a ligo.org account can submitted online via https://my.ligo.org .

    b. Choose 'LSC or Virgo Signup' or go to this website directly
https://my.ligo.org/adduserLVC.php

    c. The IndIGO-LSC PI who manages its membership is notified for approval whenever a new individual signs up for a ligo.org account.

    d. The PI will now approve your account by entering the FTE, Research and LSC fractions (see Table in Section 2) communicated by you earlier. Congratulations! You now have a valid ligo.org account which can be used for DCC access.

The ligo.org account allows access to DCC. More details below

Access to LIGO Document Control Centre (DCC)

The LIGO Document Control Centre (DCC) is a repository of documents related to the LIGO project. Access to LIGO DCC enables access (upload/download) to all documents available to the LIGO Scientific Collaboration. Members of the LSC need a ligo.org account to access the password protected documents in the Document Control Centre (DCC) https://dcc.ligo.org/ .

Access to LIGO DCC without LSC membership is unusual and may be considered for persons who are not IndIGO members but have responsibilities requiring access to DCC e.g. Institute Directors during some review or some administrative staff.

Note: DCC access does require some discipline, since some materials that are accessible by all LSC members (drafts of unpublished papers, preliminary results, etc.) are confidential.

It is important to emphasize that as a LSC member, one is being given access to privileged collaboration material. It is expected that this material is treated with care and attention to confidentiality that LSC members are expected to have. For example, since members have access at the LSC level, they will have access to drafts of the discovery paper (when that happy day comes) during the time when it will be a hotly debated item, and under strict "collaboration only distribution", and even today, members have access to drafts of upper limit papers prior to the time those are

public. *With the privilege comes a professional obligation and members are expected to strictly adhere to it.*

IndIGO-LSC

Currently, Anand Sengupta (✉: `asengupta AT iitgn dot ac dot in`) of IIT, Gandhinagar is the PI for IndIGO-LSC group. To obtain your IndIGO-LSC membership, you would have to apply to the PI with a two-page proposal identifying the LSC working group to which you will contribute, summarizing your research work plan for the LSC with a time-line and finally providing three percentage numbers explained in the table below:

1.	FTE %	The fraction of time a member spends as part of the group. This is less 100% for multi-homed members, and 100% for members who belong the LSC only through IndIGO.
2.	Research %	The fraction of time each group members has available for research (faculty who teach will have less than 100% of their time available research).
3.	LSC %	The percentage fraction of available research time devoted to LSC LIGO-India related research and service.

Please send these three numbers to the IndIGO-LSC PI by email - so that your IndIGO-LSC membership request can be further processed.

For students and postdocs from IndIGO groups, the above information must come via the **Principal Lead** of the particular IndIGO group. The principal lead must first recommend the person for IndIGO membership with the relevant details and then recommend for IndIGO-LSC membership with further details for LSC membership.

For IndIGO-LSC participation via the LIGO-India Project, all the relevant information must be forwarded to the IndIGO-LSC PI by the Directors of the Consortium Institutions only through the LIGO-India Project Director.

The decision on the IndIGO-LSC membership application is made by the Executive Committee of the IndIGO Council in consultation with the IndIGO-LSC PI or a Committee appointed by it for the purpose.

Note that IndIGO-LSC membership does not imply AUTHORSHIP on LSC papers. The latter requires a commitment of at least 50% of time for LSC related research [i.e LSC % $\geq$ 50] and

membership for at least a year. For details see the publications policy document.

A semi-annual report of activities performed in comparison to deliverables planned must be sent by each "group" within IndIGO to the IndIGO-LSC PI.