



Collaboration Agreement

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Purpose

iLocator is an Extreme Precision Radial Velocity (EPRV) spectrograph developed by the University of Notre Dame and The Ohio State University for the Large Binocular Telescope (LBT) under PI instrument status. The iLocator team values engagement with collaborators, both internal and external to the LBT Consortium, to support the delivery, operation, and successful scientific productivity of the instrument. This agreement outlines the basis of the iLocator collaboration and the expectations of all iLocator team members.

As iLocator moves from integration to delivery and operations, this document will be adapted and updated as needed. New versions will be circulated to all members of the collaboration.

Code of Conduct

All members of the collaboration agree to abide by the iLocator Code of Conduct. The Code of Conduct is maintained separately from this agreement.

Membership

Membership of the iLocator collaboration has various levels which are defined below. Member levels A-C are given the greatest access to iLocator scientific activities. Members at all levels must comply with the Code of Conduct, this Collaboration Agreement, and conditions of non-disclosure of proprietary information.

Levels (A) – (E)

- A. PI, Co-PI, and Lead Co-I's: Primary members who lead a team within the project, generally identified at the time of proposal writing, and including the co-PIs from the instrument construction phase.
- B. Co-I's: Scientists with a significant role at the time of proposal writing/instrument development and/or major and lasting contributions within the collaboration.
- C. Collaborating Scientists: Scientists from LBT partners who are leading specific observational programs. This can include faculty, research scientists, postdoctoral researchers and graduate students. Level C members are expected to request LBT observing time through their institution (where feasible and appropriate) to support instrument science and technical programs.
- D. Guest Scientists: Ad hoc members from outside the team brought in (sponsored) by a Level A, B or C member for specific expertise or a specific paper. This can include partners from outside the LBT consortium. Guest scientists could also include people needed as co-I's, e.g., for access to another facility for follow-up observations.
- E. Support Personnel: Programmers, technicians, support astronomers, engineers, etc.
- F. Provisional Scientists: Temporary members such as summer students or scientists with pending membership in other categories, which nevertheless require fast-track access elements of the iLocator program.

Level A and B membership is generally permanent, and status is retained even if a person moves to a new institution or position (though if they join a competing project, they may be required to sign a conflict-of-interest agreement or modify their membership level). Level C-F members do not automatically remain in the project as they move to new institutions, though the expectation is that

in most cases this will occur if their new position allows them to continue to contribute to the project.

Potential new members must be nominated and sponsored by an existing Level A, B or C member. The nominee (or their nominator) should compose a short membership application that describes their qualifications, intended contributions, preferred roles, level of time commitment, ability to secure LBT observing time (if appropriate), and any conflicts of interest. The application should be sent to the iLocator Co-PIs for review and possible modifications before being presented to all Level A members for discussion and a decision on membership (by majority vote).

Promotion to Level (B) membership requires a simple majority approval vote of the Level A members. Level C, D, & E memberships must be renewed annually in January. Level C membership is based upon continued support of the instrument and the use of iLocator data. Level D-E members shall be renewed annually by their Level A, B or C sponsor who also has the authority to contact the instrument Co-PIs at any time of the year to propose new members or terminate memberships that they sponsor.

If a sponsoring Level A/B/C member leaves the collaboration for any reason, then the iLocator Co-PIs are responsible for identifying other A/B/C members who might become replacement sponsors for any C,D,E level members who wish to remain part of the collaboration.

New students or postdocs who are beginning work on iLocator may become Level F Provisional Scientists given a brief email from a sponsoring Level A/B/C member to the Co-PIs. Subject to the Co-PI's approval and agreement by the candidate member to abide by team policies, candidate members may receive immediate access to the resources necessary for them to get started on their projects while the more formal application for membership is still pending review. A four-month limit applies to this category of membership.

Management & Teams

The iLocator program is led by the two instrument Co-PIs: Jonathan Crass and Justin Crepp. They are supported by two core groups from within the collaboration: the Instrument Team and Science Team. Together, these teams ensure the operation and productivity of the instrument. Members of the Instrument and Science Team will usually hold Level A or B membership within the collaboration.

Instrument Team

The Instrument Team is responsible for the technical development and operation of iLocator. This includes the initial instrument development, delivery, operation, and future upgrades. The team is led by Jonathan Crass.

Science Team

The Science Team is responsible for the overall scientific direction of the instrument including defining core observing programs, supporting data reduction, and enabling a productive science program for the instrument. The Science Team also defines the pathways and resources needed to ensure the scientific success of the instrument. The team is led by Justin Crepp.

Telescope Time - Commissioning & Observing

Commissioning & Early Science Time

Commissioning and early science time for the instrument will be requested through LBT partners. Primary sources will be through the University of Notre Dame allocation and its internal procedures, and The Ohio State University allocation and its internal competitive Time Allocation Committee (TAC) process. Collaborators from other LBT partners are strongly encouraged to support these critical instrument activities through their own time allocation processes to aid in the timely progression of the instrument to science operation. Time allocated to commissioning and early science will be considered shared risk. Only limited time is available from LBT Engineering/Commissioning/Directors Discretionary (EDC) time to support these efforts.

Observing Time

Collaborators at LBT Partners

Personnel at institutions which are part of the LBT Consortium should request observing time through their institution to support their scientific observations and programs. Once commissioning and early science has been completed, of the time allocated for scientific programs, 90% will be allocated to on-sky time for the program. The remaining 10% will be allocated to a pool of time managed by the Instrument and Science Teams to support engineering and key science programs.

External Collaborators

Collaborators outside of the LBT Consortium should work with their membership sponsor to ensure sufficient observing time for their programs is available.

Observing Targets

Targets proposed for iLocater observations will be vetted by team members supporting the instrument operation to ensure their suitability with the current instrument performance. In most cases there will be no issue with multiple teams proposing to observe the same targets, e.g., RV time series of the same target for multiple teams may be gathered with different observation times. If however, conflicts are insurmountable (e.g., two teams proposing to observe the same transit event of the same target, or two different time-critical events which take place simultaneously), the Co-PIs will initially work with the proposing teams to find a mutually agreeable solution, or, if no resolution

can be found, to determine which program should move forward. In the event of unavailability or a conflict of interest of one of the Co-PIs, (e.g., one of the Co-PIs is a Co-I on one of the observing programs) an alternative member of the Science Team will be appointed in their place to resolve the issue.

Information Sharing & Data Access

Data may not be shared outside of the collaboration membership without explicit permission from the Co-PIs.

The iLocator Instrument Team will be responsible for storing and backing up all raw data. The iLocator Science Team will be responsible for performing the raw reductions and performing RV extraction. Data products will be provided in a timely manner within the best abilities and availability of members in the collaboration. During early commissioning activities (when the instrument is being optimized), delivering robust data products will likely take a significant effort as the software is developed and optimized. This may lead to delays in data products being available.

Proprietary Information

Scientific, mathematical or technical information and data, design, processes, procedures, formulae, financial information, computer programs, algorithms and other similar information is not to be disclosed publicly or used outside of the iLocator collaboration without prior authorization of the Instrument Team, Science Team or Co-PIs. Whatever is derived from proprietary information is also considered proprietary. Proprietary information does not include information publicly known at the time of disclosure, already in the possession of the receiving party, or independently developed by the receiving party.

Proprietary Period

On-sky observations taken with iLocator will follow the standard proprietary period as adopted by the LBT since 2024: data will be subject to a default proprietary period of 12 months following acquisition, during which time access will be limited to the observer and their team. During the proprietary period, data can also be used by the iLocator instrument team for engineering/quality assurance purposes. After the conclusion of the proprietary period, data will be made publicly available. Requests can be made for an adjusted (longer or shorter) period of exclusive use – this should be submitted during proposal submission with a strong scientific motivation that should be endorsed by the proposer's Time Allocation Committee (TAC) and subsequently approved by the iLocator Science Team.

Solar observations and calibration data recorded with iLocator will have no proprietary period. Such data will be made publicly available as soon as practicable within team resource limits. Observations of RV standard stars and telluric standards obtained during instrument commissioning or via time

directly controlled by the iLocator team will be made available with no propriety-period to any member of the iLocator Collaboration and will be publicly released after a 1-year proprietary period.

Authorship & Credit

Publication Policy

Publications arising from the iLocator program are governed by a co-author policy which encompasses people who are directly involved in the work included in the publication (the Authors List) and those people who have indirectly enabled it to be completed (Builder's List and Regular List). Generally, all authors should be existing members of, or be invited to join, the iLocator collaboration.

For technical publications, for example SPIE Proceedings or similar papers covering the detailed design of the instrument, these will include (in order) the Authors List and Builder's List.

For science publications in journals or conference proceedings, for example ApJ, MNRAS etc., these will include (in order) the authors, the Builder's List and the Regular List. It may also be appropriate to invite any observers as co-authors or to include an acknowledgment of their contributions.

Any author (Builder's List or Regular List) who made a significant contribution to the paper can be listed in earlier sections of the Author's List, with the first author deciding the order.

The Builder's and Regular List will be agreed by the Co-PIs and reviewed on an annual basis (in January) or as required.

All team members (Authors, Builder's and Regular list) should be explicitly notified by email regarding any publications relating to the collaboration to allow them to opt-in or opt-out as a co-author. Sufficient and realistic time should be given to those invited (10+ business days).

Builder's List

The Builder's List includes personnel who have made a key contribution to enabling the instrument design, construction and delivery. An example contribution for inclusion on the Builder's List is a person who has made a critical input to the program, or significant (>1 FTE) contribution to the instrument development and/or operation.

All members of the Builder's List will be included as co-authors on technical and science publications unless the individual notifies the lead-author to opt-out. The Builder's List will comprise (in order), the iLocator co-PIs, followed by all other members included in alphabetical order. The Builder's List should be included at the end of the Authors List.

Regular List

The opt-in Regular List includes personnel who have supported operation of the instrument and its science programs over the previous 18 months. They will have the option to opt-in to any publications being submitted while they are included on the Regular List. Authors on the Regular List will be included in alphabetical order after the Builder's List.

Citing Instrument Design Papers

All papers that make use of iLocator data should cite the following instrument design papers:

[Crepp et al. 2016: Proc. SPIE, Volume 9908, id. 990819 13 pp.](#)

[Crass et al. 2021: MNRAS, Volume 501, Issue 2, pp.2250-2267](#)

[Crass et al. 2022: Proc. SPIE, Volume 12184, id. 121841P 11 pp.](#)

Publishing to arXiv

Papers will only be posted to arXiv when accepted for publication (or later if journal policies require). In certain circumstances, the Co-PIs will decide if exceptions to this rule are justified, such as coordination with conference presentations, competition with an outside group, or delays in peer review.

Presentation Policy

Unpublished figures and analysis of data may be included in presentations, however appropriate credit must be given to the specific person/source and any relevant context included. If a presentation is made by a collaboration member at a conference or other external location (e.g. seminar/colloquium) and includes unpublished or not-previously-presented data, it should be approved by the lead of that effort (e.g. observing program PI) or the instrument Co-PIs.

Individual members and institutions can prepare press releases and should inform the Instrument and/or Science teams, who may assist these activities. In principle, press releases will be issued only after review by one of these teams, and/or with the approval of the Co-PIs. Draft press release text should be made available to the appropriate team at least one week in advance, and final text at least 2 days in advance of release. The Co-PIs have the right to veto any press release.

Reporting & Addressing Concerns

All concerns regarding compliance with the policies outlined in this agreement should be reported to the Co-PIs, Jonathan Crass and Justin Crepp. Reports may also be made to trusted individuals within the collaboration who can then pass these to the Co-PIs.

Disputes concerning authorship, including the order of co-authors will be handled by the Instrument or Science Teams (depending on the paper focus), each of which has the final authority on the issue.

Retaliation toward a member who pursues any of these options, or toward anyone assisting in the investigation and resolution of a concern or complaint, is a violation of this Collaboration Agreement and the Code of Conduct.

Amendments to this Agreement

As the instrument continues to develop, elements of this Collaboration Agreement will be updated. This will be done collaboratively with all members to solicit input and ensure a positive collaboration experience for all. Changes to this agreement require a combined majority vote of the Instrument and Science Teams.

During the annual renewal of membership, collaboration members will be asked to confirm agreement with the updated policy.