

Nominating Process for the CIG Science Steering Committee

Purpose/Rationale of the SSC:

The overall goal of the Computation Infrastructure for Geodynamics (CIG) is to develop a coherent set of software products to enable a new generation of models, modelers and model users in solid-earth geodynamics. To be effective, however, CIG needs to balance the scientific needs of the community with coherent software design that takes advantage/leverages advances in modern computational science (both software and hardware). This central mission is the primary task of the “Science Steering Committee”.

In accordance with the By-laws of CIG, a Science Steering Committee (SSC) shall be established to carry out and oversee CIG operations. The members will be selected by the Electors and will serve terms up to three years duration. The committee will be formed to determine and prioritize software development from the perspective of the Earth science and Computational science disciplines represented by the Electorate. This committee will evaluate the utility of software developed and delivered to the community by CIG. This committee will consider the community’s needs and recommend changes in the levels of support of CIG development resources. The committee will formulate policies for evaluation of user proposals for CIG software development. At least twice per year, the committee shall report in writing to the Executive Committee priorities for software development and resource allocation.

Overall structure of the SSC:

The SSC will be composed of 8 members representing the major solid-earth science disciplines and computational sciences. These representatives will work with the larger community working groups, and each other to develop and prioritize CIG tasks under the oversight of the Executive committee. Example disciplines for Earth Science representation include:

1. Seismology
2. The Geodynamo
3. Short-term crust/lithosphere dynamics (Fault interaction and Earthquake physics)
4. Long term crust/lithosphere deformation
5. Mantle Convection
6. Magma Migration/chemical transport

This makeup may vary as CIG evolves. The purpose of the Earth science representatives is to provide a breadth of expertise across the disciplines to help guide the functionality of CIG software. In addition, there will be several (2-3) members with expertise in Scientific Computation and software development to provide guidance in modern software approaches, algorithms etc.

While the nominating committee has full discretion in its choice of nominees, the following general criteria are suggested for selection of SSC candidates :

1. Commitment to the goals of the CIG
2. Community recognition and reputation of their contribution to the field and support of the community.
3. Software experience: In the case of Earth Science nominees, this implies that nominees would likely be modelers with experience in software models (as opposed to theoretical Earth Science). In the case of Computational Science nominees, this implies that nominees would likely be software developers with experience in development and distribution of software based on portable frameworks (as opposed to theoretical numerical methods).
4. Ability to devote time and resources to carrying out the roles of the SSC. While there are no fixed requirements for time or resource commitments, it is anticipated the SSC will take over the general day to day decision making role from the Executive, as the SSC is established. This implies that the SSC will need to have a hands-on role, requiring a significant commitment of time and resources, as opposed to a merely advising role.

SSC Nominating/selection process

CIG will fill these positions through the following process.

1. The Executive committee will form a nominating committee consisting of four (five?) members representing both Earth Science and Computational Science. Members of the nominating committee are not eligible for membership in the SSC. Current membership includes
 - Marc Spiegelman (Chair)
 - Carl Gable
 - Barry Smith (Argonne National Labs: lead designer/developer for PETSc)
 - Earth Scientist (TBD)
 - Earth Scientist? (TBD)
2. The nominating committee will solicit nominations for each position from the general CIG community (not just the member institutions) plus additions as necessary for balance, expertise, representation and diversity.
3. From these suggestions, the nominating committee will compose a slate with two candidates per position with the intention of forming a balanced slate that can work together, independent of the actual choice of candidates. A significant goal for designing this slate is to balance issues of interoperability and common computational components, while supporting specific disciplinary needs.
4. Each member institution will have one vote for each position. However, the slate will be presented to all CIG participants with instructions to inform their institutional representatives. Institutional representatives will be responsible for documenting community input.

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Time Scale:

- Nominations collected: 15 January 15 Feb (30 days)
- Slate established by 15 Feb
- Vote 15 Feb – 1 Mar