Peer Review

NIH NATIONAL CANCER INSTITUTE

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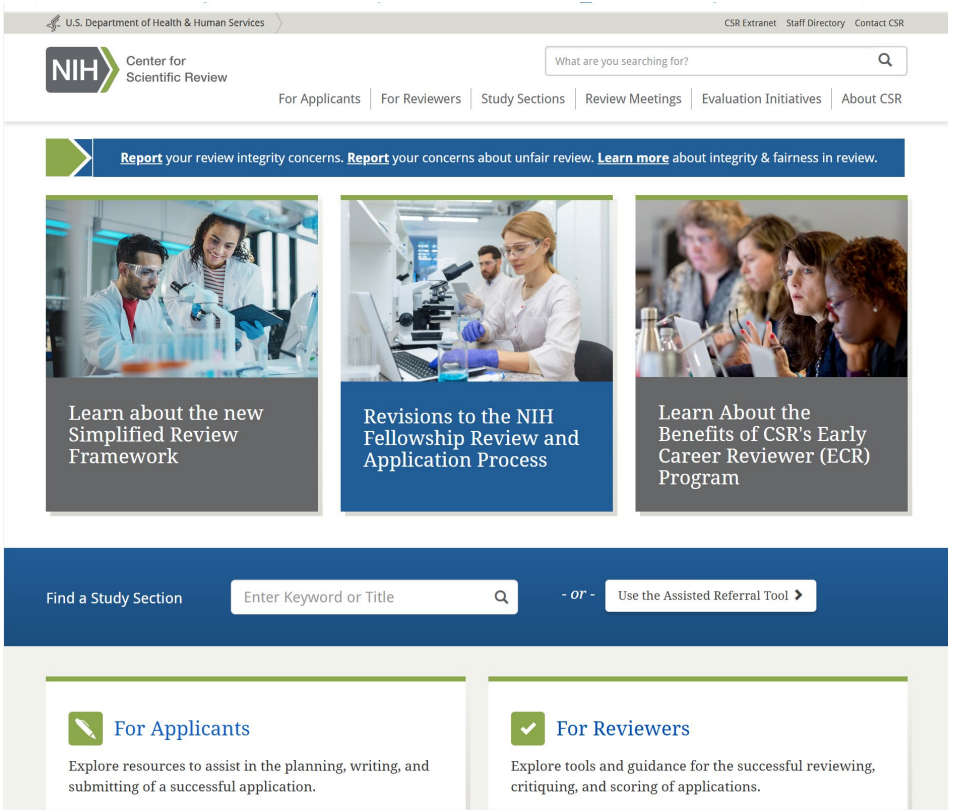
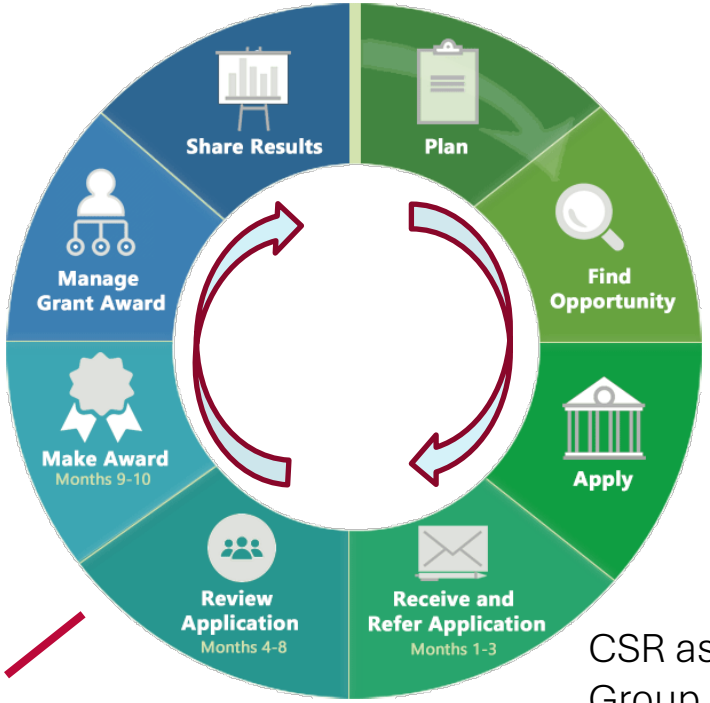
NCI

The Center for Scientific Review (CSR)

- https://public.csr.nih.gov/
- **Mission:** to see that NIH grant applications receive fair, independent, expert, and timely scientific reviews – free from inappropriate influences – so NIH can fund the most promising research.
- Reviews all applications submitted to the NIH.
- CSR has no funding authority.



Two Tiers of Review:



2nd tier of review:
Advisory Board/Council
Institute Director

1st tier of review:
Study Section

CSR assigns application to a Review Group and an NIH Institute with funding authority

Why two tiers?

- NIH peer review system is mandated by statute in accordance with section 492 of the Public Health Service Act and federal regulations governing "Scientific Peer Review of Research Grant Applications and Research and Development Contract Projects".
- **Tier 1:** carried out by a Scientific Review Group (SRG) composed primarily of non-federal scientists, with expertise in relevant scientific disciplines and current research areas. Assess scientific and technical merit
- **Tier 2:** carried out by Institute National Advisory Council/Board (i.e., NCAB). Councils are composed of both scientific and public representatives chosen for their expertise, interest, or activity in matters related to health and disease.
- **Note:** Only applications that are recommended for consideration by both the SRG and the Advisory Council may be recommended for funding.
  - Final funding decisions are made by the IC Directors.

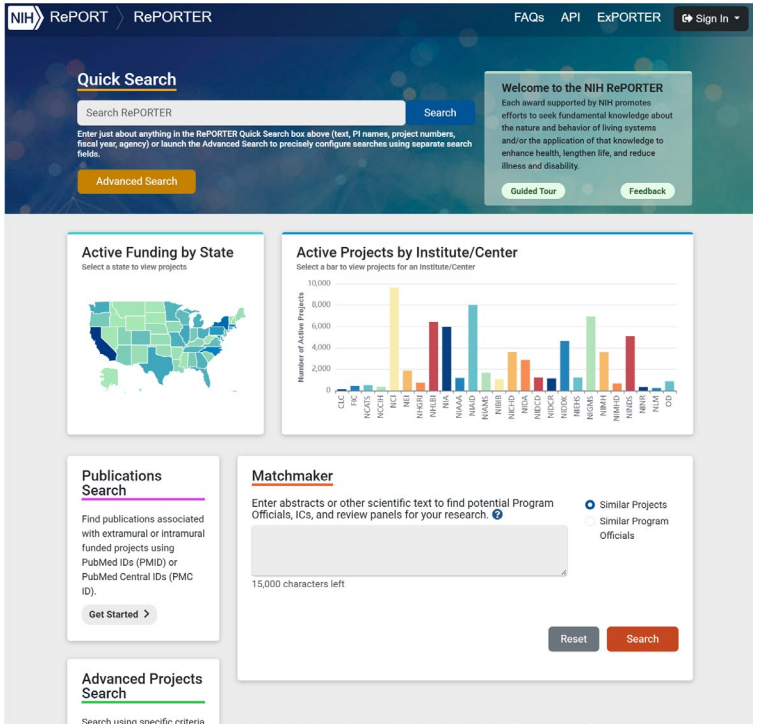
Assigning Applications:

- Scientific Review Groups:
  - How the proposed topic aligns with specific, published review guidelines for each review group
  - Consideration of suggestions made in the Assignment Request Form

- NCI:
  - **Note:** Applications can only be assigned to ICs participating in the NOFO
  - Overall mission and guidelines of the NCI
  - Specific programmatic mandates and interests of the NCI
  - NCI routing path:
    - Division of Extramural Activities (Scott Chen, PO)
      - Division, Branch, and Program Director

NIH Tools to Help Direct Your Application:

- NIH RePorter, Matchmaker:
  - https://reporter.nih.gov/matchmaker
  - Copy abstract/Aims
    - Matchmaker Search returns:
      - List of Institutes
      - List of funded grants
      - Link to Program Officials



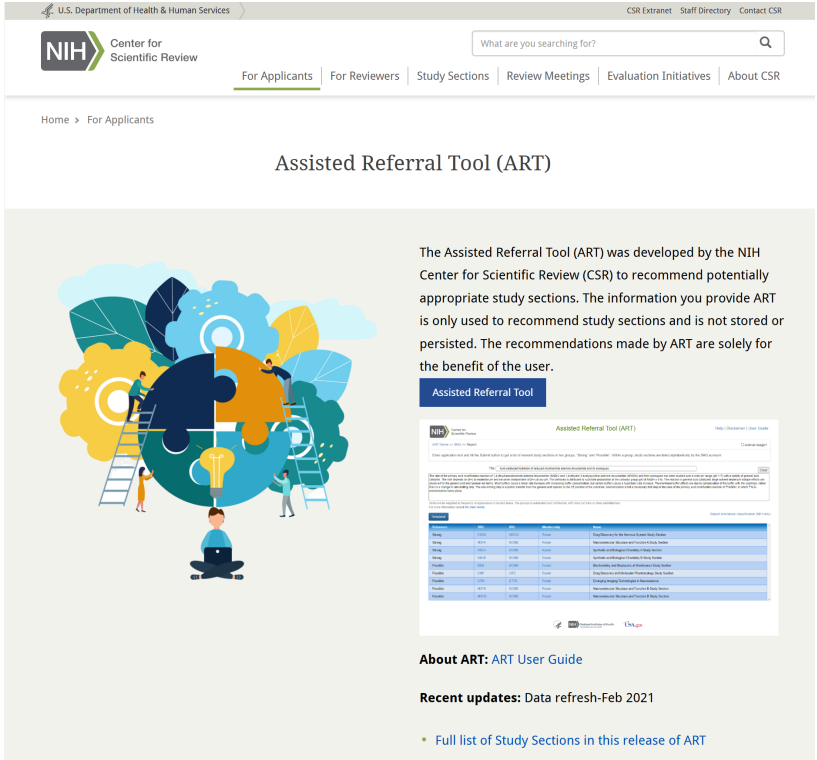
CSR Tools to Help Direct Your Application:

- Using the **CSR Assignment Request Form** you can:
  - Make assignment suggestions (study section and funding institute)
  - Identify potential conflicts of interest
  - List areas of expertise needed to evaluate the application
    - DO NOT suggest specific reviewers
  - These are suggestions **not** requests

Also:

- Assisted Referral Tool (ART)

https://public.csr.nih.gov/ForApplicants/ArtHome



SRO Puts the Review Panel Together:

- Reviewers selected by:
  - Expertise needed
  - Geographical representation
  - Career Stage
- Educates Reviewers regarding:
  - Conflict of Interest
    - Institutional
    - Family member/close friend
    - Collaborator/Key Personnel
    - Longstanding scientific disagreement
    - Personal bias
    - Appearance of conflict
  - Confidentiality
    - Life-long statute!
  - Peer review integrity
  - Peer review processes

Reviewer Responsibilities:

- Three reviewers assigned to each application.
- Each reviewer has approximately 6 – 9 applications to review
- Before the review meeting, reviewers assess each application and provide:
  - Preliminary Overall Impact score
  - Criterion scores for individual elements
  - A written critique
  - Comment on appropriateness of the budget

Reviewers will judge Impact:

- **Importance of Proposed Work**
  - The significance and innovation of the research problem – its ability to move the field/knowledge forward
  - Should it be done?
- **Likelihood of Success**
  - The ability that you can achieve your goals, as judged by your experimental design/research plan, rigor of past work and expertise of your team, and available resources
  - Can it be done?

Simplified Review Framework

- https://grants.nih.gov/policy-and-compliance/policy-topics/peer-review/simplifying-review
- Process for simplifying review began more than 5 years ago; implementation began with applications submitted on or after January 2025
- Overarching goal of the simplified peer review framework is to better facilitate the mission of scientific peer review – identification of the strongest, highest-impact research – by:
  - **1. Enabling peer reviewers to better focus on answering the key questions necessary to assess the scientific and technical merit of proposed research projects:**
    - Should the proposed research project be conducted?
    - Can the proposed research project be conducted?
  - **2. Mitigating the effect of reputational bias** by refocusing the evaluation of investigator/environment to within the context of the proposed research.
  - **3. Reducing reviewer burden** by shifting policy compliance activities to NIH staff.

Impact and Simplified Review Framework

- What's New: Review Framework changed from 5 elements to 3 Factors:

Before January 25, 2025

- Significance - scored
- Investigator(s) – scored
- Innovation – scored
- Approach – scored
- Environment - scored

After Jan 25, 2025 - Simplified Framework
(all considered in Overall Impact Score)

- **Factor 1: Importance of the Research**
  - Significance, Innovation
  - **Scored 1-9**
- **Factor 2: Rigor and Feasibility**
  - Approach (*also include Inclusions and Study Timeline for clinical trials*)
  - **Scored 1-9**
- **Factor 3: Expertise and Resources**
  - Investigators, Environment
  - Evaluated as appropriate or gaps identified; gaps require explanation
  - **Considered in overall impact; no individual score**

Review Meetings

- Applications clustered by PI status – new/early-stage and established investigators
- Applications clustered by discussion status (yes/no),
  - Discussed applications do not require consensus
  - Non-discussed applications do require that panel agreement
- Each cluster is randomly ordered

- **Discussion:**
  - Preliminary scores (1 – 9)
  - Reviewer presentations
  - Panel discussion
  - Revisit scores by reviewers
  - Call for any out-of-range votes?
  - Discussion of non-scorable elements
    - Budget, sharing plans etc.

Other General Review Comments:

- Resubmitted or renewal applications are interspersed with new applications (i.e., not clustered)
  - Reviewers have access to the summary statement of the previous iteration, but not the application
  - Reviewers are instructed to consider the comments of the previous review and the responses, but can identify new issues
  - Reviewers assigned to resubmitted applications are likely to be different than those who reviewed the initial application
- Applicants cannot submit unsuccessful applications as new ones until the summary statement is available.

Resource Links:

- All things grants and grantsmanship:
  - https://grants.nih.gov/grants/oer.htm
  - https://www.csr.nih.gov/ResourcesforApplicants
- What's been funded:
  - https://reporter.nih.gov/
- Study Sections and their Descriptions:
  - https://public.csr.nih.gov/StudySections

WRITING YOUR APPLICATION:

There is no amount of Grantsmanship that will turn a bad idea into a good one …

… but there are many ways to disguise a good idea.

Dr. W. Raub
Past Deputy Director, NIH

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www.cancer.gov

www.cancer.gov/espanol