U.S. Department of Health & Human Services

NIH Center for Scientific Review

# The NIH Peer Review Process

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Scientific Review Officer
Cardiovascular and Sleep Epidemiology (CASE) Study Section
Population Sciences and Epidemiology Integrated Review Group
Division of AIDS, Behavioral, and Population Sciences

Outline

- NIH peer review system

- Review process for a research grant application

- Information about CSR and study section assignment

- Review process: Before the study section meeting

- Review process: At the study section meeting

- Post-meeting information

- Becoming a reviewer

- NIH peer review resources

- Answers to questions

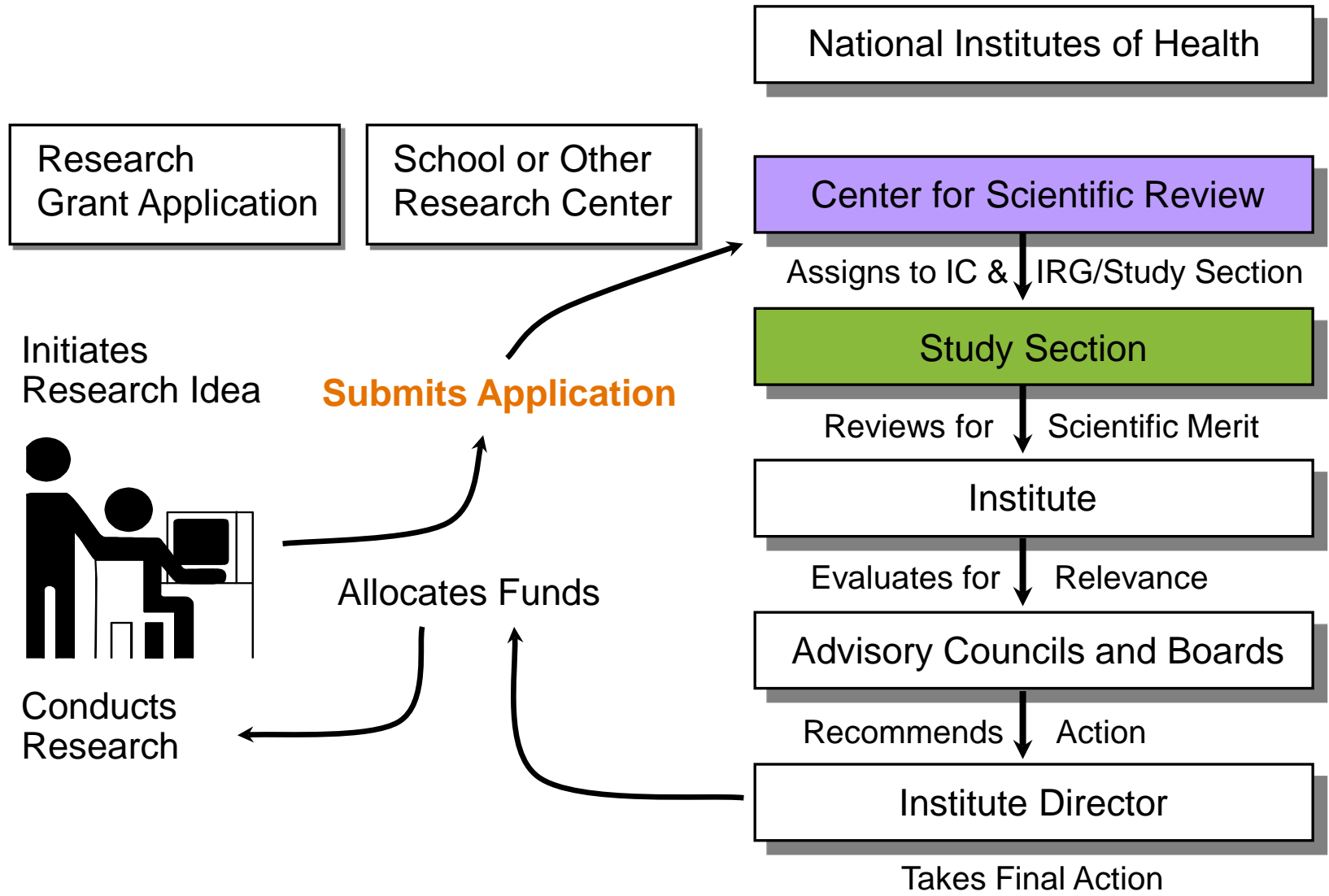# NIH Peer Review System for Grant Applications
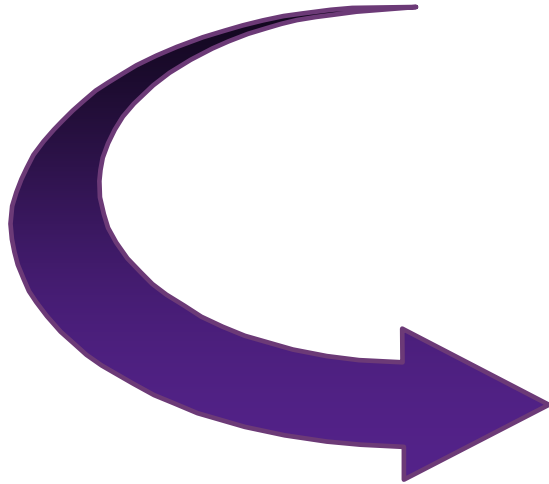
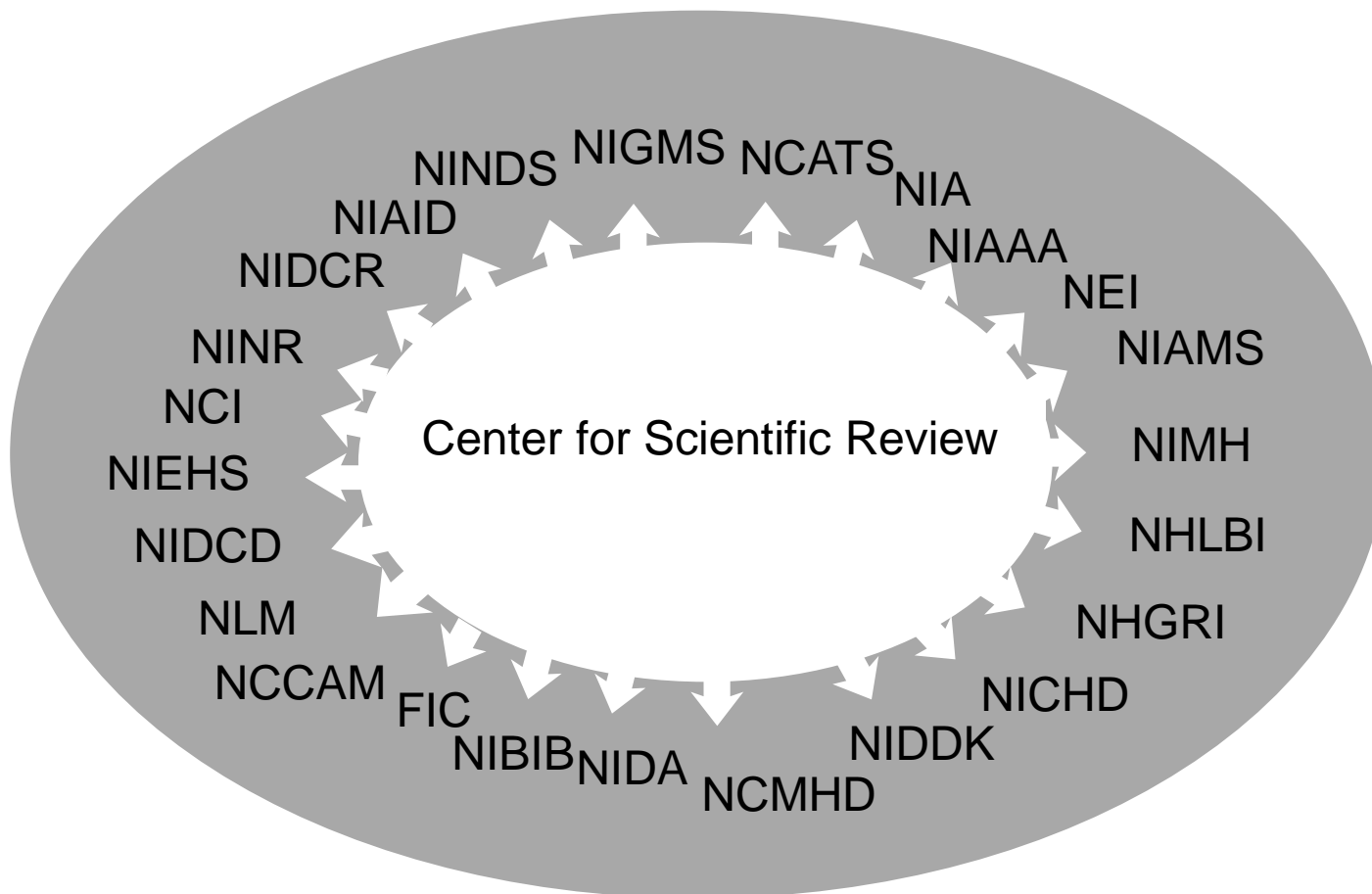First Level of Review
Scientific Review Group
(Study Section)

Second Level of Review
NIH Institute/Center Council

Review Process for a Research Grant

National Institutes of Health

Research Grant Application

School or Other Research Center

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Assigns to IC & IRG/Study Section

Study Section

Reviews for Scientific Merit

Institute

Evaluates for Relevance

Advisory Councils and Boards

Recommends Action

Institute Director

Takes Final Action

Initiates Research Idea

Submits Application

Allocates Funds

Conducts Research

24 NIH Institutes and Centers Fund Grants

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Referral

- Central receipt point for most PHS Grant Applications
- Institute/Center assignment (potential funding component)
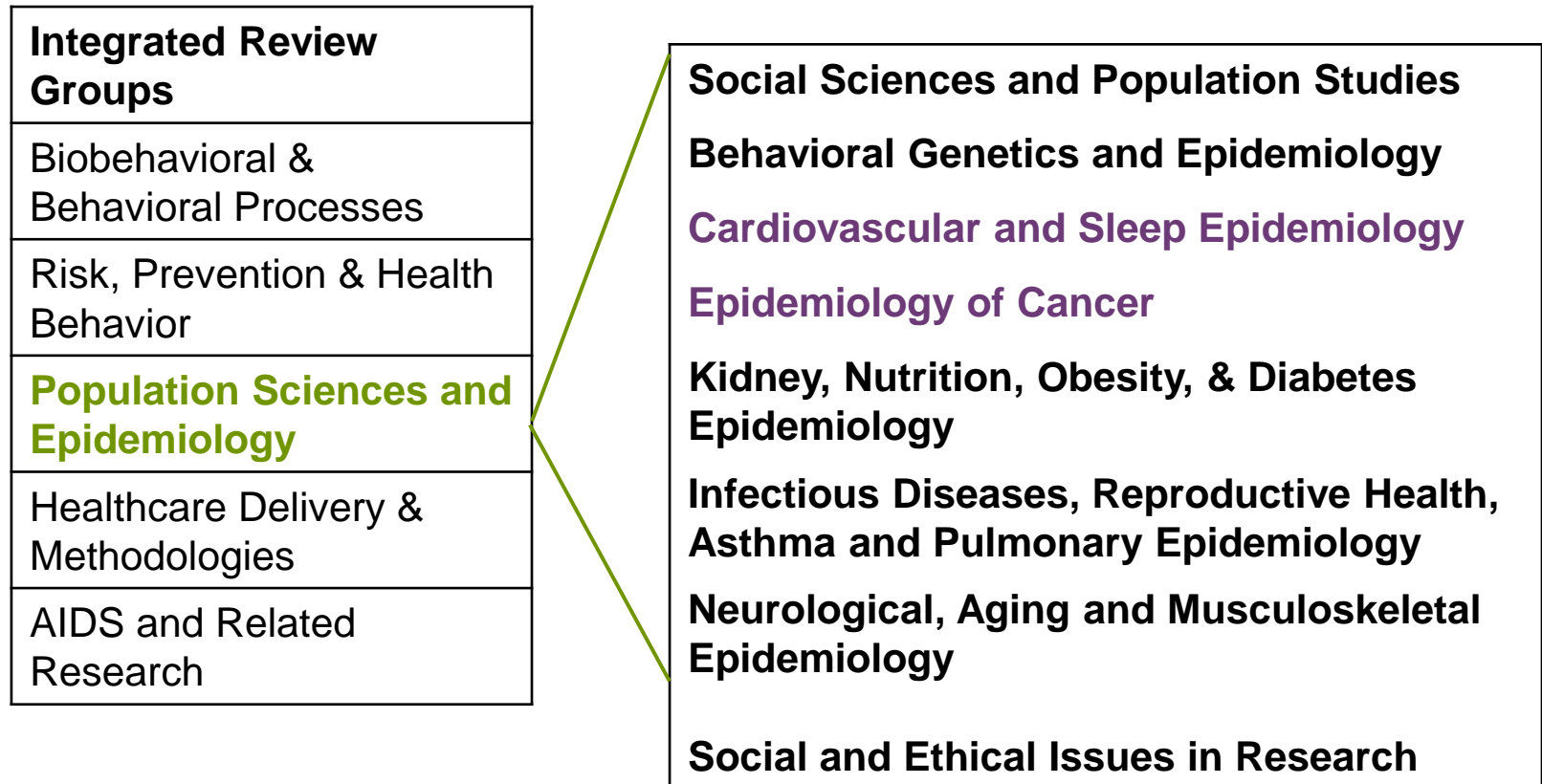- Assignment to Scientific Review Group in CSR or in an Institute

Scientific Review

- Approximately 240 CSR chartered study sections and regularly recurring Special Emphasis Panels that primarily review:
  - Research Grant Applications
  - Fellowship Applications
  - Academic Research Enhancement Award Applications
  - Small Business Innovation Research Applications

Applications Are Assigned to:

- **Institutes or Centers based on─**
  - Overall mission and guidelines of the Institute or Center
  - Specific programmatic mandates and interests of the Institute or Center

- **Integrated Review Groups based on─**
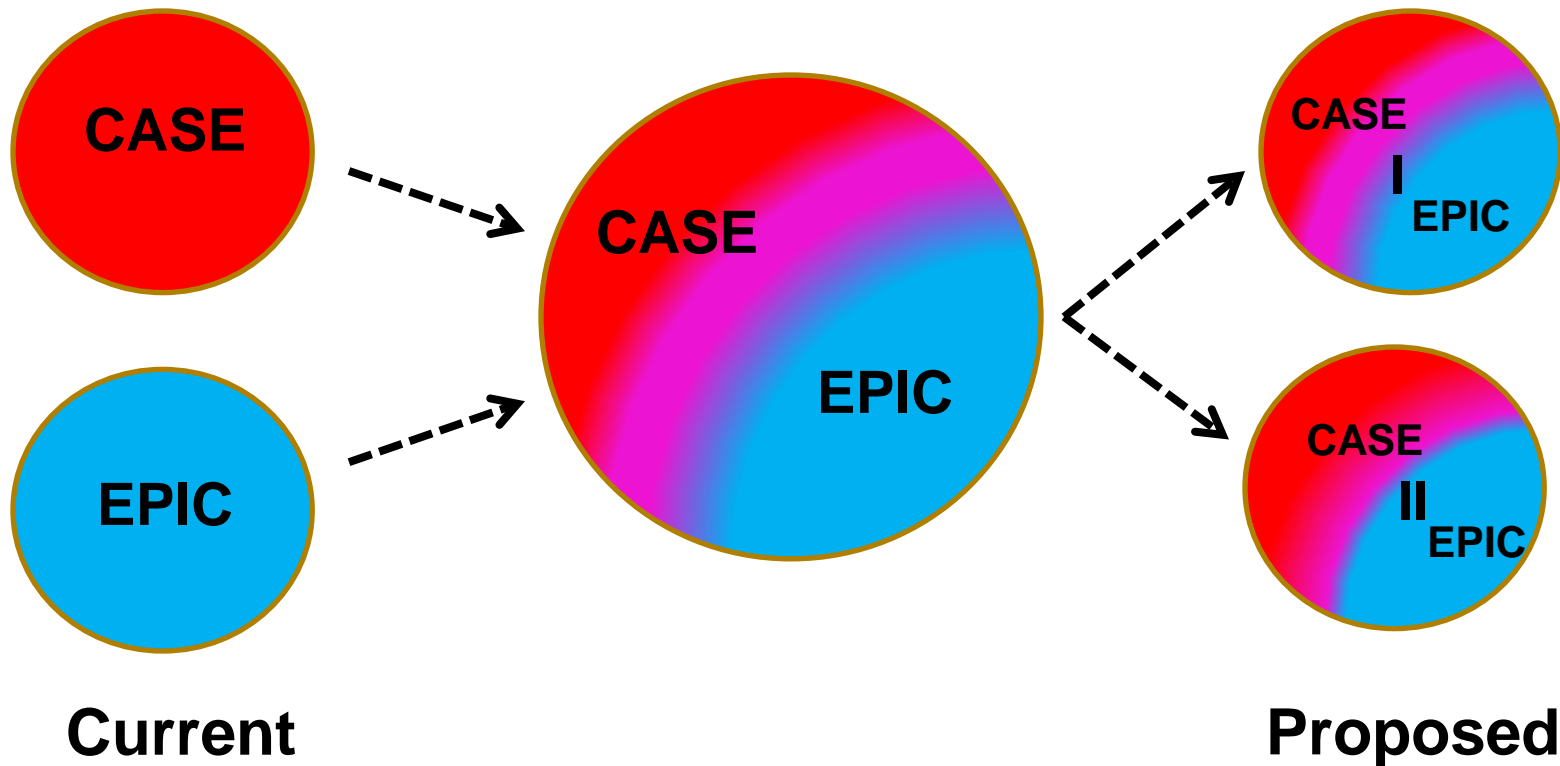 - Specific review guidelines for each Integrated Review Group (IRG)

CSR Divisions Include Integrated Review Groups

Division of AIDS, Behavioral and Population Sciences

Integrated Review Groups
Biobehavioral & Behavioral Processes
Risk, Prevention & Health Behavior
Population Sciences and Epidemiology
Healthcare Delivery & Methodologies
AIDS and Related Research

Social Sciences and Population Studies
Behavioral Genetics and Epidemiology
Cardiovascular and Sleep Epidemiology
Epidemiology of Cancer
Kidney, Nutrition, Obesity, & Diabetes Epidemiology
Infectious Diseases, Reproductive Health, Asthma and Pulmonary Epidemiology
Neurological, Aging and Musculoskeletal Epidemiology
Social and Ethical Issues in Research

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CASE-EPIC Twin Study Section Pilot

Current

Proposed

- Duration of the pilot: 2-3 review rounds
- Applications submitted for the February/March 2014 receipt dates (to be reviewed in June 2014) and thereafter will be assigned to one of the two new study sections.

Assignment to CSR Study Sections

Within an IRG, applications are assigned to:

Standing Study Sections

- When subject matter of application matches the referral guidelines for the study section or

Special Emphasis Panels (SEPs)

- When the subject matter does not fit into any study section
- When assignment of an application to the most appropriate study section creates a conflict of interest
- When certain types of grants are sought (e.g., fellowships, SBIRs, AREAS)

Help Get Your Application to the Right Study Section

- Review CSR Integrated Review Group and Scientific Review Group (Study Section) guidelines to identify a home for your application.

- Submit a Cover Letter!

http://www.csr.nih.gov/

Help Your Application Get to the Right Study Section

Study Section

http://public.csr.nih.gov/StudySections/Pages/default.aspx

Cover Letter

The cover letter should be used for a number of important purposes:

- Suggest Institute/Center assignment
- Suggest review assignment
- Identify individuals in potential conflict and explain why
- Identify areas of expertise needed to evaluate the application
- Discuss any special situations

It is NOT appropriate to use the cover letter to suggest specific reviewers.

http://public.csr.nih.gov/ApplicantResources/PlanningWritingSubmitting/Pages/Cover-Letters-Help-Us-Refer-and-Review-Your-Application-.aspx

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Sample Cover Letter

Please assign this Phase I SBIR "Drugs for Retinoblastoma Treatment" (RFA-CS-00-000) to the following:

    Institutes/Centers
        National Cancer Institute
        National Eye Institute
    Scientific Review Group
        Oncology Translational and Clinical IRG

Please do not assign this application to the following:
    Scientific Review Group
        Biological Chemistry and Macromolecular Biophysics

This study focuses on a new in vitro model for testing drugs for treatment of retinoblastoma, <u>not</u> the synthesis of new chemotherapeutic agents.

Overall Timeframe from Submission to Award

There are three main overlapping cycles per year

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul

Cycle 1: Receipt and Referral → Review → Council → Award

Cycle 2: Receipt and Referral → Review → Council → Award

Cycle 3: Receipt and Referral → Review → Council → Award

http://grants1.nih.gov/grants/funding/submissionschedule.htm
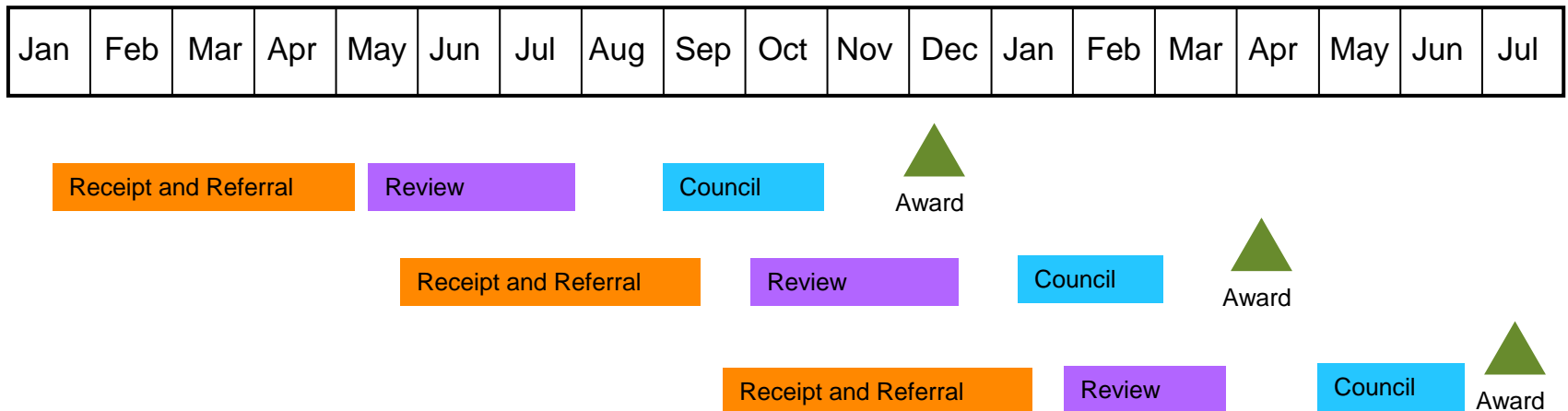
CSR Study Sections

- Each CSR standing Study Section has ~12-25 regular members plus temporary reviewers from the scientific community

- About 60-100 applications are usually reviewed by each study section in 1-2 day meetings

How Reviewers Are Selected for Study Section Service

- Demonstrated scientific expertise/research support

- Doctoral degree or equivalent

- Mature judgment

- Work effectively in a group context

- Breadth of perspective

- Impartiality

- Representation of women and minority scientists

- Geographic distribution

Confidentiality

- Review materials and proceedings of review meetings represent privileged information for reviewers and NIH staff.

- At the end of each meeting, reviewers must destroy or return all review-related material.

- Reviewers should not discuss review proceedings with anyone except the SRO.

- Questions concerning review proceedings should be referred to the SRO.

- Applicants should never communicate directly with any members of the study section about an application.

Reviewer Conflicts of Interest (COI)

What Constitutes a Reviewer COI?

- Institutional
- Family member/close friend
- Collaborator
- Longstanding scientific disagreement
- Personal bias
- Appearance of conflict

http://grants.nih.gov/grants/peer/peer_coi.htm

Before the Study Section Meeting

- Each application is assigned to 3 or more reviewers 5-6 weeks in advance

- Reviewer assess each application by providing:
  - A preliminary Overall Impact score
  - Criterion Scores for each of the 5 Core Review Criteria
  - A written critique

What Reviewers Look for in Applications

- Significance and impact
- Exciting ideas
- Clarity
- Ideas they can understand -- Don't assume too much
- Realistic aims and timelines -- Don't be overly ambitious
- Brevity with things that everybody knows
- Noted limitations of the study
- A clean, well-written application

9-Point Scoring Scale

Impact	Score	Descriptor
High Impact	1	Exceptional
	2	Outstanding
	3	Excellent
Medium Impact	4	Very Good
	5	Good
	6	Satisfactory
Low Impact	7	Fair
	8	Marginal
	9	Poor

Scoring

9-point score scale is used to provide:

- Criterion Scores for each of the 5 core review criteria
- Overall Impact/Priority Score based on but not a sum of the core criterion scores plus additional criteria

All applications receive scores:

- Not discussed applications will receive only initial criterion scores from the three assigned reviewers.
- Discussed applications also receive an averaged overall impact score from eligible (i.e., without conflicts of interest) panel members.

Review Criteria

- Overall Impact
  - Assessment of the likelihood for the project to *exert a sustained, powerful influence on the research field(s) involved*

- Core Review Criteria
  - Significance
  - Investigator(s)
  - Innovation
  - Approach
  - Environment

Review criteria each scored from 1-9

Additional Criteria Contribute to Overall Impact Scores

- Protections for human subjects

- Inclusions of women, minorities, and children

- Appropriate use of vertebrate animals

- Management of biohazards

At the Meeting

Order of Review

- The average of the preliminary Overall Impact score from the assigned reviewers determines the review order
- Discussions start with the application with the best average preliminary Overall Impact score

Clustering of Review

- New Investigator R01 applications are clustered
- Clinical applications & other mechanisms may be clustered (n ≥ 20)

Not Discussed Applications

- About half the applications will be discussed
- Applications unanimously judged by the review committee to be in the lower half are not discussed

At the Meeting: Application Discussion

- Any member in conflict with an application leaves the room

- Reviewer 1 introduces the application and presents critique

- Reviewers 2 and 3 highlight new issues and areas that significantly impact scores

- All eligible members are invited to join the discussion and then vote on the final overall impact score

Priority Scores/Percentile Rank
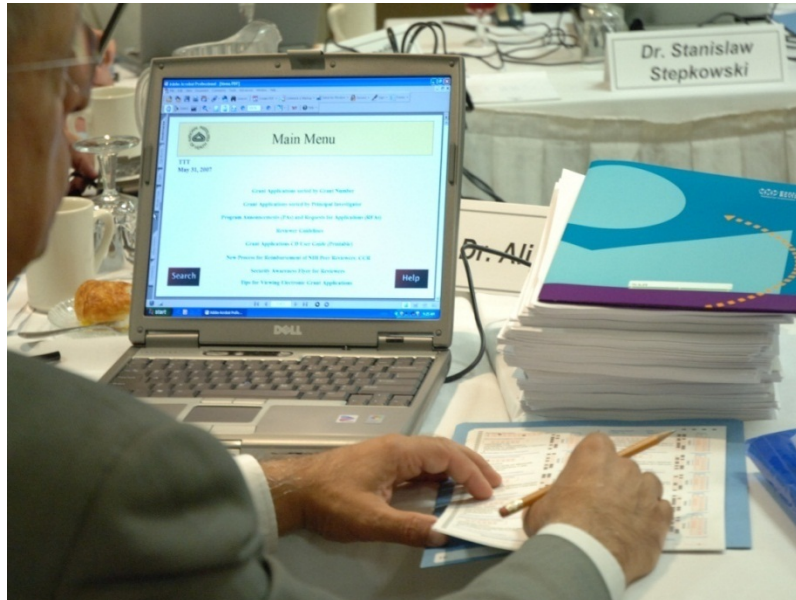
- For each study section, applications in the upper half may be scored from 1-9, with 1 the best score.

- Individual scores are averaged and multiplied by 10 to give the final priority score

Not Discussed Applications

- Reviewers discuss half of the applications in each cluster, beginning with the best

- The panel will discuss any application any reviewer wants to discuss

- Not discussed applications will only be assigned criterion scores

Summary Statement

Feedback to the applicant and the assigned NIH Institute(s) or Center(s) that may fund it.

- Essentially unedited critiques
- Scores for each review criterion
- Administrative notes if any

Additional information for discussed applications

- Summary of review discussion
- An overall impact/priority score and percentile ranking
- Budget recommendations

Summary Statement

Program Officer

SUMMARY STATEMENT
(Privileged Communication)

PROGRAM CONTACT:
BARBARA CROFT PH.D.
301 496-9531
erastage@mail.nih.gov

Release Date: 04/04/2008
Revised Date: 01/06/2009

Application Number:

Principal Investigator

Applicant Organization:

Review Group: GCMB
Gastrointestinal Cell and Molecular Biology Study Section

Meeting Date: 03/24/2008
Council: MAY 2008
Requested Start: 07/01/2008

RFA/PA: PA01-295
PCC: 2A

Project Title:

SRG Action: Impact/ Priority Score: 20
Human Subjects: 10-No human subjects involved
Animal Subjects: 10-No live vertebrate animals involved for competing appl.

Impact/Priority Score 10-90 range

Project Year	Direct Costs Requested		Estimated Total Cost
1	250,000	Percentile: 29	291,200
2	250,000		291,200
3	250,000		291,200
4	250,000		291,200
5	250,000		291,200
TOTAL	1,250,000		1,456,000

Percentile in whole numbers

ADMINISTRATIVE BUDGET NOTE: The budget shown is the requested budget and has not been adjusted to reflect any recommendations made by reviewers. If an award is planned, the costs will be calculated by Institute grants management staff based on the recommendations outlined below in the COMMITTEE BUDGET RECOMMENDATIONS section.
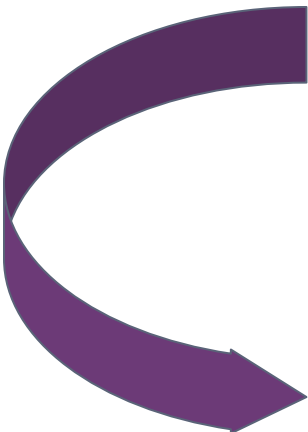
EARLY STAGE INVESTIGATOR

NEW INVESTIGATOR

New Indicator for Early Stage Investigators

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Your Application Was Reviewed
What Do You Do Next?

Visit NIH's Next Steps Website

http://grants.nih.gov/grants/next_steps.htm

A Window to Your Application: eRA Commons

eRA Commons is an online interface where a grant applicant can:

- Check submitted grant application for errors and warnings and view final image
- Track review assignment, view review outcomes (score, summary statements), find contact info
- Update Personal Profile to ensure Early Stage Investigator eligibility is in place
- Submit pre-award information (just in time)
- View Notice of Award and other key documents

And much more!

https://commons.era.nih.gov/commons/

Who Can Answer Your Questions?

Before You Submit Your Application

- A Program Officer at an NIH Institute or Center
- Scientific Review Officer

After You Submit

- Your Scientific Review Officer

After Your Review

- Your Assigned Program Officer

GrantsInfo: GrantsInfo@nih.gov – 301 435-0714

Requirements for Being an Early Career Reviewer

- Has not reviewed for CSR beyond one mail review

- Demonstrates training, experience or qualifications in the discipline and fields of the scientific areas under review as evidenced by:
  - A faculty appointment or equivalent
  - An active independent research program and recent publications in peer reviewed research journals
  - Other relevant credentials or experience

- Does not necessarily have NIH or equivalent funding

Apply to the ECR Program

- Information available at www.csr.nih.gov/ECR

- Send a current CV and a list of terms that describe your scientific expertise to CSREarlyCareerReviewer@mail.nih.gov

- Nominations of qualified researchers are welcomed

- Self-nominations are welcomed

- We will determine your eligibility

- If eligible, your name will be placed into our ECR database

- You will be invited to serve as an ECR when your expertise is needed for particular applications
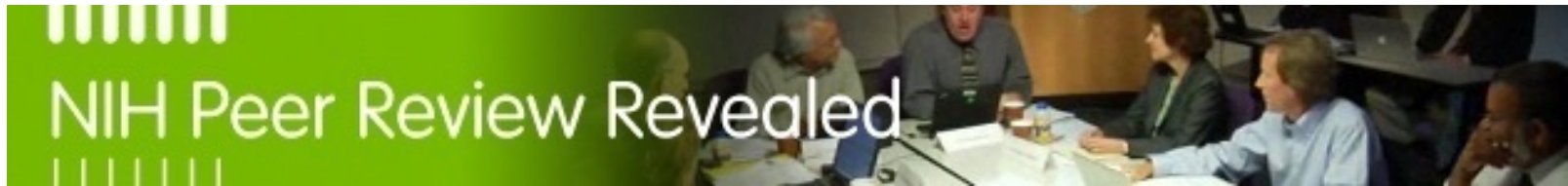
NIH Peer Review Information on the Web

National Institutes of Health: http://www.nih.gov

- **Office of Extramural Research**
  http://www.nih.gov/grants/oer.htm

- **Grants Policy**
  http://www.nih.gov/grants/policy/policy.htm

- **Electronic Submission**
  http://era.nih.gov/ElectronicReceipt

Center for Scientific Review: http://www.csr.nih.gov

- **Resources for Applicants**
  http://www.csr.nih.gov/ResourcesforApplicants

- **CSR Study Section Descriptions**
  http://public.csr.nih.gov/StudySections

- **CSR Rosters and Meeting Dates**

  http://public.csr.nih.gov/RosterAndMeetings

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View the Videos

- NIH Peer Review Revealed

- NIH Tips for Applicants

- What Happens to Your NIH Grant Application

http://www.csr.nih.gov/video/video.asp