



# Peer Review Process Biostatistical Methods and Research Design study section (BMRD)

Karen Nieves-Lugo, SRO

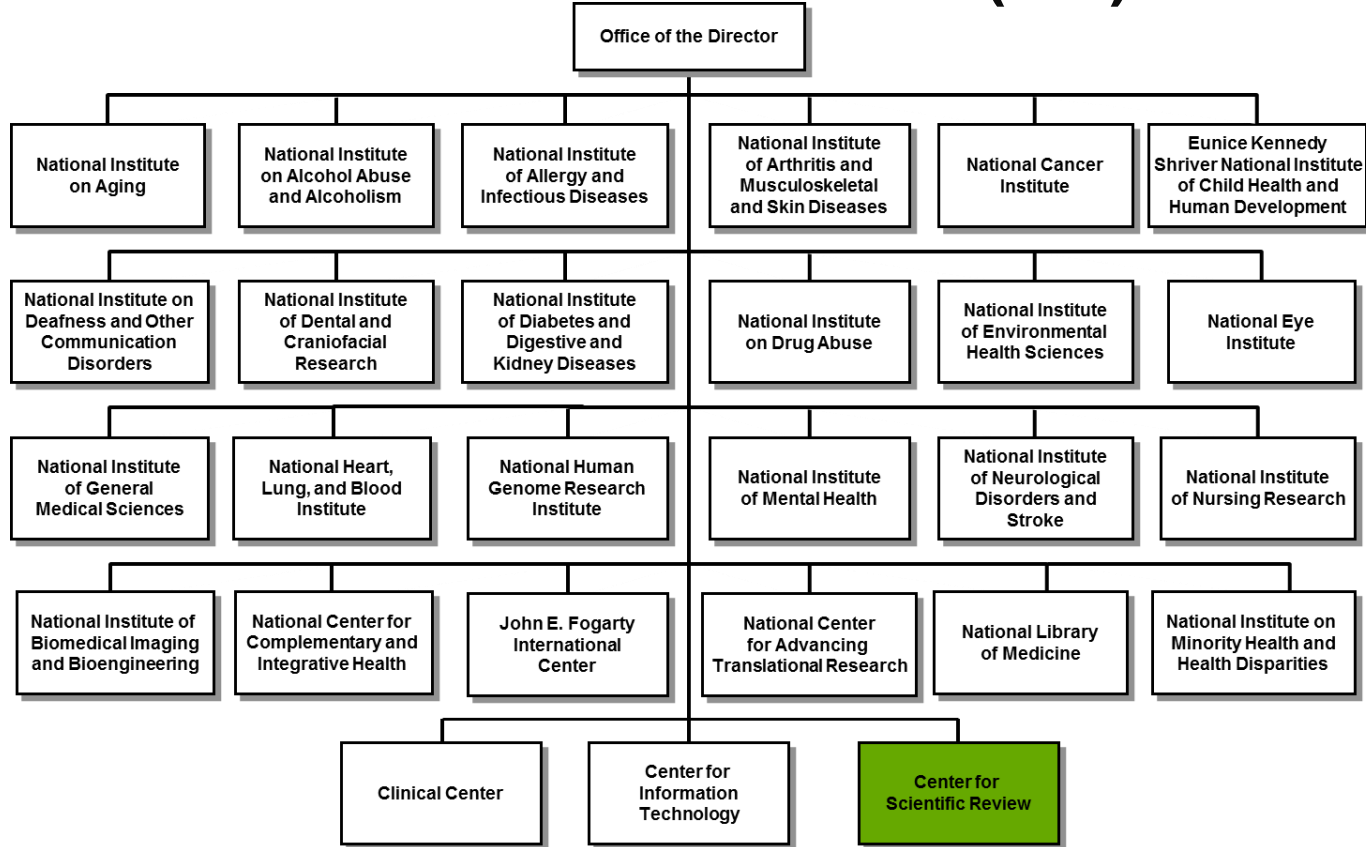
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# National Institute of Health (NIH) . . . Turning Discovery Into Health



NIH's mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

# Your Application Could Be Funded by One of 24 NIH Institutes or 3 Centers (ICs)



# The Gateway for NIH Grant Applications

## The Center for Scientific Review (CSR)



CSR Building

- **Central receipt point for grant applications** submitted to NIH and some other DHHS agencies
- **Assigns applications to NIH Institute(s)/Center(s)** as potential funding component(s)
- **Assigns applications to CSR review groups/study sections** or institute scientific review groups
- **Conducts initial scientific merit review of most** research applications submitted to the NIH in about 240 Study Sections and regularly recurring Special Emphasis Panels

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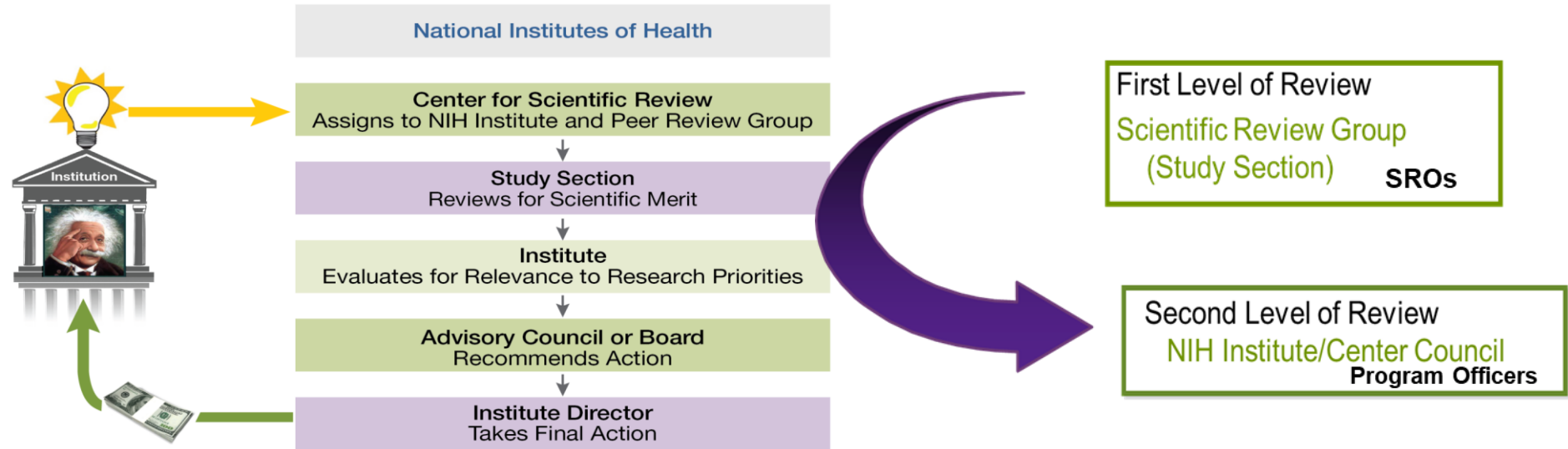


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IMM - Dr. Elaine Sierra-Rivera (Acting)

# CSR Organizational Chart

# NIH Peer Review



# Help Your Application Get to the Right Study Section

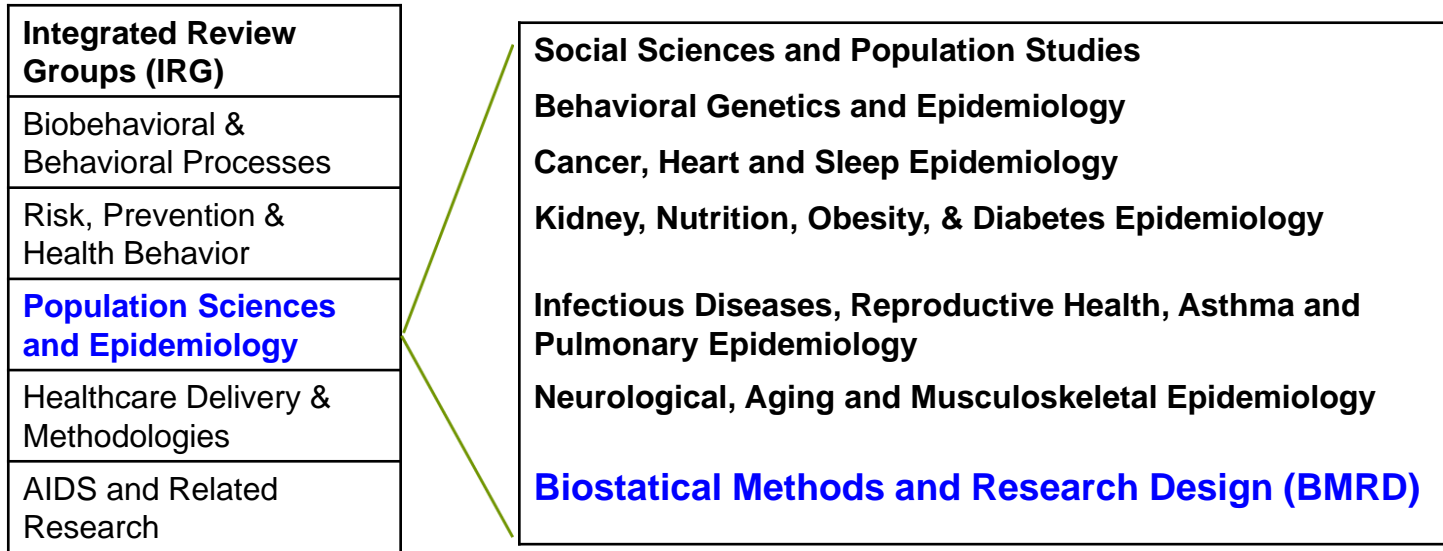
The screenshot shows the NIH Center for Scientific Review website. At the top left is the NIH logo and the text "Center for Scientific Review". To the right is a search bar with the placeholder text "What are you searching for?". Below the logo and search bar is a navigation menu with links: "For Applicants", "For Reviewers", "News & Policy", "Study Sections", "Review Panels & Dates", and "About CSR". The main content area features a large image of three people sitting at a table. Overlaid on this image is a dark grey box with the text "Find a Good Study Section" and "New tool to help applicants find a CSR study section." Below this text is a "Learn More" button. At the bottom of the page is a blue navigation bar with the text "Find a Study Section" on the left, a search input field with the placeholder "Enter Keyword or Title" and a magnifying glass icon, and a button on the right that says "- or - Use our Guided Study Section Selector >".

Key Word **Search**

Assisted Referral Tool  
**Search**

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

# Division of AIDS, Behavioral and Population Sciences





# Biostatistical Methods and Research Design Study Section – (BMRD)

- The BMRD Study Section reviews applications which **seek to advance statistical and mathematical techniques and technologies** applicable to the experimental design and analysis of data in biomedical, behavioral, and social science research.
- Emphasis is on statistical quantitative methods to aid in the design, analysis, and interpretation of clinical, genomic, and population-based research studies. **This includes analytic software development, refinement and novel application of existing statistical methods, and secondary data analyses utilizing existing database resources.**

<https://public.csr.nih.gov/StudySections/DABP/PSE/BMRD>

# Topics:

- **Development and validation of new statistical genetic methods and computational algorithms and software.**
- **Development of new statistical tools**, methods, and software for precision medicine and data science; data fusion of proteomic, genomic, metabolomics, behavioral, social, and geospatial data; fusion of data at multiple time scales.
- **Development of statistical modeling methods**, including computational and mathematical approaches to research into complex social behavior.
- **Development of statistical methods** for scalable image analysis.
- **High dimensional data methods**, such as those arising from: genomic technologies, proteomics, metabolomics, transcriptomics, sequencing, and imaging studies; development and applications of methods for data mining; statistical innovation in decision support, statistical machine learning, Bayesian networks, neural networks and outcome prediction; statistical methods for high throughput data; and development of novel techniques for biomarker identification.

# Topics:

- **Novel analyses of existing datasets**; innovative application of existing or development of new statistical and computational methodologies; application of methods in **substantially new areas of application**; innovative, non-routine data analysis strategies including combinations of existing methods rather than de novo development of new methods; development and evaluation of novel analytic tools to address new questions within existing data sets.
- **Research design**: development and innovative application of randomized trial designs; adaptive designs; mixed methods; sample size determination; design issues for experimental and observational studies; methods to improve study design efficiencies; methods for survey sample design; methods for comparative effectiveness studies; statistical and methodological approaches for the social and behavioral sciences.
- **Data collection and measurement**: development and adaption of methods to estimate and improve data precision, reliability, and validity; methods to estimate and adjust for bias, measurement error, confounding, sampling and non-sampling error; psychometric methods.
- **Data analysis and modeling**: development of statistical theory, analytic methods and models, computational tools, and algorithms for the analysis and interpretation of data from clinical studies, randomized trials, observational studies, epidemiological studies, human genetic association studies, environmental studies, complex surveys, large databases, and registries; methods to handle data features and anomalies such as correlation, clustering, and missing data; risk prediction and forecasting methods; causal modeling.

# BMRD Shared Interests and Overlaps with Other Study Sections

## Biodata Management and Analysis (BDMA)

- Applications whose primary focus is on software and database development, refinement, and hardening as well as image analysis software.
- Applications which develop image databases.

## Genomics, Computation Biology and Technology (GCAT)

- Applications whose primary focus is the development of methods to address specific questions in genetics or genomics.

## Clinical Informatics and Digital Health (CIDH)

- Applications which develop software for: digital health; privacy or secure communication of health data; mobile applications or platforms (“apps”); and integration of mobile sensors, platforms, and or databases

## Clinical Data Management and Analysis (CDMA)

- Applications whose primary focus is the clinical translation or application of computing and data mining methods and technology for clinical decision support.
- Applications which use image analysis systems or radiological-based models to provide clinical decision support.

<https://public.csr.nih.gov/StudySections>



CSR Study Section Meeting

## CSR Study Sections: The Meeting

- Each CSR standing Study Section has ~12-22 regular members plus temporary reviewers from the scientific community.
- About ~70 applications are reviewed by each study section in 1-2 days meeting

# The SRO Assigns at Least Three Reviewers to an Application



# Become a Reviewer

# Become a Reviewer

- Check Out Our Early Career Reviewer (ECR) Program: [www.csr.nih.gov/ecr](http://www.csr.nih.gov/ecr)
- View the video Jumpstart Your Research Career with CSR's Early Career Reviewer Program: [www.csr.nih.gov/video/video.asp](http://www.csr.nih.gov/video/video.asp)



[www.csr.nih.gov/review4CSR](http://www.csr.nih.gov/review4CSR)





# Early Career Reviewer (ECR) Service

- Assigned 2 applications as 3<sup>rd</sup> reviewer
- Write full critiques for assigned applications
- Participate in one study section meeting
- **Apply! Instructions at [www.csr.nih.gov/ECR](http://www.csr.nih.gov/ECR)**

# Resources



## Before You Submit Your Application

Visit the NIH Central Resource for Grants and Funding Information  
<https://grants.nih.gov>

Contact a Program Officer at an NIH Institute or Center  
<http://www.csr.nih.gov>

Contact a Scientific Review Officer



## Peer Review Process

Your Scientific Review Officer  
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Lisa Steele (PSE Chief)  
[lisa.steele@nih.gov](mailto:lisa.steele@nih.gov)



## After Your Review

Your Assigned Program Officer