

CSR Advisory Council Update March 30, 2020

Noni Byrnes, Ph.D.

Director

Center for Scientific Review

Welcome: CSR Advisory Council Members



Jinming Gao, Ph.D. Professor of Pharmacology and Otolaryngology University of Texas Southwestern Medical Center



José López, M.D. Professor Hematology **University of Washington**



Julie Price, Ph.D. **Professor And Investigator** Radiology and Biomedical Imaging Harvard Medical School



Alfred George, M.D. Magerstadt professor and Chair Department of Pharmacology Northwestern University



Scott Miller, Ph.D. Irénée Dupont Professor Chemistry Yale University



Elizabeth Villa, Ph.D. **Assistant Professor Biological Sciences** University of California, San Diego



Yasmin Hurd, Ph.D. Professor Psychiatry, Neuroscience, Pharmacology and System Therapeutics Mount Sinai School of Medicine



Tonya Palermo, Ph.D. Professor and Associate Director Anesthesiology and Pain Medicine **University of Washington**



Mark Peifer, Ph.D. **Hooker Distinguished Professor** Biology University of North Carolina, Chapel Hill





Denise Wilfley, Ph.D. Scott Rudolph University Professor Psychiatry, Pediatrics, Psychological and **Brain Sciences** Washington University at St. Louis



Deanna Kroetz, Ph.D. Professor Bioengineering and Therapeutic Sciences University of California, San Francisco



Welcome...CSR Advisory Council Ad Hocs



Vinay Aakalu, M.D., MPH

Associate Professor
Department of Ophthalmology Oculoplastic &
Reconstructive Surgery Service
University of Illinois, College Of Medicine



Betty Sue Pace, M.D.

Professor
Department of Pediatrics, Biochemistry
& Molecular Biology
Augusta University



Michelle C. Janelsins, Ph.D.

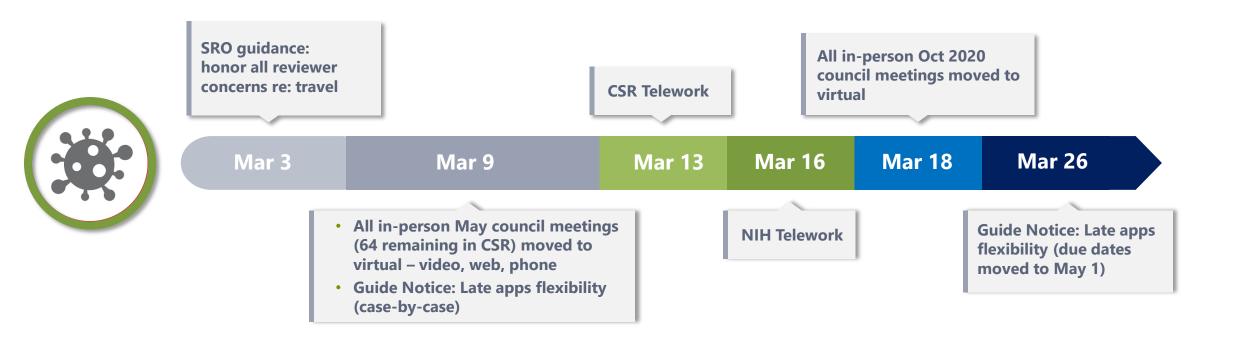
Associate Professor Department of Surgery, Neuroscience, and Radiation Oncology University of Rochester, Medical Center







COVID-19 timeline of events: peer review





A Special Thanks....

Events Management

- ★ Ashlee Outlaw
- ☆ Lauren Gibson
- ☆ Allan Philip
- ☆ Alexis Duncan
- ☆ Klohie Sourbeer



Committee Management

- ☆ Sharon Sealey
- ☆ Brenda Derflinger
- ★ Kathy Dinterman
- ☆ Esther Birbalsingh ☆ Rebecca Feuerherd
- ☆ Wendy Remsburg



VAM Support

- ☆ James Geng ☆ Yuvi Hurtado
- ☆ Steve Bailey
- ☆ Eddie Bedon



Review Technical Assistants

- ☆ Robert Alleyne
- ☆ Sarah Olscamp
- ☆ Lori Stoller-Cruz



Desktop Support

- ★ Eduardo Bedon
- ☆ Steven Johnson
- ☆ Ephraim Johnson
- ☆ Steven Bailey
- ☆ Mohammad Emon
- ☆ Brian Pomykala
- ☆ Jeremy Cole
- ☆ Nicholas Moore



Scientific Review Evaluation Activity

- ☆ Melinda Bennett
- ☆ Diane Wallace
- ☆ Minh-Thao Tran
- ☆ Paula Orye
- ☆ Robert Bates
- ☆ Joyce Coffman
- ☆ Mark Cruz
- ☆ Fauzia Moore-Alfred
- ☆ Pat Ouasi
- ☆ Sheila Rosa
- ☆ Thanh Ta
- ☆ Alexandra Gomez
- ☆ Ian Henderson
- ☆ Chrisoula Jennings
- ☆ Dianne Massay
- ★ Antoinette Shannon
- ★ Lata Shelat
- ☆ Petal Sampson
- ☆ Saba Hamid
- ☆ Ben Irvin
- ☆ Mary Liu
- ☆ Fatima Reed
- ☆ Leonard Reynolds, Jr.
- ★ Mark Baron
- ☆ David Benn





Lauren Gibson

















Kristin Kramer





Ross Shonat







Since Oct 2019: Leadership and Management Transitions



Deputy Director Bruce Reed



Division of Physiological and Pathological Sciences – Division Director Ross Shonat



Division of Basic and Integrative Biological Sciences – Division Director Ray Jacobson



Population Sciences and Epidemiology IRG Chief
Lisa Steele



SRO Handbook and Policy Coordinator Miriam Mintzer



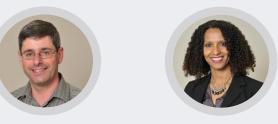
Deputy Executive Officer Marisa Sheelor

Dual-Role Leaders

Division
Director/Acting
Division Director



IRG Chief/Acting IRG Chief



Mark Caprara Delia Olufokunbi Sam



Elaine Sierra-Rivera



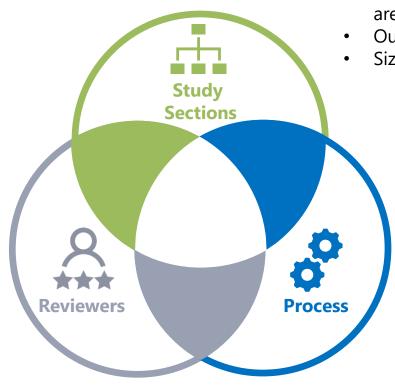
Maqsood Wani



Framework: Quality of Peer Review

Reviewers

- Reviewer Training & Evaluation consistent, transparent
- Review Service Broadening pool, incentivizing service



Study Sections

- Scientific scope (relevance, adapting to emerging areas, perpetuating stale science)
- Output (identification of meritorious science)
- Size appropriate for competition

Process

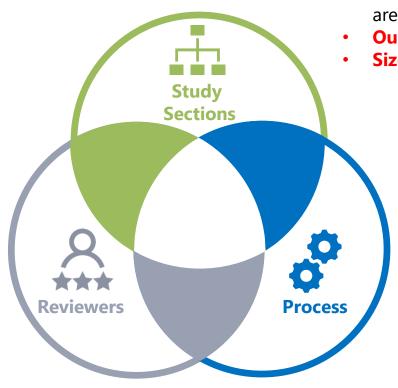
- Confidentiality/Integrity in review
- Bias in review
- Assignment/Referral of Applications
- Review Criteria and Scoring System



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ENQUIRE: Evaluating Panel Quality In Review

A New Systematic Framework for Evaluating CSR Study Sections

ENQUIRE STEP 1: Scientific Evaluation

- Review by scientific clusters, not by management/organizational clusters or IRGs (10-20 SRGs)
- Assemble blue-ribbon External Scientific Working Group of scientifically broad, senior scientists (with interest in more than one SRG)
- Provide **enough information** for each study section in cluster (current scientific guidelines on web, sampling of titles/abstracts/specific aims, workload trends, bibliometric output of awarded grants, ESI submission and success rates)
- Provide enough time and guidance for meaningful evaluation and recommendations
- Ask 1 **question** designed to focus discussion on science, not process: "How well does the scientific scope of the study sections align with the current state of the science?"

ENQUIRE STEP 2: Process Evaluation

- Assemble Internal Process Working Group of NIH (Institute and CSR) extramural scientists with broad perspective and interest in more than one SRG
- Provide process-related **information** (workloads, web guidelines, scoring trends, survey feedback from reviewers/POs, site-visit information on meeting function/dynamics)
- Provide External Scientific Working Group's report/recommendations for input
- Question: Does the study section function support optimal identification of high-impact science?

SUBSEQUENT STEPS:

- Develop initial study section guidelines
- Mock sorts, finalize guidelines
- CSRAC Concurrence
- Implementation





ENQUIRE: Clusters Evaluated Nov 2018-Sept 2019

(42 study sections)

Healthcare Delivery/Patient Outcomes

9 study sections

- Behavioral Medicine: Interventions and Outcomes (BMIO)
- Biomedical Computing and Health Informatics (BCHI)
- Community-Level Health Promotion (CLHP)
- Clinical Management of Patients in Community-based Settings (CMPC)
- Dissemination and Implementation Research in Health (DIRH)
- Health Disparities and Equity Promotion (HDEP)
- Health Services Organization and Delivery (HSOD)
- Nursing and Related Clinical Sciences (NRCS)
- Psychosocial Risk and Disease Prevention (PRDP)





GI, Renal, Endocrine Systems

11 study sections

- Kidney Molecular Biology and Genitourinary Organ Development (KMBD)
- Pathobiology of Kidney Disease (PBKD)
- Urology and Urogynecology (ZRG1 DKUS 90)
- Clinical, Integrative and Molecular Gastroenterology (CIMG)
- Gastrointestinal Mucosal Pathobiology (GMPB)
- Hepatobiliary Pathophysiology (HBPP)
- Cellular Aspects of Diabetes and Obesity (CADO)
- Clinical and Integrative Diabetes and Obesity (CIDO)
- Integrative Physiology of Obesity and Diabetes (IPOD)
- Integrative Nutrition and Metabolic Processes (INMP)
- Molecular and Cellular Endocrinology (MCE)

Cardiac, Vascular and Hematologic Sciences

10 study sections

- Atherosclerosis and Inflammation of the Cardiovascular System Study Section (AICS)
- Cardiac Contractility, Hypertrophy, and Failure Study Section (CCHF)
- Clinical and Integrative Cardiovascular Sciences Study Section (CICS)
- Electrical Signaling, Ion Transport, and Arrhythmias Study Section (ESTA)
- Hemostasis and Thrombosis Study Section (HT)
- Hypertension and Microcirculation Study Section (HM)
- Molecular and Cellular Hematology Study Section (MCH)
- Myocardial Ischemia and Metabolism Study Section (MIM)
- Vascular Cell and Molecular Biology Study Section (VCMB)
- Transfusion Medicine Sep (ZRG1 VH-D 55)

Functional/Cognitive Neuroscience

12 study sections

- Neuroendocrinology, Neuroimmunology, Rhythms and Sleep (NNRS)
- Neurobiology of Learning and Memory (LAM)
- Language and Communication (LCOM)
- Somatosensory and Pain Systems (SPS)
- Sensory Motor Integration (SMI)
- Ocular Surface, Cornea, Anterior Segment Glaucoma, and Refractive Error Special Emphasis Panel (ZRG1 BDCN-J 81)
- Cognition and Perception (CP)
- Mechanisms of Sensory, Perceptual, and Cognitive Processes (SPC)
- Auditory System (AUD)
- Biology of the Visual System (BVS)
- Diseases and Pathophysiology of the Visual System (DPVS)
- Chemosensory Systems (CSS)







GI, Renal, Endocrine Systems

OLD

GI, Renal, Endocrine Systems

11 study sections

- Kidney Molecular Biology and Genitourinary Organ Development (KMBD)
- Pathobiology of Kidney Disease (PBKD)
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- Integrative Nutrition and Metabolic Processes (INMP)
- Molecular and Cellular Endocrinology (MCE)

PROPOSED NEW

GI, Renal, Endocrine Systems

10 study sections

- Basic Mechanisms of Diabetes and Metabolism (BMDM)
- Cell Signaling and Molecular Endocrinology (CSME)
- Digestive System Host Defense, Microbial Interactions and Immune and Inflammatory Diseases (DHMI)
- Digestive and Nutrient Physiology and Diseases (DNPD)
- Hepatobiliary Pathophysiology (HBPP)
- Human Studies of Diabetes and Obesity (HSDO)
- Kidney and Urological Systems Functions and Dysfunction (KUFD)
- Nutrient and Metabolism in Health and Disease (NMHD)
- Pathobiology of Kidney Disease (PBKD)
- Pathophysiology of Obesity and Metabolic Disease (POMD)



External panel recommendations implemented except for: BMDM, POMD, HSDO

- External panel: separate panels for diabetes, obesity, metabolic disease
- Internal panel: organize cross-cutting disease/physiology study sections in continuum from basic to clinical. Sept 2019 CSRAC concurred with internal panel
- Guidelines for these developed based on internal recommendations.
- Mock sort #s OK

CSR seeks approval of all new/restructured study sections in this cluster





Cardiac, Vascular and Hematologic Sciences

OLD

Cardiac, Vascular and Hematologic Sciences

10 study sections

- Atherosclerosis and Inflammation of the Cardiovascular System Study Section (AICS)
- Cardiac Contractility, Hypertrophy, and Failure Study Section (CCHF)
- Clinical and Integrative Cardiovascular Sciences Study Section (CICS)
- Electrical Signaling, Ion Transport, and Arrhythmias Study Section (ESTA)
- Hemostasis and Thrombosis Study Section (HT)
- Hypertension and Microcirculation Study Section (HM)
- Molecular and Cellular Hematology Study Section (MCH)
- Myocardial Ischemia and Metabolism Study Section (MIM)
- Vascular Cell and Molecular Biology Study Section (VCMB)
- Transfusion Medicine Sep (ZRG1 VH-D 55)

PROPOSED NEW

Cardiac, Vascular and Hematologic Sciences

8 study sections

- Atherosclerosis and Vascular Inflammation (AVI)
- Basic Biology of Blood, Heart and Vasculature (BBHV)
- Clinical Integrative Cardiovascular and Hematological Sciences (CCHS)
- Hemostasis, Thrombosis, Blood Cells and Transfusion (HTBT)
- Integrative Vascular Physiology and Pathology (IVPP)
- Integrative Myocardial Physiology/Pathophysiology A (MPPA)
- Integrative Myocardial Physiology/Pathophysiology B (MPPB)
- Therapeutic Development and Preclinical Studies (TDPS)

- All external panel recommendations to be implemented. No changes from the internal panel.
- Sept 2019 CSRAC approved recommendations
- CSR moved forward with implementing external panel recommendations.
- Guidelines developed
- Mock sort #s OK

CSR seeks approval of all new/restructured study sections in this cluster







Functional/Cognitive Neuroscience

OLD

Functional/Cognitive Neuroscience

12 study sections

- Neuroendocrinology, Neuroimmunology, Rhythms and Sleep (NNRS)
- Neurobiology of Learning and Memory (LAM)
- Language and Communication (LCOM)
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- Chemosensory Systems (CSS)



PROPOSED NEW

Functional/Cognitive Neuroscience

11 study sections

- Auditory Systems (AUD)
- Biology and Development of the Eye (BDE)
- Behavioral Neuroendocrinology, Neuroimmunology, Rhythms, and Sleep (BNRS)
- Human Complex Mental Function (HCMF)
- Language and Communication (LCOM)
- Learning, Memory and Decision Neuroscience (LMDN)
- Neuroscience of Basic Visual Processes (NBVP)
- Neuroscience of Interoception and Chemosensation (NIC)
- Neurobiology of Pain and Itch (NPI)
- Pathophysiology of Eye Disease 1 & 2 (PED)
- Sensory-Motor Neuroscience (SMN)



External panel recommendations implemented, except minor changes:

- NIC and SMN: External panel recommended two study sections. Mock sort #s were borderline. CSR developed guidelines as recommended, proposes a watch/see approach – contingency plan to merge
- BNRS: External/internal discrepancy re: keeping behavioral neuroendocrinology and neuroimmunology out/in. Mock sort #s without these topics, not enough applications. CSR developed guidelines to keep topics in.

CSR seeks approval of all new/restructured study sections in this cluster



CSR Advisory Council Working Groups



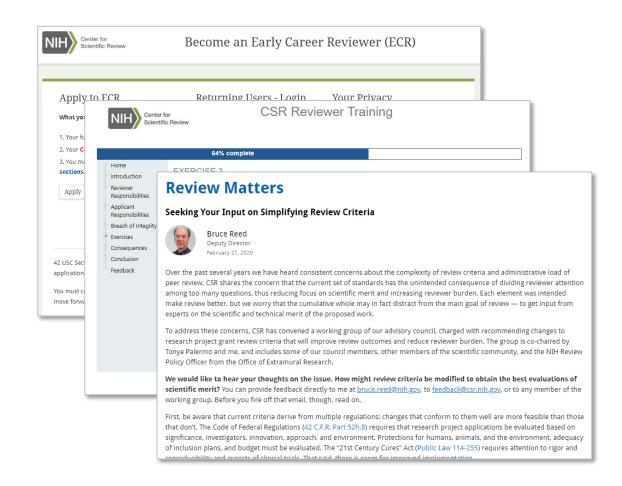
Revamping the Early Career Reviewer Program



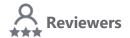
Development of a Review Integrity Training Module



Ongoing: **Simplification of Peer Review Criteria** to refocus on scientific assessment/reduce reviewer burden







Update: ECR Program Changes

Early Career Reviewer (ECR) Program

The program aims to help early career scientists become more competitive as grant applicants through first-hand experience with peer review and to enrich and diversify CSR's pool of trained reviewers.

Benefits of ECR



- Work side-by-side with some of the most accomplished researchers in your field to help NIH identify the most promising grant applications
- 2. Learn how reviewers determine overall impact scores
- Improve your own grant writing skills by getting an insider's view of how grant applications are evaluated
- Serve the scientific community by participating in NIH peer review
- 5. Develop research-evaluation and critique-writing skills

ECR Qualifications



Employment

You have at least 2 years of experience as a fulltime faculty member or researcher in a similar role. Post-doctoral fellows are not eligible.

You must be an Assistant Professor or in an equivalent role. Because the program is focused on early career scientists, Associate Professors are not eligible.

Research

You show evidence of an active, independent research program. Examples include publications, presentations, institutional research support, patents, acting as supervisor of student projects.

You have at least 1 senior-authored research publication in a peer-reviewed journal in the last 2 years plus at least 1 additional senior-authored research publication since receiving a doctorate.

- In press publications are considered; preprints
- We consider "senior author" as single author, corresponding author, or first or last author.

Grant & Review History

You have not served on an NIH study section in any capacity aside from as a mail reviewer. (Mail reviews do not include participation in the meeting.)

You have not held an R01 or R01-equivalent (R35, R37, RF1, R23, R29, DP1, DP2, DP5, U01, RL1) grant in the PD/PI role

You must have submitted a grant proposal, in the PI/PD role, to the NIH and received the associated summary statement; any grant mechanism that results in a summary statement other than F30, F31, F32 fulfills this requirement.

- Sept 2019 CSRAC: New recommendations re: qualifications, usage, consistency, engagement
- Sept Dec 2019: Database revamped usable, trackable accurate
- Oct-Nov 2019: CSR SRO Guidance Developed
 - 2 ECRs/standing committee
 - 2 ECRs/SEP with >49 R01/R21
 - 1 ECR/SEP with 25-49 R01/R21
- Nov 2019: CSR ECR committee formed consistent vetting of qualifications
- Dec 2019: CSR Best Practices for SROs re: Engagement/Working with ECRs
- 375 ECRs in Feb/Mar 2020 meetings (compared to 185 last year in Feb/Mar 2019)



Thank You! Working Group of Council: Revamping the ECR Program

Council Members



Mark Peifer, Ph.D.



Elizabeth Villa, Ph.D.

CSR Staff



Kristin Kramer, Ph.D.



Antonello Pileggi, Ph.D.

Ad Hocs (Early Career Reviewers)



Vinay Aakalu, M.D., MPH University of Illinois Chicago



Stephanie Cook, Ph.D., MPH New York University



Lisa Jones, Ph.D. University of Maryland

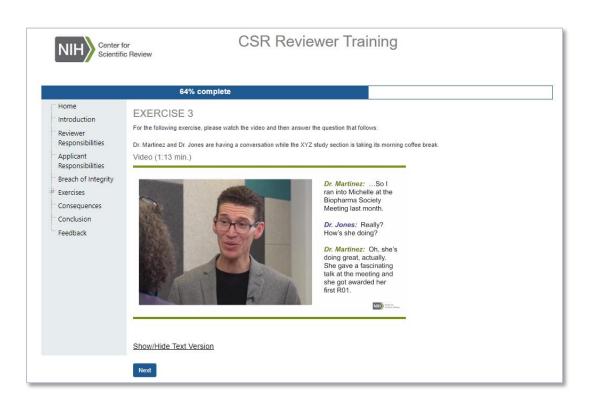


Manuel Llano, M.D., Ph.D. University of Texas EL Paso





Update: Reviewer Integrity Training Module



- Soft-launch with ~30 study sections (828 reviewers) in Feb/Mar 2020
- CSR SROs also viewed training, shared with NIH leadership, OER
- Post-training surveys for reviewers/SROs currently being analyzed
- Plan to adjust/refine and provide to all CSR reviewers (June/July planned – may move to Oct/Nov)



Thank You! Working Group of Council: Reviewer Integrity Training Module

Council Members



Scott Miller, Ph.D.



Tonya Palermo, Ph.D.



Denise Wilfley, Ph.D.



Jinming Gao, Ph.D.



Deanna Kroetz, Ph.D.

CSR Staff



Kathryn Koeller, Ph.D. Research/Review Integrity Officer



Miriam Mintzer, Ph.D. Scientific Review Officer



Raul Rojas, Ph.D. Scientific Review Officer



Next Up: Working Group of Council on Simplifying Review Criteria

CSR Advisory Council NIH Staff Ad Hocs



Jinming Gao, Ph.D.



Alfred George, M.D.



Yasmin Hurd, Ph.D.



Deanna Kroetz, Ph.D.



José López, M.D.



Tonya Palermo, Ph.D.



Kevin Corbett, Ph.D. University of California, San Diego



Michelle Janelsins, Ph.D. **University of Rochester Medical Center**



Brooks King-Casas, Ph.D. Virginia Tech



Sally Amero, Ph.D. Office of Extramural Research



Bruce Reed, Ph.D. **Center for Scientific Review**







CSR Anonymization Study (2015-)

- Study by external contractor (SSI) completed in September 2019; data/analysis to CSR in Dec. 2019
- 1200 previously-reviewed applications in both full and redacted forms
- Results
 - Redaction does not appear to make scores of African-American applicants better or worse
 - Redaction appears to slightly worsen the scores of White applicants
 - Small, significant difference, but effect size is very small
 - Over 20% of reviewers were able to identify the applicant correctly despite redaction
- CSR's next steps:
 - Preprint on server by May 1
 - Deidentified data from the study will be made publicly available





Pilot Bias Training for SROs, Reviewers (and POs)

- Using NIGMS MIRA program as a pilot

 person-based, finite, small numbers
 of SROs, reviewers
- Collaboration between CSR, NIGMS, and NIH's Chief Officer for Scientific Workforce Diversity (COSWD)
- Background narrated slides, followed by case studies/scenarios specifically targeted to the audience
- Launched: Jan 2020 receipt date for MIRA (summer 2020 meetings)
- Redesign, refine with broader rollout for all CSR reviewers and SROs in early 2021







Pilot Multi-Stage Anonymized Review

NIH Director's Transformative Research Award

Funding opportunities for exceptionally innovative and unconventional research projects



Part of the High-Risk, High-Reward Research program, the award supports individuals or teams proposing transformative projects that are inherently risky and untested but have the potential to create or overturn fundamental paradigms and may require very large budgets.

- · Open to all career stages
- · Open to individuals or teams
- · No preliminary data required
- · Flexible budgets
- · Effort commensurate to project needs



- Collaboration between CSR and NIH Office of the Director,
 Common Fund
- Self-redaction by investigators no identifiers/institutions
- Stage 1: Ed Board reviews Specific Aims; selects top subset
- Stage 2: Subject matter experts evaluate Specific Aims, Abstract, Research Strategy
- Stage 3: **Ed Board** selects top subset, gives prelim scores, followed by receiving full application with investigator info, meeting with discussion and final scores of all 5 criteria.
- Sept 2020 t-R01 receipt date



This is CSR





This is CSR now....not missing a beat!













