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<td>Where Are We Missing Opportunities for Utilization of Good Research Evaluation Practice?</td>
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<td>2240</td>
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<td>Bibliometrics: a Key Performance Indicator in Assessing the Influence of Biomedical Research</td>
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<td>Dimensions for Funders: Software to aid in the use of research inputs in program evaluation</td>
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<td>Forecasting a Country-Dependent Technology Growth by using a Dynamic Technology Level Evaluation Model</td>
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<td>Research on evidence-chain based quantitative evaluation method of research impact</td>
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<td>Using Modelling to Identify Matched Groups in Evaluation of a Biomedical Research Program</td>
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<td>RTDE4</td>
<td>Thursday 7:00-7:45 AM</td>
<td>Do R&amp;D Policies Work? Assessing Impacts and effectiveness</td>
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<td>1539</td>
<td>Thursday 8-9:30 AM</td>
<td>The Influence of Domain-Specific Metric Development on Evaluation and Design: An Example from National Institutes of Health Technology Development Programs</td>
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<td>1774</td>
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<td>1889</td>
<td>Thursday 4:45-6:15 PM</td>
<td>Effective Research Program Evaluation to connect Research, Development and Innovation in Japan (1)</td>
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<td>RTD TIG Business Meeting, including research presentations by Georgia Institute of Technology students and TIG reception</td>
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<td>1635</td>
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<td>2264</td>
<td>Friday 8-9:30 AM</td>
<td>Transferring Know-How and Technology from Our National Laboratories – How Is It Measured?</td>
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<td>RTDE1</td>
<td>Friday 11-11:45 AM</td>
<td>Using Administrative Data in Science, Engineering, and Public Health Investment Program Evaluation</td>
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<tr>
<td>TIG lunch</td>
<td>Friday, noon – 1:30 PM</td>
<td>How design and evaluation can be brought together to enhance our evaluation efforts</td>
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<td>1608</td>
<td>Friday 1:45-3:15 PM</td>
<td>Evaluations of Biomedical Research Training Programs Designed to Broaden Career Pathways</td>
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<td>RTDE2</td>
<td>Friday 3:30 – 4:15 PM</td>
<td>Evaluating Broader Impacts in Scientific Settings: Early Career Trajectories and Impacts</td>
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<td>Two Examples of How Evaluation Methods Can Inform Strategic Planning for Science and Technology Programs</td>
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<td>1387</td>
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<td>Impacts of Innovation Policy: Synthesis of Evidence and Meta-Assessment</td>
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<td>2389</td>
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<td>2044</td>
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<td>Assessing Cognitive Science and Education Research Knowledge Connections</td>
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<td>RTDE5</td>
<td>Saturday 9:45-10:30 AM</td>
<td>Evaluation as a Tool for Strategic Planning</td>
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<td>1514</td>
<td>Saturday 10:45 – 11:30 AM</td>
<td>Designing biomedical research training outcome metrics – a value added approach (Roundtable)</td>
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Wednesday October 26th 2016, 4:30 – 6:00 PM (2 sessions)

Session 1806: Gurus, Guides and Groupthink: Advisory Groups for evaluation of scientific research programs

Room: M107

- Presentation 1: Utilizing an Advisory Group to Support a Comparative Assessment of NCI-Funded Programs
- Presentation 2: Why Would an Advisory Group Be Helpful in Evaluation?
- Presentation 3: Current use of Advisory Groups in RTD Evaluations
- Presentation 4: Considerations and Complexities in Using Advisory Groups in Evaluation

In this panel discussion we will present differing perspectives on the use of advisory groups to enhance the quality, credibility, and utility of an evaluation. The structure of advisory groups varies between evaluations where membership may include different stakeholders, objectives of the evaluation and remit for the advisory group may differ, and the logistics and duration of operation of the advisory group may vary. The session presenters will discuss current usage of as well as challenges and lessons learned from organizing and using the input of advisory groups specifically within the context of evaluating Research & Technology Development (RTD) programs. Within this context, we use the term Advisory Group (AG) to include Evaluation Advisory Committees/Groups/Boards and Expert Panels, as well as any other group of stakeholders gathered for the purpose of advising or providing an opinion on an evaluation being conducted for a RTD program.

Presenter 1: Holly N Wolcott, Thomson Reuters; Frankie Cozzens Philips, National Cancer Institute
Presenter 2: Vincent S. Huang, Thomson Reuters; Tony Dickherber and Emily Greenspan; National Cancer Institute
Presenter 3: Di H Cross, Thomson Reuters
Presenter 4: Brian Zuckerman; IDA Science and Technology Policy Institute

Session 2214: Where Are We Missing Opportunities for Utilization of Good Research Evaluation Practice?

Room: L401

- Presentation 1: Missed Opportunities for Evidentiary Studies to Inform Policy
- Presentation 2: How Successful Has the Leiden Manifesto Been in Influencing Practice and Policy?
- Presentation 3: The RTD Group’s Paper on Good Practice in Outcome Evaluation: What Next?

There are now many years of experience about the evaluation of research, technology and development (RTD) programs in the United States and around the world, most of that gained in the past twenty years due to increased requirements. This experience has led to a growing body of individual studies, proliferation of the use of metrics, and occasional guidance documents. RTD evaluators generally know
good practice, but many decision makers do not, and codification has been lacking and materials are scattered. This panel, based on their decades of experience, will address what RTD policy makers would like to see in evaluation, current efforts to improve RTD evaluation and disseminate good practice, and opportunities and challenges for improving good RTD evaluation practice and increasing the influence of that evaluation on programs and policies.

**Session Chair:** Kaye Husbands Fealing  
**Discussant:** Kathryn Graham [Executive Director, Performance Management & Evaluation - Alberta Innovates Health Solutions]  
**Presenter 1:** Kaye Husbands Fealing  
**Presenter 2:** Diana Hicks [Georgia Tech], and Gunnar Sivertsen [NIFU]  
**Presenter 3:** Gretchen B Jordan [Principal - 360 Innovation LLC]

**Wednesday October 26th 2016, 6:15 – 7:00 PM (1 session)**

**Session 2240: Tracking Topical Emergence for Research Evaluation**

Room: International Room B

Research publications represent key outputs in evaluating projects and programs. In general, measuring “who, what, where?” facets of such research outputs is manageable using desktop software tools. However, measuring “what?” facets is more challenging. Research (or patent) abstract records retrieved for a target area provide metadata and limited content information in fields such as titles, abstracts, and keywords. This demonstration will step through an improving set of aids to facilitate text processing to measure topical concentration and diffusion over time, fields, and players. A compilation of fuzzy routines and thesauri facilitates topical data consolidation to enable valid analyses.

We have recently devised a set of “Emergence Indicators” that identify hot topics for further assessment (e.g., did a given project generate frontier knowledge?). Secondary indicators go further to provide metrics of which organizations, countries, and/or authors are contributing to frontier knowledge in a target research field.

**Presenters:** Alan Porter and Stephen Carley; Georgia Institute of Technology

**Thursday October 27th 2016, 7:00-7:45 AM (1 session)**

**Session 1539: Do R&D Policies Work? Assessing Impacts and effectiveness**

Room: M102

**Presentation 1:** Evaluation of input additionality effects of R&D subsidies

Presenter: Jan Hajic; Charles University in Prague

Technology Agency of the Czech Republic has been established in 2009 as a funding agency specifically charged with promoting applied research and innovation. Its responsibility is to create programs, to be
approved by the government, and then execute the whole lifecycle of each program – from calls, ex-ante evaluation or proposals, handling the awards organizationally and financially throughout projects’ execution, and performing ex-post evaluation of projects and complete programs. Evaluation of projects (and programs) has a crucial importance for efficient use of public funds. The Agency works on several projects in which it aims at improving evaluation in all aspects. One of them was aimed at modeling input additivity effects of direct subsidies to business R&D, which is going to be used in the program evaluation process. It has been tested on micro data from the Alfa program of the Agency (smaller projects, in all fields of applied research). In the presentation, the results of the project will be shown alongside with its intended use in future programs of the Technology Agency of the Czech Republic.

**Presentation 2:** Exploring the effectiveness of research and development policies in South Korea


The national R&D policies were first categorized by the specific technologies and the benefit target such as training people, supporting small and medium-sized enterprises due to various levels of the national R&D policies in South Korea. A total of 113 R&D policies were obtained, and there were 29 and 84 policies for the benefit target and the technologies, respectively. The R&D policies are generally comprehensive plans, and the actual implementation is not clearly described in the policies. Hence we assumed the R&D programs as the actual implementation of the R&D policies, and the specific R&D programs related with the policy are only considered as the subject of the study. We consequently assume that the effectiveness of the R&D policies is assessed by the analysis of outcome for the R&D programs such as the achievement of objectives. Finally the effectiveness of basic R&D policies will be assessed with academic performance

**Thursday October 27th 2016, 8:00-9:30 AM (1 session)**

**Session 1539: The Influence of Domain-Specific Metric Development on Evaluation and Design: An Example from National Institutes of Health Technology Development Programs**

Room: L404

- **Presentation 1:** Development of Measures to Assess NIH Technology Development Programs
- **Presentation 2:** Process and Outcome Evaluation of the NCI Innovative Molecular Analysis Technologies (IMAT) Program
- **Presentation 3:** Technology Program Office Perspective on Identifying Appropriate Metrics
- **Presentation 4:** How Does Technology Development Metric Development Influence Evaluation Design?

Within research, technology, and development evaluation, there are specialized domains for which it may be appropriate to consider designing tailored evaluation metrics. This session will focus on the development of evaluation metrics for National Institutes of Health-funded projects that have the primary purpose of technology development. The presentations will provide perspectives across multiple stakeholders in the evaluation design, including: the evaluation professional who must implement a technology-development evaluation without the benefit of pre-validated metrics; the program manager, who may wish to use domain-specific metrics to assess a specific technology development program and provide evidence for the program's "success"; and the evaluation
professional who must determine how to develop domain-specific metrics. The final presentation will engage the audience in conversation around when and how such domain-specific metrics should be used to evaluate technology development programs, particularly for programs that were not explicitly considered when the metrics were developed.

**Session Chair:** Elizabeth Hsu [Senior Health Science Analyst - National Institutes of Health]

**Presenters 1:** Brian Zuckerman and Rashida Nek; IDA Science and Technology Policy Institute

**Presenters 2:** Jennifer Reineke Pohlhaus; Ripple Effect and Julia Rollison; Atlas Research

**Presenters 3:** Michelle A Berny-Lang and Tony Dickherber; National Cancer Institute

**Presenters 4:** Elizabeth Hsu and Tony Dickherber; National Cancer Institute

**Thursday October 27th, 2014 3:00 – 4:30 PM**

*Session 1774: Strategic Research Evaluation Design and Analysis for Bridging Research and Development to Innovation (2)*

Room: M109

- **Presentation 1:** The Result and Evaluation of Funding Activities to Venture, Small Scale and Medium Scale Companies in NEDO
- **Presentation 2:** Approaches for Evaluation Planning using Logic Models
- **Presentation 3:** Follow-up Survey on Discontinued R&D Activities
- **Presentation 4:** Management Guidelines for National Project based on the behavioral characteristics of the companies and academic institutions

Public funding for research and development (R&D) in the field of industrial technology should be designed and performed in order to encourage the bridging of the R&D and innovation effectively. NEDO (New Energy and Industrial Technology Development Organization) plays an important role in Japan's economic and industrial policies as one of the largest public R&D management organizations. It has two basic missions, which are addressing energy and global environmental problems, and enhancing industrial technology. NEDO has so far continuously funded the R&D for the small-, middle- and large-scale companies and academia in order to bridge their R&D and innovation. It has also designed and performed unique evaluation system which enables to investigate research activities, output and outcome of R&D. In this session, the way of evaluation design and analysis in NEDO for effective dissemination of the R&D results is demonstrated.

**Session Chair:** Naoto Kobayashi; Waseda University

**Discussant:** Osamu Nakamura; AIST

**Presenter 1:** Kazuo Furukawa

**Presenters 2:** Naoki Hashizume, Toshiyuki Isshiki, and Asahiko Tokuoka; New Energy and Industrial Technology Development Organization

**Presenters 3:** Motoshi Kunugi, Masaki Ueyama, Toshiyuki Isshiki, and Asahiko Tokuoka; New Energy and Industrial Technology Development Organization

**Presenters 4:** Tomonaga Yoshida and Mitsuru Takeshita; New Energy and Industrial Technology Development Organization
**Thursday October 27, 2016 4:45 PM – 6:15 PM**

*Session 1774: Strategic Research Evaluation Design and Analysis for Bridging Research and Development to Innovation (2)*

Room: M109

- **Presentation 1**: Evaluation System for Bridging R&D to Innovation in the Field of Advanced Industrial Technology
- **Presentation 2**: Bridging: Scheme for Innovation with Local Stakeholders
- **Presentation 3**: New Concept of Evaluation for Bridging R&D to Innovation Including Regulatory Science

Rapid growth of ICT (Information and Communication Technology) including AI (Artificial Intelligence) is thought to change drastically the society, industry and usual life in the near future. We need important research and development (R&D) connecting to innovation to find and solve the critical issues in this rapidly changing society. 5th Science and Technology Basic Plan (2016-2020) was decided in 2015 in Japan. Discovery of societal problems as well as solutions of existing problems, bridging R&D to innovation, and creation of new industry are crucial features of the next Basic Plan. In this context, coherent and systematic approach of research evaluation from R&D to innovation is extremely important. In this session, we introduce our recent efforts for strategic research evaluation design and analysis in academia, public research institutes and the government showing the crucial subjects for the implementation of evaluation.

**Session Chair**: Naoto Kobayashi; Waseda University  
**Discussant**: Osamu Nakamura; AIST  
**Presenters 1**: Naoto Kobayashi; Waseda University Shigenori Hata; Tokyo Institute of Technology and Osamu Nakamura; AIST  
**Presenters 2**: Osamu Nakamura; AIST and Naoto Kobayashi; Waseda University  
**Presenters 3**: Naoto Kobayashi, Yoshikuni Edagawa, Kohei Maruyama, Takashi Ichinose, and Hiroshi Kasanuki; Waseda University

**Thursday October 27th, 2016 7:15 – 8:45 PM**

*TIG Business Meeting*

Room: A704

Guest Speakers:

- Rebekah St. Clair: The “New Normal”: Adapting Career Preparation to the Non-Traditional Career Path in Science  
- Seokbeom Kwon: “Knowledge Diffusion Patterns between Cognitive Science and Educational Research, and Implications  
- Quentin Kreth: Science Planning in State Governments: New Developments
Friday October 28th, 2016 8:00 – 9:30 AM (2 sessions)

Session 1635: Building America: Retrospective Evaluation of a Unique DOE R&D and Market Diffusion Program

Room: M107

- **Presentation 1**: Overview of the Building America Methodology
- **Presentation 2**: Evaluating R&D and Market Diffusion Benefits
- **Presentation 3**: Building Evaluation Use into the Building America Impact Evaluation

Launched in 1994, DOE’s Building America supports research, development, and demonstration projects to advance cost-effective residential energy efficiency technologies and practices. The BA program had advanced a systems-engineering, whole-house approach to residential energy efficiency. The large size, complexity, longevity, and multi-faceted nature of the Building America program raises several evaluation challenges, including developing a methodology that can be carried out on a realistic budget, and adequately addresses 1) the R&D and market adoption aspects of the program, 2) economic, energy, and environmental impacts of the program, and 3) attribution issues. The research team is also committed to ensuring that evaluation findings and lessons learned inform future program, and have built an evaluation use plan into the impact evaluation. In this panel, the research team will present the mixed methods methodology proposed and seek feedback from the audience. The research team hopes to present study results at AEA 2017.

**Session Chair**: Angela Helman [Principal - IEc]
**Presenter 1**: Daniel Kaufman; Industrial Economics, Incorporated
**Presenter 2**: Rosalie T. Ruegg; TIA Consulting, Inc.
**Presenter 3**: Yaw Opoku Agyeman; LBNL
Session 2264: Transferring Know-How and Technology from Our National Laboratories – How Is It Measured?

Room: M301

- **Presentation 1**: An Overview of U.S. Department of Energy Lab-to-Market Programs: Objectives and Importance of Design and Evaluation
- **Presentation 2**: National Institute of Standards and Technology Effort to Design Databases and Tools to Support Empirical Measurement of Technology Transfer from National Labs
- **Presentation 3**: Evaluation Design and Findings about Technology Transfer in the Lab-Corps Program
- **Presentation 4**: Evaluating a Voucher Program to Engage More Small Businesses with National Laboratories

This session will discuss the challenges of technology transfer from our national laboratories, including current efforts by the National Institute of Standards (NIST) and the U.S. Department of Energy (DOE) to fill gaps in information about technology transfer from federal laboratories, efforts that could provide an understanding that leads to substantial public benefits. A NIST project currently looks to develop a data infrastructure to measure and analyze technology transfer at all federal laboratories. Two specific evaluations of new DOE initiatives to overcome the challenges of knowledge and technology transfer will be discussed. This transfer of lab expertise and capability occurs both through laboratory innovations entering the commercial space, and commercial entities engaging the laboratories to partner in solving challenges to technologies they are developing.

**Session Chair**: Harsh S. Desai; Office of Energy Efficiency & Renewable Energy - U.S. Department of Energy

**Presenter 1**: Harsh S. Desai; Office of Energy Efficiency & Renewable Energy - U.S. Department of Energy

**Presenters 2**: Alan O'Connor and Zachary T Oliver; RTI International and Albert N Link; University of North Carolina at Greensboro

**Presenter 3**: Gretchen B Jordan; 360 Innovation LLC, Marjorie McRae; Research Into Action, Inc., and Greg Clendenning; NMR Group Inc.

**Presenter 4**: Marjorie McRae; Research Into Action, Inc., and Gretchen B Jordan; 360 Innovation LLC

Friday October 28th, 2016 11:00 – 11:45 AM

Session RTDE1: Using Administrative Data in Science, Engineering, and Public Health Investment Program Evaluation

Room: L404

- **Presentation 1**: Evaluating Investments in Human Capital in the Dept. of Energy’s Industrial Assessment Center Program

  Presenters: Christina Freyman, Roland Stephen, and John Chase; SRI International
The Department of Energy’s Industrial Assessment Center (IAC) program invests in research and training related to energy efficiency at universities around the country. Centers are led by engineering faculty from 24 universities with the extensive involvement of graduate and undergraduate students. SRI’s analysis of IAC program’s impact used a mixed-methods evaluation design to measure the program’s contribution to training the next generation of energy efficiency engineers. The analysis used qualitative data from interviews with stakeholders, a survey of IAC alumni, the IAC students exit survey, and SRI’s novel text-analytics-based approach that compared IAC alumni resumes with two comparison groups.

This presentation will show how SRI aligned the evaluation design with stakeholders’ goals, and how the approach combined both traditional approaches (interviews and a survey) with new approaches in text analytics (based on unique data sources) to develop reliable and useful measures of the impacts of the program on human capital.

**Presentation 2:** Evaluating the Surveillance-Related Programs and Workforce of the U.S. Centers for Disease Control and Prevention (CDC)

Presenters: Robin Marian Wagner, Matthew Eblen, and Laura M Mann; Centers for Disease Control and Prevention

We are using available administrative data to characterize CDC’s surveillance-related programs and workforce to identify gaps and opportunities for enhancements to CDC programs and workforce. We are using advanced statistical methods, including topic modeling, to describe CDC’s intramural surveillance systems as well as extramural support to external partners, including state health departments, through grants and cooperative agreements. We are also characterizing the surveillance-related workforce, and identifying factors associated with staff promotion, retention and separation from CDC, using survival analysis. These results and other planned studies should inform CDC policies and future investments in surveillance to maximize their effectiveness and efficiency and, ultimately, improve public health.

**Friday October 28th, 2016: 1:45 – 3:15 PM**

**Session 1608: Evaluations of Biomedical Research Training Programs Designed to Broaden Career Pathways**

Room: L401

- **Presentation 1:** Assessing Early Outputs of a Program Exposing Postdoctoral Fellows to Careers
- **Presentation 2:** Transforming Biomedical Training: Cross-site Evaluation of the NIH Broadening Experiences in Scientific Training (BEST) Program
- **Presentation 3:** Outcome Evaluation of the NIH Office of Behavioral and Social Sciences Research (OBSSR) Summer Research Training Institutes
- **Presentation 4:** Evaluation of the VHA/NCI Big Data Scientist Training Enhancement Program (BD-STEP)

Recent reports have documented the need for a broader perspective on pathways to sustainable biomedical research careers. For multiple reasons, an approach emphasizing only traditional academic
careers is not consistent with currently available career paths and research opportunities. Training programs are beginning to reflect preparation for varied career trajectories. The National Institutes of Health (NIH) and the Veterans Health Administration (VHA) employ multiple strategies to address the challenge of maintaining a diverse biomedical research workforce, including individuals with evolving sets of research skills. Evaluations will be presented for four programs; three from NIH components and one program based on collaboration between the National Cancer Institute (NCI) and the VHA. Both extramural and intramural programs are represented. Presentations will cover evaluation design and implementation, analytic methods, measures used to define success, data sources, findings, lessons learned and future plans. Perspectives will be shared from four NIH organizations and the VHA.

**Session Chair:** James Corrigan; National Institutes of Health  
**Presenters 1:** Julie Mason and Jonathan Wiest; National Cancer Institute  
**Presenters 2:** Patricia Labosky; Office of the Director, NIH and Madeleine Wallace; Windrose Vision and Stephen Korn; NINDS, NIH  
**Presenters 3:** Marietta Damond, Jack E Scott, Laura Sharon, and Margaret Blasinsky; The Madrillon Group  
**Presenters 4:** Michelle A Berny-Lang; National Institutes of Health/National Cancer Institute and Connie Susan-Everett Lee; Veterans Health Administration

**Friday October 28th, 2016: 3:30 – 4:15 PM**

*Session RTDE2: Evaluating Broader Impacts in Scientific Settings: Early Career Trajectories and Impacts*

**Room:** M103

**Presentation 1:** Alternative Career Pathways in Biomedicine: Using Evaluation to Tailor Cafeteria vs. Cohort Models in PhD and Postdoc Career Capacity Development Models

Presenters: Julia Melkers, Rebekah Leigh St. Clair, Nael McCarty, Tamara Hutto, and Cora MacBeth

With increasing attention to preparing STEM doctoral recipients for non-academic careers, the development of effective programming requires meaningful and trackable data relevant to supporting alternative career pathways. In the traditional academic setting, doctoral students are socialized and trained for success in the academic career track. Here, evaluation of career readiness for academic careers focuses on traditional measures of academic productivity and scientific excellence. Yet, in some fields, such as biomedicine, considerable investments are being made to build capacity for non-academic career preparation. This presentation reviews a formative evaluation of the NIH-funded BEST program in two university settings, a program designed to increase preparation of doctoral recipients for non-academic careers. It focuses on the measurement of the career capacity and self-determination of PhD students and postdoctoral fellows. Our findings have implications for the efficacy and design of different program models, and for on-going evaluation of those efforts.
**Presentation 2:** Establishing a Performance Measurement System for Education and Training Programs at a National Research Center

Presenters: Valerie L Williams and Carolyn Brinkworth; NCAR, and Jamie Lynn Vickery CU Boulder

Evaluating education and training programs at scientific research centers (SRCs) is challenging. SRCs often host education, training and outreach programs to leverage the scientific tools and resources developed in the institution. As a result, many programs focus primarily on providing educational opportunities rather than achieving specific outcomes. Moreover, variations in program design, duration, and target audience can undermine efforts to evaluate the collective impact of these programs. Establishing a performance measurement (PM) system integrated with the larger institutional data collection efforts would enable the consistent and on-going data collection necessary for more effective program evaluations. This paper describes the implementation of a PM system for education and training programs at the National Center for Atmospheric Research, which included an evaluability assessment, the development a framework for data collection, based on the Five-Tiered Approach, and capacity building exercises with scientists to define targeted and realistic program outcomes.

**Friday, October 28th 2016: 4:30 – 5:15 PM**

*Session RTDE3: Can We Learn from the Past? Two Examples of How Evaluation Methods Can Inform Strategic Planning for Science and Technology Programs*

Room: International North B

**Presentation 1:** Maturity Scale Framework for Research and Development

Presenters: Steven Lev, Brian Zuckerman, and Seth Jonas; IDA Science and Technology Policy Institute

Research and Development (R&D) organizations often use a Technology Readiness Assessment (TRA) to evaluate progress and communicate the status of new technologies during the R&D process. The National Aeronautics and Space Administration (NASA) introduced Technology Readiness Levels (TRLs) as a technology-independent metric to be used with their TRA process. NASA’s TRA process has been adopted by a range of science and technology organizations and is considered a best-practice for R&D assessment by the U.S. Government Accountability Office (GAO). The Maturity Scale Framework (MSF), a TRA for R&D across a wide range of domains, is presented as a unified framework of metrics applicable to the R&D planning process and to all R&D activities, current and future. The MSF can assess progress in disparate R&D domains in a common framework, including the policy aspects of an R&D roadmap. Historical R&D examples will be presented to demonstrate the application of the MSF.

**Presentation 2:** Design of foresight-based evaluation in Tekes Activities

Presenter: Jari Hyvarinen; Tekes
There is a growing pressure that evaluation results will be needed for example during the Tekes interventions to redesign the goals continuously. It is observed that ex-post evaluation results can be used only to designing future programmes and therefore it misses the impacts on running programmes. Thus, my paper presents how the Tekes evaluation tools will be reorganized to measure online or/and foresight evaluation results.

My paper concerns two evaluation questions:

1. How could R&D and innovation activities funded by Tekes be developed in the future? How to evaluate programmes and Tekes activities by using online and foresight evaluation tools?
2. What are good practices to facilitate learning and in-depth understanding of how the impact is created, and how it can be used in the development of Tekes evaluation?

**Friday, October 28th 2016: 5:30 – 6:15 PM**

*Session 1387: Impacts of Innovation Policy: Synthesis of Evidence and Meta-Assessment*

Room: M303

Presenters: Philip Shapira, Jakob Edler, Paul Cunningham, and Abdullah Gök

Building on a conceptualization of innovation policy instruments, this paper discusses findings from a systematic analysis of available evidence on the impacts of innovation policy. Evidence is synthesized on fifteen major innovation policy instruments – including tax incentives, cluster policies, advisory services, regulatory interventions, and demand-side measures – and on the innovation policy mix. Evidence is drawn primarily from Europe, the US, and other developed economies through an international review of over 1,200 publications and reports (including 216 evaluation reports and 509 academic papers providing evidence). While multiple insights were identified for individual instruments and how they worked, the review recognized many variations in program context, objectives, operations, and outcomes. The paper considers implications and meta-assessment insights, including for the ongoing design and evaluation of innovation policies, learning from ambiguities in the available evidence, and developing the capacity to more effectively use evidence-based analyses for policy development.

**Saturday, October 29th, 2016: 7:00 – 7:45 AM**

*Session 2389: Science, Technology, Innovation, and Partnerships in Evaluation*

Room: M102

- **Presentation 1:** Science, technology, innovation, and partnerships (STIP): An evidence gap map
- **Presentation 2:** The Effect of Innovation Policy on SMEs Employment and Wages in Argentina
- **Presentation 3:** Effects of a Mobile Phone Short Message Service on Antiretroviral Treatment Adherence in Kenya (WelTel Kenya1): A Randomised Trial

*Session Chair:* Shannon Griswold; US Agency for International Development

*Presenter 1:* Annette N Brown; FHI 360
Presenter 2: Richard Lester; University of British Columbia

Presenter 3: Rodolfo Stucchi; Inter-American Corporation

This session will focus on the impact evaluations and their effect on the design of programs involving science, technology, innovation, and partnerships (STIP) interventions. The papers presented will include scoping work of impact evaluations around STIP performed by 3ie and impact evaluation examples. Annette Brown will present the preliminary results of 3ie’s scoping work and evidence gap map around evaluations regarding STIP interventions. Afterwards, two researchers whose work is indicative of the STIP scoping work will present their impact evaluations of different STIP programs, focusing on the innovation and technology parts of STIP. Richard Lester from the University of British Columbia will present their paper on SMS support and ART adherence among HIV-infect adults. Finally, Rodolfo Stucchi from the Inter-American Investment Corporation will present their paper on the effect of innovation policy on employment and wages in Argentina.

Saturday, October 29th, 2016: 8:00 – 9:30 AM (2 sessions)

Session 2044: Assessing Cognitive Science and Education Research Knowledge Connections

Room: M105

- **Presentation 1**: Benchmarking connections between Educational Research and Cognitive Science: Implications for evaluations of federal research funding programs.
- **Presentation 2**: Evaluating Connections between Cognitive Science and Educational Research
- **Presentation 3**: Research Knowledge Diffusion Patterns and Implications

This session assesses research knowledge interchange among cognitive science, education, and intersecting fields. The research addresses issues in distinguishing research among these fields, compiling and cleaning publication and citation data, network analyses, and relating outcomes to research programs. Historically, these fields have evolved quite separate research streams, while recognizing common interests in learning phenomena. R&D evaluation provides evidence on ways in which research knowledge is, and isn’t, shared across fields. We seek to identify how such influence patterns have changed in response to intellectual and programmatic initiatives around the year 2000.

The first paper explores how NSF research program interests are amenable to empirical assessment. The second tracks back from cognitive science and education research outcomes (publications) to gauge knowledge interchange patterns. The third paper offers the counterpart perspective in examining research knowledge diffusion networks.

- **Session Chair**: Alan Porter; Georgia Institute of Technology
- **Presenter 1**: Gregg Eric Solomon; National Science Foundation
- **Presenter 2**: Jan Youtie; Georgia Institute of Technology
- **Presenter 3**: Seokbeom Kwon; Georgia Institute of Technology

Room: L402

- **Presentation 1**: When Data Sharing is a Primary Goal – the Case of UNAVCO and Geodetic Data
- **Presentation 2**: Preliminary Overview of Data Sharing Practices Across NCI-funded Cancer Epidemiology Cohorts
- **Presentation 3**: Understanding the Value of Data Sharing Within Epidemiology Programs
- **Presentation 4**: Breaking Down the Silos: #IAmAResearchParasite

As evaluators, we often fear changing the behavior of the participants of the program we are evaluating by putting metrics around their activities. An example is the use of publications in measuring the "success" of an investigator and influencing tenure decisions and the skyrocketing number of articles published each year. But what if instead we actually wanted to change the behavior of a participant? Can developing and implementing meaningful metrics be used to influence behavior? What are the risks in intentionally trying to influence participant behavior? Are there ways to do this thoughtfully in order to achieve our desired outcome? This session will explore these questions in the realm of research data sharing, from the perspective of programs with a primary goal of data sharing; evaluation professionals who must determine how to best assess data sharing; and program managers who would like to encourage data sharing.

**Session Chair**: Elizabeth Hsu; National Institutes of Health

**Presenters 1**: Sharon Renee Williams and Reina Buenconsejo; IDA Science and Technology Policy Institute and Charles Meertens; UNAVCO

**Presenters 2**: Sally Tinkle, Dorit Stein, Brian Zuckerman, and Sarah Collins; IDA Science and Technology Policy Institute and Tram Lam; National Cancer Institute

**Presenters 3**: Danielle Daee, Joanne Elena, and Elizabeth Gillanders; National Cancer Institute

**Presenter 4**: Elizabeth Hsu; National Institutes of Health

Saturday October 29th, 2016: 9:45 – 10:30 AM

Session RTDE5: Evaluation as a Tool for Strategic Planning

Room: M103

- **Presentation 1**: Using Evaluation Tools, Methods, and Thinking in Planning NIH Common Fund Programs

Presenters: Amanda Greene and Rachel Britt; National Institutes of Health

Biomedical research programs address questions vital to expanding knowledge and improving health, but are resource intensive. Therefore, careful consideration of the existing research environment during
program planning is needed. We present how a combination of methods grounded in evaluation practice inform strategic planning for biomedical research programs managed by the National Institutes of Health (NIH) Common Fund. Frequently used methods include analysis of the NIH research portfolio, landscape scans to identify other funding entities in the research area, and review of the scientific literature. In addition, input from experts on the science topic is often elicited through workshops, webinars, and public Requests for Information. This iterative process includes strategies for working with and building consensus among key stakeholders so informed decisions about research direction, resources, and funding can be made. Evaluators looking to apply evaluation practice to program planning will benefit from the real-world experiences of the NIH Common Fund.

• **Presentation 2:** Example of S&T policy evaluation in Korea: in-depth evaluation of set of 5 national R&D programs for human infectious diseases

Presenter: Juwon Kim; KISTEP

In this study, the concept and key factors of science and technology policy evaluation will be reviewed in terms of strategic review.

The in-depth evaluation results (2016) for national R&D programs, which are related to human infectious diseases, will be analyzed as the model of policy evaluation in Korea. In-depth evaluation is done by Ministry of Science, ICT and Future Planning for selected national R&D programs. In Korea, by former epidemic situation of MERS in 2015, the check and redefine the existing policies related to infectious diseases has emerged as a major issue.

For the conclusion, The future direction of evaluation policy related to S&T program will be reviewed. The importance of the in-depth evaluation will be expanded, for the compositive evaluation of successfullness of the policy in the aspect of policy goals, policy targets and policy measures. Also, those evaluation results could be reflected on the future policy directions

**Saturday October 29th, 2016: 10:45 – 11:30 AM**

*Session 1514: Designing biomedical research training outcome metrics – a value added approach? (Roundtable)*

Room: M108

Discussion Leaders: Christie Drew and Kristi Pettibone; National Institute of Environmental Health Sciences

The National Institutes of Health (NIH) make a substantial investment in training grants to ensure that a pipeline of diverse, well-trained researchers is able to conduct critical biomedical research. A range of variables are needed to understand the outcomes and impact of this training, such as subsequent education, training and funding, publications, employment, patents, awards, leadership positions, contributions to policy, etc. The burden of collecting such data should be weighed against the benefit gained. Which variables provide the most valuable information? Should specific variables be collected for post-graduate education? Are there specific information or evaluation design elements to consider?
We propose a roundtable discussion to examine data that are currently collected for a specific NIH training program, and discuss the relative value added for specific data elements. We specifically seek input from evaluation colleagues working in the areas of Higher Education, STEM Education and Training, and Biomedical Research Training.