### Activity Summary

**Final Outcomes Report**

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<tr>
<th>70053349</th>
<th>18th Annual Respiratory Disease Young Investigators’ Forum</th>
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**Educational Objectives:** Discuss new and emerging areas of respiratory research that offer new inroads to effective therapies and treatment; establish mentoring and collegial relationships to support scientific endeavors and career advancement; evaluate the strengths and weaknesses of peer research presentations; incorporate peer/expert faculty feedback effectively to enhance research presentations; discuss key strategies for career development as a physician-scientist; and describe the comprehensive process for securing grant support for research.

**Intended Audience:** Pulmonary, allergy and immunology fellows and junior faculty who are beginning their research careers.

**Actual Reach:** 29 young investigators; 9 expert faculty; 3 research advisors

**Modalities/Activities:** Three-day live, in-person forum consisting of junior faculty/fellow presentations, expert faculty panel, structured feedback, and mentoring and networking opportunities.

**Program Location:** Hotel Clio, Denver Cherry Creek 150 Clayton Lane Denver, CO 80206

**Dates:** October 6-9, 2022

**Relevant Links:** N/A

**Outcomes Levels:** Moore’s Level 1, 2 and 4

**Outcomes Planning:** Pre-program survey; program evaluation

**Summary:** The 18th Annual Respiratory Disease Young Investigators’ Forum aimed to connect young investigators with expert faculty and peers in the respiratory disease field to improve research methodologies, enhance presentation and communication skills, and stimulate an academic career in respiratory disease and allergy research. The meeting was successfully implemented from October 6-9, 2022, with 100% of evaluation respondents reporting that they would recommend this program to their colleagues.
The 18th Annual Respiratory Disease Young Investigators’ Forum, a live independent medical education activity accredited by National Jewish Health (NJH), was held in Denver October 6-9, 2022. The Forum is designed to enable pulmonary, allergy and immunology fellows and junior faculty to present their research and interact with expert faculty in order to improve research methodologies and presentation skills; enhance communication in the field of respiratory disease and allergy; develop relationships with faculty mentors; assist in translating laboratory research into useful bedside application; and stimulate an academic career in respiratory disease and allergy research. In its 18th year, the Forum continues to prove to be a valuable and impactful annual event for fellows and junior faculty who are beginning their research careers.

“This is the best junior faculty development I have participated in to date. I have nothing but awesome things to say and will be recommending this to someone for next year.”
- 2022 Young Investigator

Young investigator Andi Hudler, MD chats with Expert Faculty Jessica Bon, MD during the Meet the Professor Lunch.
Program Design
Final Outcomes Report

The content of the program was based on basic science and clinical research in the field of respiratory disease submitted by young investigators, who competed for acceptance into the program and then served as the program presenting faculty. The program enabled a diverse group of 29 fellows enrolled in fellowship programs such as allergy, respiratory tract disease, or pulmonary medicine, to present the results of their basic science or clinical research to their peers and an experienced expert faculty panel.

“The feedback provided by the research coaches and faculty was direct, thoughtful, and provided insight into my project that I had not had prior to this event.”

- 2022 Young Investigator

The program consisted of:

- Personalized feedback and coaching from presentation advisors during rehearsals
- Clinical and scientific junior faculty presentations
- Small group discussions and mentoring
- Networking with peer leaders and expert faculty
- An expert faculty panel providing real time feedback
- Expert faculty presentations on career development topics relevant to junior faculty
- Q&A after each scientific and career development presentation
Learning Objectives

1. Discuss new and emerging areas of respiratory research that offer new inroads to effective therapies and treatment
2. Establish mentoring and collegial relationships to support scientific endeavors and career advancement
3. Evaluate the strengths and weaknesses of peer research presentations
4. Incorporate peer/expert faculty feedback effectively to enhance research presentations
5. Discuss key strategies for career development as a physician-scientist
6. Describe the comprehensive process for securing grant support for research
The top presenting faculty with the highest scores in both Basic Science and Clinical Research were presented with a plaque and given a monetary award to be used toward future research or to attend a national respiratory meeting such as AAAAI, ATS, or CHEST. The award is provided to the recipient’s institution for distribution to the recipient according to policies. The young investigator with the highest evaluation scores from her peers was also recognized with a peer award. To recognize the achievement of the attending fellows, all 29 were presented with a certificate indicating participation at the Forum. A CME certificate will also be provided by NJH.

Basic Science Research
First Place – Andi Hudler, MD
(University of Colorado)

Clinical Research
First Place – Catherine Gao, MD
(Northwestern University)

Dr. Gao also received the Peer Award!
Young Investigator Awards
Final Outcomes Report

Basic Science Research
Second Place – Kaveh Moghbeli, MD (University of Pittsburgh)

Clinical Research
Second Place – Bowa Lee, MD (University of Pittsburgh)

Basic Science Research
Third Place – Zachary Johnson, DO (Northwestern University)

Clinical Research
Third Place – Gabrielle Liu, MD (Northwestern University)
Dashboard: Activity Impact
Final Outcomes Report

36 Abstracts Received / 30 Accepted / 29 Attendees
*Note: 1 Investigator could not make it due to a family emergency

Expert Faculty 9
Research Advisors 3

Accepted Investigators
- 9 Faculty
- 21 Fellows
- 2nd year: 3
- 3rd year: 8
- 4th year: 9
- 5th year: 1

1st Year Faculty Position: 5
2nd Year Faculty Position: 4

100% reported activity positively influenced interest in pursuing a career as a physician-scientist

74% would recommend program to colleagues

What is the biggest benefit of participating in the forum?
“Networking, feedback on presentation, exposure to other active investigative work in a condensed format.”
- Young Investigator, 2022

Research Disease States
- Asthma
- COPD
- COVID-19
- Cystic Fibrosis
- ILD
- Lung Cancer
- Pulmonary Fibrosis
- Pulmonary Hypertension

National Jewish Health®
Wanda Phipatanakul, MD, MS
Westonian Endowed Professor of Pediatrics
Harvard Medical School
Director, Research Center,
Asthma, Allergy, Dermatology, Rheumatology,
Immunology
Boston Children’s Hospital
Boston, MA

“...I was honored to co-chair the 2022 Young Investigators Forum. It was inspiring interacting with such talented next generation physician-scientists and seeing the fantastic science they are doing. The future is bright.”
– Wanda Phipatanakul, MD (Program Co-Chair)

Jennifer L. Taylor-Cousar, MD, MSCS, ATSF
President-elect, Medical Staff
Medical Director, Clinical Research Services
Interim Associate Vice President of Diversity, Equity and Inclusion
Co-Director and CF TDC Director, Adult Cystic Fibrosis Program
Professor, Departments of Medicine and Pediatrics
Divisions of Pulmonary, Critical Care & Sleep Medicine and Pediatric Pulmonary Medicine
Divisions of Pulmonary Sciences and Critical Care Medicine and Pediatric Pulmonology
University of Colorado Anschutz Medical Campus
National Jewish Health
Denver, CO
Expert Faculty
Final Outcomes Report

Jessica Bon, MD, MS
Associate Professor of Medicine
Pulmonary, Allergy and Critical Care Medicine
Director, Pulmonary and Critical Care Medicine Fellowship Program
University of Pittsburgh School of Medicine
*Pittsburgh, PA*

Ravi Kalhan, MD, MS
Professor of Medicine and Preventive Medicine
Deputy Chief, Division of Pulmonary and Critical Care Medicine
Northwestern University Feinberg School of Medicine
*Chicago, IL*

Lisa Maier, MD, MSPH, FCCP
Professor
Director, Division of Env & Occ Health Science Core Clinical Lab
Chief, Division of Environmental & Occupational Health Sciences
National Jewish Health
*Denver, CO*
Expert Faculty
Final Outcomes Report

Susanna A. McColley, MD
Scientific Director, Interdisciplinary Research Partnerships
Stanley Manne Children's Research Institute
Associate Director for Child Health and Director, TL1 Program
Northwestern University Clinical and Translational Sciences Institute
Editor-in-Chief, Pediatric Pulmonology
Attending Physician, Pulmonary and Sleep Medicine
Ann & Robert H. Lurie Children's Hospital of Chicago
Professor of Pediatrics
Northwestern University Feinberg School of Medicine
Chicago, IL

Charles Powell, MD, MBA
CEO Mount Sinai-National Jewish Health Respiratory Institute
System Chief, Division of Pulmonary, Critical Care & Sleep Medicine
Janice and Coleman Rabin Professor of Medicine
Icahn School of Medicine at Mount Sinai
New York, NY

Jesse Roman, MD
Ludwig Kind Professor of Medicine
CEO, Jane & Leonard Korman Respiratory Institute
Director, Division of Pulmonary, Allergy & CCM Lead, Respiratory Service Line, Jefferson Health
Thomas Jefferson University
Philadelphia, PA

Sally Wenzel-Morganroth, MD
Professor of Medicine and Immunology
Chair, Dept of Environmental and Occupational Health
Director, University of Pittsburgh Asthma and Environmental Lung Health Institute
University of Pittsburgh School of Medicine
Pittsburgh, PA
Research Advisors

Final Outcomes Report

Laura E. Crotty Alexander, MD
Section Chief of Pulmonary and Critical Care
Veterans Affairs San Diego
Associate Professor of Medicine
University of California San Diego
San Diego, CA

Anthony N. Gerber, MD, PhD
Professor of Medicine
Professor of Immunology and Genomic Medicine
Director of Pulmonary Research
National Jewish Health
Denver, CO

Silpa D. Krefft, MD, MPH
Assistant Professor
Department of Medicine
Division of Environmental & Occupational Health Sciences
National Jewish Health
Denver, CO

Young Investigators Rate Value of Rehearsal Session and Opportunity to Refine Presentation

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<thead>
<tr>
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<th>Rehearsal Sessions</th>
<th>Opportunity to refine presentation</th>
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<tbody>
<tr>
<td>Very helpful</td>
<td>87%</td>
<td>78%</td>
</tr>
<tr>
<td>Helpful</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>Neutral</td>
<td>0%</td>
<td>4%</td>
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Rehearsal Sessions Opportunity to refine presentation

Young Investigators Rate Value of Rehearsal Session and Opportunity to Refine Presentation

Very helpful | Helpful | Neutral
87% | 13% | 0%
78% | 17% | 4%

National Jewish Health
Eric Abston, MD, PhD (BS) – Massachusetts General Hospital
Noninvasive Quantification of Radiation Induced Lung Injury by Type 1 Collagen Probe- Translational Model with First in Human Study

Nikita Agrawal, MD (CR) – Mount Sinai Hospital
Assessing the Interrelationship between Asthma and Obesity Self-Management Behaviors

Joseph Bailey, MD (CR) – Northwestern University
Differences in Post-Acute Care Healthcare Expenditures after Hospitalization Due to Influenza or COVID-19 Infection

Daniel Colon Hidalgo, MD, MPH (BS) – University of Colorado
Loss of Vascular EC-SOD Leads to Worse RV Hypertrophy and Metabolic Alterations in PH

Daniel Cook, MD, PhD (BS) – Vanderbilt University Medical Center
CFTR Regulation of Th2 Effector Cell Function: Implications for Inflammation in Cystic Fibrosis

Francesca Duncan, MD, MS (CR) – Indiana University School of Medicine
Social Determinants of Racial Differences in Treatment and Mortality in Early and Advanced Stage Non-Small Cell Lung Cancer in a Midwest Urban Population

*(BS) Basic Science *(CR) Clinical Research
Young Investigators
Final Outcomes Report

Catherine Gao, MD (CR) – Northwestern University
CarpeDiem: Machine Learning Identifies Distinct Clinical States and Trajectories in Patients with Severe Pneumonia Requiring Mechanical Ventilation

Mohammad Ghanbar, MD (BS) – Johns Hopkins Hospital
Bronchoalveolar Fluid of Patients with Checkpoint Inhibitor Pneumonitis Demonstrates Elevated Levels of Chemokine Ligand 18

Andi Hudler, MD (BS) – University of Colorado
Succinate Induces HIF-1α and Pro-IL-1β Expression in Airway Epithelial Cells

Kunal Jakharia, MD (CR) – University of North Carolina
Genotype and Phenotype in Primary Ciliary Dyskinesia: Outer Dynein Arm Genes

Aiham Jbeli, MD (BS) - University of Minnesota
A CD44/BrG1/PRMT5 Nuclear Complex Epigenetically Represses the RBL1 Tumor Suppressor Gene Promoting IPF Mesenchymal Progenitor Cell Self Renewal

Zachary Johnson, DO (BS) - Northwestern University
Early-Life Hyperoxia is Protective Against Influenza Infection by Inhibition of MCP-1-Mediated Injurious Inflammatory Insult

*(BS) Basic Science
*(CR) Clinical Research
**Nicholas Juul, MD (BS) – Stanford University**
Kras Drives Stem Cell Reversion in Vivo But is Restrained By Cell-Of-Origin-Specific Tuning of MAP Kinase and Wnt Signaling

**Jamuna Krishnan, MD (CR) – Weill Cornell Medicine**
Race-Sex Differences in Management of Hyperlipidemia among Individuals with Chronic Obstructive Pulmonary Disease (COPD)

**Sophia Kwon, MD (CR) – New York University School of Medicine**
Food Intake REstriction for Health OUtcome Support and Education (FIREHOUSE): a Proof of Concept Randomized Clinical Trial

**Bowa Lee, MD (CR) – University of Pittsburgh Medical Center**
Elevated Exhaled Nitric Oxide with Low Airway Epithelial Catalase Expression Predicts a Poorly Controlled Asthma Phenotype

**Gabrielle Liu, MD (CR) – Northwestern University**
Imaging Marker of Localized Lung Inflammation is Associated With Future Interstitial Changes and Restrictive Spirometry

**David MacDonald, MD, MS (CR) – University of Minnesota/Minneapolis VA**
Cardiac Autonomic Function and Incident COPD Hospitalizations in the Atherosclerosis Risk in Communities Study

* *(BS) Basic Science
* *(CR) Clinical Research
Kaveh Moghbeli, MD (BS) – University of Pittsburgh Medical Center
Machine Learning Accurately Classifies the Airway Transcriptome of Chronic Lung Allograft Dysfunction and Identifies Phospholipase A2 as a Potential Biomarker and Therapeutic Target

Sarah Moore, MD (BS) – Icahn School of Medicine at Mount Sinai
Mechanisms of Alveolar Barrier Repair after Staphylococcal Lung Injury

Marika Orlov, MD (BS) – University of Colorado
Spectral Flow Cytometry Can Be Used for Accurate Identification of Immune Cell Subsets in BAL of Critically Ill Patients

Mitchell Pitlick, MD (BS) – Mayo Clinic
Exploratory Investigation of Changes in Gene Transcription and Immunophenotypes Following Mepolizumab Treatment for Asthma

Clare Prohaska, MD (BS) – Indiana University
RASA3 is a Novel Biomarker in the Pathogenesis of Sickle Cell Disease-Associated Pulmonary Hypertension and Pulmonary Arterial Hypertension

Anna Qiu, MD (CR) – Johns Hopkins School of Medicine
Nasal Epithelial Lining Fluid (nELF) Cytokines as Biomarkers to Characterize T2-High Asthma in Children

*(BS) Basic Science *(CR) Clinical Research
Young Investigators
Final Outcomes Report

Camille Robichaux, MD (CR) – University of Minnesota
Rurality, Race, and Neighborhood Socioeconomic Status as Determinants of All-Cause Mortality among Veterans with COPD

Daniel Sullivan, MD (BS) – University of Pittsburgh
The Role of Chronic Type II Alveolar Epithelial Cell Loss in the Pathogenesis Of Idiopathic Pulmonary Fibrosis

Vickram Tejwani, MD (BS) – University of Colorado
Peripheral CD4+ Single Cell Transcriptional Profiles are Distinct in Obese Children with Asthma

Ann-Marcia Tukpah, MD (BS) – Brigham and Womens’ Hospital
Development and Validation of Algorithms to Create an Electronic Health Record Cohort of Patients with Systemic Sclerosis for Examination of Interstitial Lung Disease Screening

Jonathan Witonsky, MD (BS) – University of California San Francisco
Ancestry-Informed Respiratory Equations in Genetically Admixed Children with and Without Asthma

*(BS) Basic Science
*(CR) Clinical Research
Young Investigators report being “Very Confident” or “Confident” with:

- Presenting scientific research to expert faculty:
  - Pre-Activity (N=17): 47%
  - Post-Activity (N=23): 96%
  - Relative gain of 104% from pre to post activity

- Confidently articulating strengths/weaknesses of my research:
  - Pre-Activity (N=17): 53%
  - Post-Activity (N=23): 100%
  - Relative gain of 89% from pre to post activity
Pre to Post Activity Confidence

Final Outcomes Report

Young Investigators report being “Very Confident” or “Confident” with:

**Networking with Peer Researchers**
- Relative gain of **174%** from pre to post activity
- Pre-Activity (N=17): 35%
- Post-Activity (N=23): 96%

**Seeking input/advice from senior scientists in the field**
- Relative gain of **112%** from pre to post activity
- Pre-Activity (N=17): 41%
- Post-Activity (N=23): 87%
Pre to Post Activity Confidence
Final Outcomes Report

Young Investigators report being “Very Confident” or “Confident” with:

**Identifying the process for securing grant support**

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<th>Pre-Activity (N=17)</th>
<th>Post-Activity (N=23)</th>
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<tr>
<td>35%</td>
<td>83%</td>
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Relative gain of **137%** from pre to post activity

**Incorporating peer/expert feedback to enhance presentations**

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<th>Pre-Activity (N=17)</th>
<th>Post-Activity (N=23)</th>
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<tbody>
<tr>
<td>71%</td>
<td>87%</td>
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Relative gain of **23%** from pre to post activity
Young investigators indicate the extent that the following components helped meet their expectations of the program:

**Expert Faculty Questions and Feedback**
- Very helpful: 70%
- Helpful: 26%
- Neutral: 4%
- N=23
- 96% felt that expert faculty questions were “very helpful” or “helpful”

**Expert Faculty Lectures**
- Very helpful: 48%
- Helpful: 30%
- Neutral: 17%
- Not helpful: 4%
- N=23
- 78% felt that expert faculty lectures were “very helpful” or “helpful”
Young investigators indicate the extent that the following components helped meet their expectations of the program:

**Networking with Peers**
- 74% Very helpful
- 17% Helpful
- 9% Neutral

91% felt that networking with peers was “very helpful” or “helpful”

**Networking with Faculty**
- 68% Very helpful
- 23% Helpful
- 9% Neutral

91% felt that expert networking with faculty was “very helpful” or “helpful”
"This was an incredible experience, and every part of the Forum was well thought-out. It was great to meet colleagues from across the country in a similar position, career-wise, with whom I otherwise would not have had the opportunity to connect. We had so much close time with senior faculty as well, who were able to give us thoughtful advice backed by years of experience. I was truly awed to see all the work the young investigators presented, and look forward to future collaborations with new friends!"

- Catherine Gao, MD
2022 Young Investigator Winner
Young Investigators rank expert faculty topics from “Very helpful” to “helpful”:

- How to Develop Collaborations and Multidisciplinary Research Teams: 65%
- Career Development: Finding a Mentor/Sponsorship: 65%
- Early Career Funding Landscape: 83%
- Navigating your Career Path: Finding a Job and Salary Negotiations: 86%
- How to Navigate Family/Work Life Balance: 83%

N=23

National Jewish Health
Young Investigators rank the following program components as “Excellent” or “Good:"

- Timeliness of communications: 100%
- Organization of meeting: 96%
- Peer presentations: 96%
- Expert faculty presentations: 87%
- Program length: 91%
- Time for Networking: 96%

N=23
Overall Program Evaluation
Final Outcomes Report

✓ 100% reported that they would recommend this program to their colleagues
✓ 100% reported the material was presented in an objective manner and free of commercial bias
✓ 100% reported that the learning objectives of this activity were met
✓ 91% reported that their expectations for this forum were met or exceeded
✓ 74% reported that the activity positively influenced their interest in pursuing a career as a physician scientist
✓ 91% reported that, in comparison to other professional development activities attended, this activity was as helpful or more helpful toward meeting professional goals
✓ 71% reported they would modify other abstract submissions based on feedback received during this activity

“Overall it was a great conference. I will be recommending it to fellows and junior faculty.”
- 2022 Young Investigator
Participant Take-Aways

- Networking and seeing the research being performed among peers was great.
- This was a great forum; it achieved all the intended goals and objectives.
- Scientific communication creating slides that deliver a message.
- Salary negotiation is a moving target.
- Presenting high level information in an expeditious way.
- Networking with peers, discussing common challenges in pursuing a career as a physician scientist.
- A number of different methodologies can be used to enhance our understanding of pulmonary diseases and next steps.
- The feedback provided by the research coaches and faculty was direct, thoughtful, and provided insight into my project that I had not had prior to this event.
- Unique opportunity and is unlike any other conference I have attended thus far.
- Met so many like minded colleagues who I would not have met otherwise and hoping to stay in touch with everyone.
Career Trajectory Changes

Final Outcomes Report

✓ I am planning to undertake a pilot clinical trial sooner than I initially planned.
✓ I am seeking ways to identify opportunities for team science.
✓ I will be able to move forward in job negotiations to better advocate for myself and my future career path.
✓ I have become more interested in the pursuit of COPD/cardiovascular disease overlap.
✓ Applying for LRP, other non-NIH funded grants, F32.
✓ Thinking about collaborations outside of the institution sooner.
✓ I intend to think broadly when it comes to finding the right job that will really support my career and take it to the next level.
✓ Better reflection on next steps of investigative work.
✓ I am starting as assistant professor soon, but after hearing Dr. Jennifer Taylor-Cousar, I plan to look for grants supported by pharma and have also reached out to the MSL of a company in my state already.
Accreditation
Final Outcomes Report

National Jewish Health is accredited with Commendation by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The NJH Office of Professional Education produced and accredited this program and adhered to the updated ACCME guidelines.

National Jewish Health designates this live activity for a maximum of 14.0 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.