AWIS 2018 Pinnacle Award Recipient
Sue Desmond-Hellman, MD, MPH
Page 1

Special Section: Innovation & Inclusion: Women at the Forefront of STEM
Page 3

New AWIS Report: Revolutionizing the STEM Entrepreneurship Ecosystem
Page 26

Contemporary Mentoring Relationships
Page 48

PLUS: Our Collective Impact
Page 54
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AWIS
ASSOCIATION FOR WOMEN IN SCIENCE
Sue Desmond-Hellmann Receives AWIS Pinnacle Award

Sue Desmond-Hellmann, MD, MPH, is the 2018 recipient of the AWIS Pinnacle Award for lifetime achievement for her contributions as a scientist, physician, philanthropist, and mentor. The inaugural Pinnacle Award from AWIS is given to honor an individual’s lifetime of innovative achievements in STEM and commitment to workplace diversity.

Desmond-Hellmann is the chief executive officer of the Bill & Melinda Gates Foundation where she leads the organization's vision for a world where every person can live a healthy, productive life. From 2009 to 2014, Dr. Desmond-Hellmann served as the first female chancellor of the University of California at San Francisco. She was listed among Fortune magazine’s “top 50 most powerful women in business” for seven years and, in 2010, was inducted into the American Academy of Arts and Sciences and elected to the Institute of Medicine.

“I am honored to receive the Pinnacle Award from AWIS, an extraordinary organization I admire greatly for its work and advocacy for women in STEM,” said Sue Desmond-Hellmann, MD, MPH, CEO, Bill & Melinda Gates Foundation. “AWIS is a catalyst for change and committed to inspiring and supporting innovation to help the next generation of women scientists, technologists, engineers, and mathematicians fulfil their potential.”

Other AWIS award recipients include Melinda Richter, Global Head of Johnson & Johnson Innovation, JLABS receiving the Leadership Award; Salesforce as the recipient of the Game Changer Award which will be accepted on behalf of its Chief Equality Officer Tony Prophet; and the Next Generation award will be presented to Rachel Haurwitz, co-founder of Caribou Biosciences.

“Now more than ever, it is vital to recognize those working towards positive systemic change in the STEM industry,” said Janet Bandows Koster, Executive Director and CEO, AWIS. Our awardees have dedicated their lives to creating positive social change while contributing to the field of STEM. We commend the great strides they have made towards encouraging gender parity and diversity in STEM.”

The Fourth Annual Summit, Innovation and Inclusion: Women at the Forefront of STEM, will be held in San Francisco. The summit convenes more than 200 of the most influential leaders in STEM to recognize their accomplishments as individuals, companies and organizations who are making significant contributions to increasing workplace diversity, promoting women in leadership positions and advocating for more inclusive practices in STEM.
From the Cover:

3 Special Section: Innovation & Inclusion: Women at the Forefront of STEM

26 New AWIS Report: Revolutionizing the STEM Entrepreneurship Ecosystem

54 PLUS: Our Collective Impact

Other Content:

5 Editor’s Note: #WomeninSTEMLead
24 Good2Know: STEM to Market
The AWIS Accelerator
26 Revolutionizing the STEM Entrepreneurship Ecosystem
28 Career Development: Dare to Take the Journey!
30 Biogen: From Organizational to Industry Impact: Promoting Gender Diversity on Corporate Boards
34 Redefining Global Inclusion and Culture
38 How the Wise Ones Are Helping to Enhance Gender Diversity at Genentech
42 Driving Innovation Through Diversity
44 Diversity and Inclusion: The Key to Unlocking Innovation’s True Potential
50 Featured Chapter: AWIS Palo Alto, CA
52 Featured Chapter: AWIS Metropolitan Washington, DC
56 Introducing the Chicago Cohort of STEM to Market: The AWIS Accelerator
58 Congratulations to Our FY18 AWIS Star Award Winners
60 Last Word: Impact
Innovation and Inclusion
Women at the Forefront of STEM
Hosted by the Association for Women in Science

Featuring:

Welcome Message
Bahija Jallal, PhD, President, MedImmune and Executive Vice President, AstraZeneca
AWIS National Governing Board

Award Recipients
Sue Desmond-Hellmann, MD, MPH, CEO, Bill & Melinda Gates Foundation
Rachel Haurwitz, PhD, President and CEO, Caribou Biosciences
Melinda Richter, MBA, Global Head of Johnson & Johnson Innovation, JLABS
Salesforce

Summit Program Agenda
Featured Speakers
Sponsors

Welcome to the Association for Women in Science (AWIS) Fourth Annual Summit where our focus is on Innovation and Inclusion: Women at the Forefront of STEM. I am excited to announce that as part of this year’s Summit, we will host an AWIS awards dinner to recognize four global diversity champions:

- **Sue Desmond-Hellman**, MD, MPH is the recipient of the **AWIS Pinnacle Award** which recognizes her contribution in STEM as a scientist, physician, philanthropist, and mentor. Dr. Desmond-Hellman is the Chief Executive Officer of the Bill and Melinda Gates Foundation.
- **Melinda Richter**, MBA is the recipient of the **AWIS Leadership Award** for her commitment to foster a high representation of women in leadership and supportive workplace policies. Richter is the Global Head of Johnson & Johnson Innovation, JLABS.
- AWIS will present the **Game Changer Award** to Salesforce, a global leader in customer relationship management. Salesforce Chief Equality Officer Tony Prophet will accept the award. The company’s commitment to diversity and inclusion efforts has consistently ranked Salesforce as a “Best Place to Work” and for the eighth year in a row, placed it on the Fortune 100 Best Companies to Work For list.
- **Rachel Haurwitz**, PhD is the recipient of the **AWIS Next Generation Award** for her innovation and commitment to diversity and progressive workplace policies. Haurwitz is co-founder, President and CEO of Caribou Biosciences.

I look forward to celebrating the work of our awardees and some 200 of the most influential leaders in STEM who will lead, discuss and connect powerful ideas for meaningful change in the STEM workplace. As a global network that inspires bold leadership, in-depth research and solutions that advance STEM, AWIS will continue its call to action to spark innovation, promote organizational success and drive systemic change. I hope you enjoy being part of the conversation.

Thank you to all our Summit participants, speakers, sponsors and partners for your support and advocacy on behalf of women in STEM. I also want to thank the members of the AWIS National Governing Board for their dedicated vision and passion.

Kind regards,

Bahija Jallal, AWIS President  
AWIS National Governing Board
Currently, our country is having some tough overdue conversations about harassment and the lack of diversity, inclusion, funding, equity, and access to opportunities, especially for women in the workplace. So, it could not be a better time for our fourth annual Summit on Innovation and Inclusion which addresses many of the systemic issues that continue to exist in STEM enterprises and ecosystems.

We are very fortunate to have assembled so many key influencers from across sectors to inspire collaboration and thought leadership around strategic impact areas including workplace empowerment, policy, and practice. Many thanks to our speakers, panelists, and moderators for their engagement and support. And, we are inspired and encouraged by our awardees who demonstrate that women are the trailblazers that will lead science into the 21st century.

I would also like to thank our generous sponsors for making this Summit and Awards celebration possible and especially for showing their commitment and support for women, diversity and inclusion.

A special thanks to Pam Moore, anchor of KRON 4 Evening News in San Francisco, for becoming a new ally and agreeing to serve as MC for the event. Pam joins our global network of 80 grassroots chapters and affiliates connecting more than 100,000 professionals in STEM with members, allies and supporters worldwide.

We face both a persistent challenge to women and a promising opportunity for advancing innovation: At every level of their training and career development, women are dropping out of STEM. We must work to keep them fully engaged and contributing, by providing both support for their professional development AND by working to eliminate the barriers that discourage their participation.

There are some simple, and fully-achievable steps that organizations can take to make a difference. To learn more or join AWIS, visit www.awis.org or find us on Facebook, Twitter, or LinkedIn. ☝

Thank you for supporting us as we continue this legacy.

Janet Bandows Koster
Executive Director & CEO
koster@awis.org

The Association for Women in Science is a non-profit, 501 (c)(3) organization. AWIS champions the interests of women in science, technology, engineering, and mathematics across all disciplines and employment sectors. Working for positive system transformation, AWIS strives to ensure that all women in these fields can achieve their full potential.

#WomeninSTEMLead
Game Changer Award

SALESFORCE

Accepted by Tony Prophet
Chief Equality Officer, Salesforce

Recognizing an exemplary company whose diversity and inclusion efforts represent a true ally to the pursuit of workplace equality

“We are honored to be recognized by the Association for Women in Science (AWIS) for our efforts to drive equality for all,” said Tony Prophet, Chief Equality Officer, Salesforce. “We’re proud of the progress we’ve made—from creating a culture of allies to ensuring all of our employees are paid equally for equal work—but there is much more work to be done.”

Salesforce is the global leader in customer relationship management (CRM), and is committed to a set of core values—trust, growth, innovation, and equality of every human being. For its efforts, Salesforce has been named the 2017 World’s Best Workplace by Great Place to Work, one of Fortune’s Best Workplaces for Diversity three years in a row, and one of Comparably’s Best Companies for Women.

Leading the charge on Equality and reporting directly to CEO Marc Benioff, Tony Prophet will be accepting the award on behalf of Salesforce. As its Chief Equality Officer, Prophet is focused on gender, LGBTQ, and racial issues—ensuring the company reflects the diversity and upholds the values of the communities it serves.
Leadership Award

Melinda Richter, MBA
Global Head of JLABS
Johnson & Johnson Innovation

Commending an experienced STEM leader for fostering a high representation of women in leadership and supportive workplace policies

“We thank the Association for Women in Science (AWIS) for this recognition of our work with emerging businesses, researchers, and entrepreneurs to support gender equity, access to resources, and a diversity of ideas. I have seen firsthand the experience of women in the science industry and I look forward to working in tandem with AWIS to continue to advance biotech and healthcare across all STEM fields and employment sectors,” said Melinda Richter, Global Head of JLABS, Johnson & Johnson Innovation.

Melinda Richter, MBA, is the Global Head of Johnson & Johnson Innovation, JLABS. In her role, she fosters the Johnson & Johnson Family of Companies external R&D engine and supports the innovation community by creating capital-efficient commercialization models that give early stage companies a big company advantage. Melinda has received numerous industry awards including: the PharmaVOICE 100; Fierce Biotech Top 15 Women; Most Influential Women in Business (San Francisco Business Times); MM&M 2017 Healthcare Transformer; BIO Super Hero; and Fast Company’s Most Innovative Company in Biotech. She serves on various boards and advisory panels and is currently board member and Treasurer of the California Life Sciences Association (CLSA).
Target Audience:
• Executive leadership in academia, technology, biotech, and other STEM industries

Why Companies Attend:
• Meet one-on-one with STEM industry leaders.
• Showcase your company story in presentations to potential partners and other industry leaders.
• Network in an intimate setting alongside peers and the most innovative voices in STEM.

Next Generation Award

Rachel Haurwitz, PhD
Co-Founder, President and CEO
Caribou Biosciences

Highlighting an early career leader in STEM who is a visible and vocal advocate for diversity and inclusive scientific practices

“I am honored to receive this recognition from the Association for Women in Science (AWIS). AWIS is a global leader in driving excellence in STEM through its research, advocacy, talent recruitment, and professional development. I look forward to working with AWIS to advance their mission in pursuit of gender equity, access to entrepreneurship opportunities, and diversity in all STEM fields across the country,” said Rachel Haurwitz, Co-Founder, President and CEO, Caribou Biosciences.

Rachel Haurwitz, PhD, is a co-founder of Caribou Biosciences and has been President and CEO since its inception. She has a research background in CRISPR-Cas biology, and is also a co-founder of Intellia Therapeutics. Rachel is an inventor on several patents and patent applications covering multiple CRISPR-derived technologies, and she has co-authored scientific papers in high impact journals characterizing CRISPR-Cas systems. Rachel earned an A.B. in Biological Sciences from Harvard College, and received a Ph.D. in Molecular and Cell Biology from the University of California, Berkeley. This award draws specific attention to her continued innovation at the helm of Caribou Biosciences, as well as her commitment to diversity and progressive workplace policies.
The Association for Women in Science

Smart Women Doing Cool Stuff
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AWIS
# Program Agenda

## Innovation and Inclusion: Women at the Forefront of STEM

Bently Reserve, San Francisco, CA  |  Wednesday, April 25, 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1:30 pm – 2:00 pm</td>
<td>Registration and Informal Networking</td>
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<tr>
<td>2:00 pm – 2:15 pm</td>
<td>Welcome and Opening Remarks</td>
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<td>Bahija Jallal, PhD, President, MedImmune and Executive Vice President, Astrazeneca, AWIS National Governing Board</td>
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<td>Master of Ceremonies</td>
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<td>Pamela Moore, Evening News Anchor, KRON4</td>
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<td>2:15 pm – 2:40 pm</td>
<td>Fireside Chat</td>
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<td>These game-changing innovators will discuss how they have effectively evolved their respective organizations to elevate women around the globe to reach new heights. Best practices and continuous reevaluation of their effectiveness, along with establishing a culture of inclusion, are important components for future success. Listen as they share their own experiences in moving the needle forward.</td>
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<td>Moderator</td>
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<td>Sara Radcliffe, MPH, President and CEO, California Life Sciences Association</td>
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<td>Panelists</td>
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<td>• Sue Desmond-Hellmann, MD, MPH, CEO, Bill &amp; Melinda Gates Foundation</td>
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<td>• Marc Tessier-Lavigne, PhD, FRS FRSC FMedSci, President, Stanford University</td>
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<tr>
<td>2:40 pm – 3:00 pm</td>
<td>Session 1: Diversity Drives Innovation: 30,000 Foot View Through Data</td>
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<td>In best practice companies, diversity and inclusion is not a buzzword but a business imperative for leaders. This session will share the latest data on the impact of diversity and inclusion on employee engagement, recruitment and retention initiatives, and overall competitiveness of companies across multiple sectors.</td>
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<td>Speaker</td>
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<td>• Holly Falk-Krzesinski, PhD, Vice President Research Intellige, Global Strategic Networks, Elsevier Foundation</td>
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3:00 pm – 3:25 pm  Session 2: Why Diversity is Good for Business!

Culture matters in innovative organizations. The most successful institutions know that innovation and impact come from diverse talent pools of women and men. Hear how senior leaders have created and evolved workplace cultures that attract the best talent in science and technology and learn how inclusive environments should be the new normal of the future.

**Moderator**
Karene Richards, CEO, The Karene Group, LLC; Chair, AWIS Audit and Finance Committee

**Panelists**
- Talmade King, Jr., MD, Dean, School of Medicine and Vice Chancellor, Medical Affairs, University of California, San Francisco
- Dana Krueger, PhD, Managing Director, Global Leader of Biotech & Pharmaceuticals Practice, Russell Reynolds Associates
- Crystal Lee, Director of Human Resources, Boehringer-Ingelheim

3:25 pm – 3:50 pm  Fireside Chat

Salesforce has been a beacon in the industry on social issues and a leader in technology innovation. Salesforce appointed a Chief Equality Officer which is a deviation from Industry’s Chief Diversity Officer—learn why. In addition, the actions that they have taken on LGBTQ equality, as well as pay equality, have been on the cutting edge of diversity and inclusion. Hear how Salesforce tries to remain a leader on these issues, and how leadership pushes the company to be best in class.

**Moderator**
Susan Windham-Bannister, PhD, Managing Director, Biomedical Innovation Advisors, LLC, and President and CEO, Biomedical Growth Strategies, LLC; President-Elect, AWIS National Governing Board

**Panelist**
Tony Prophet, MBA, Chief Equality Officer, Salesforce
**3:50 pm – 4:10 pm  Session 3: Building Blocks: Financing New Ventures**
Translating STEM ideas into successful businesses requires entrepreneurs to quickly become financially savvy. Continuously navigating the world of venture capital, venture debt, and Small Business Innovation Research (SBIR) grants can be challenging, and yet enthralling as financing can quickly help accelerate your company. Learn from some of the top individuals who have successfully navigated the world of startups and financing, in addition to those who are responsible for funding those ventures.

**Moderator**
Vasudev Bailey, PhD, Partner, ARTIS Ventures; Councilor, AWIS National Governing Board

**Panelists**
- Rachel Haurwitz, PhD, President and CEO, Caribou Biosciences
- Alex Jung, MBA, Principal, Global Strategy, Parthenon-EY
- Maria Salamanca, Senior Associate, Unshackled Ventures

**4:10 pm – 4:35 pm  Session 4: Fix the Women or Fix the System?**
Many companies and academic institutions are looking at strategies to increase the participation of women in science and leadership. Some questions that come up are:
- Do we focus on the women or on the barriers that exist in the system?
- Are quotas needed to improve the situation? Listen to academic and industry leaders debate this topic from various angles.

**Moderator**
Pamela McCauley, PhD, Professor, Department of Industrial Engineering and Management Systems, University of Central Florida; Councilor, AWIS National Governing Board

**Panelists**
- Kimberly Clemenson, MBA, Executive Director, Business Performance, Amgen
- Leisa Johnson, PhD, Vice President, Preclinical Research & Development, 4D Molecular Therapeutics
- Rhona O’Leary, PhD, Global Head Portfolio and Product Development Strategy, Genentech
4:35 pm – 4:55 pm  Fireside Chat
The importance of R&D and the role it plays in supporting the innovation community provides early stage companies with an advantage. In addition, it is imperative to understand the importance of diversity and its impact on the success of a company. Hear from our guest speaker who understands the effort needed to improve innovation and diversity in the workplace and has implemented several programs which have led to positive impact.

Moderator
Jennifer Elisseeff, PhD, Professor, Johns Hopkins University; Councilor, AWIS National Governing Board

Panelist
Melinda Richter, MBA, Global Head of Johnson & Johnson Innovation, JLABS

4:55 pm – 5:00 pm  Closing Remarks
• Pamela Moore, Evening News Anchor, KRON4
• Janet Bandows Koster, MBA, Executive Director & CEO, Association for Women in Science

5:00 pm – 6:00 pm  Social Networking Reception

6:00 pm – 6:05 pm  Dinner Welcome and Opening Remarks
Master of Ceremonies
Pamela Moore, Evening News Anchor, KRON4
Bahija Jallal, PhD, President, MedImmune and Executive Vice President, Astrazeneca, AWIS National Governing Board

6:25 pm – 6:45 pm  Dinner Keynote Speaker
Introduction
Sara Kenkare-Mitra, PhD, Senior Vice President, Development Sciences, Genentech Councillor, AWIS National Governing Board

Speaker
Sue Desmond-Hellmann, MD, MPH
CEO, Bill & Melinda Gates Foundation
Target Audience:
• Executive leadership in academia, technology, biotech, and other STEM industries

Why Companies Attend:
• Meet one-on-one with STEM industry leaders.
• Showcase your company story in presentations to potential partners and other industry leaders.
• Network in an intimate setting alongside peers and the most innovative voices in STEM.

6:45 pm – 7:20 pm  Dinner and Awards Presentation

AWIS PINNACLE AWARD
Introduction
Sara Kenkare-Mitra, PhD, Senior Vice President, Development Sciences, Genentech; Councilor, AWIS National Governing Board

Award Recipient
Sue Desmond-Hellman, MD, MPH, CEO, Bill & Melinda Gates Foundation

NEXT GENERATION AWARD
Introduction
Ann Lee-Karlon, PhD, Senior Vice President, Portfolio Management and Operations, Genentech; Immediate Past President, AWIS National Governing Board

Award Recipient
Rachel Haurwitz, PhD, President and CEO, Caribou Biosciences

GAME CHANGER AWARD
Introduction
Wendy Mayer, MBA, Vice President Strategy, Pfizer Innovative Health; Councilor, AWIS National Governing Board

Award Recipient
Salesforce, Inc, accepted by Tony Prophet, MBA, Chief Equality Officer

LEADERSHIP AWARD
Introduction
Vasudev Bailey, PhD, Partner, ARTIS Ventures; Councilor, AWIS National Governing Board

Award Recipient
Melinda Richter, MBA, Global Head, Johnson & Johnson Innovation, JLABS

7:20 pm – 7:30 pm  Closing Remarks
Bahija Jallal, PhD, President, MedImmune and Executive Vice President, AstraZeneca, AWIS National Governing Board

7:30 pm – 8:30 pm  Networking Walk-Around Dessert Buffet
Sponsored by Intel
Speakers and Moderators

Innovation and Inclusion: Women at the Forefront of STEM

Vasudev Bailey, PhD
Partner, ARTIS Ventures
Councilor, AWIS National Governing Board

Dr. Vasudev Bailey is a partner with ARTIS Ventures. Vas helped found enterprise sales and the healthcare business for Quid and continues to provide commercial expertise and support. Vas continues to draw on his strategy consulting background as well as his experience from several acquired startups. He currently serves as an advisor to four startups and serves on three boards. He received his PhD in biomedical engineering from the Johns Hopkins School of Medicine, where he was recognized as both a Siebel and a Medtronic Scholar. Dr. Bailey graduated magna cum laude and Phi Beta Kappa from University of California Irvine, where he was also recognized as both a Regents and a Henry Samueli Scholar.

Kimberly Clemenson, MBA
Executive Director, Business Performance, Amgen

Kimberly has over 20 years of diverse Operations experience from various ventures into research, pharma/biotech, and entrepreneurship. She is currently Executive Director of Business Performance at Amgen and is leading an effort to accelerate potentially impactful therapies from discovery through launch to market at industry-leading speed. Kimberly joined Amgen in 2003 and has held positions of increasing responsibility in Operations Strategy, Global Operations Planning, CMC Lifecycle Management, and Global Product General Management. She spent the majority of her time as a Global Operations Leader, both leading product development teams and managing commercial products within the Operations space. Kimberly received her B.S. in Physics from Eastern Kentucky University, her M.S. in Health Physics from Texas A&M University, and an MBA from the University of California, Los Angeles. Kimberly is an avid cook and foodie and lives in the San Francisco Bay Area with her husband and two stepchildren.

Sue Desmond-Hellmann, MD, MPH
Chief Executive Officer, Bill & Melinda Gates Foundation

Sue Desmond-Hellmann, MD, MPH, is the 2018 recipient of the AWIS Pinnacle Award which recognizes her contributions in STEM as a scientist, physician, philanthropist, and mentor. As Chief Executive Officer of the Bill & Melinda Gates Foundation, Sue leads the organization’s vision for a world where every person has the opportunity to live a healthy, productive life. Under her watch, the foundation has also been pushing harder on women’s empowerment while working towards closing gender data gaps to help accelerate progress for women around the world. Forbes magazine has named her one of the world’s seven most “powerful innovators” and in her current role she champions global development by getting the right interventions, to the right populations, in the right places, to save lives. She is the
recipient of numerous honors and awards. Sue was listed among Fortune magazine’s “top 50 most powerful women in business” for seven years and, in 2010, was inducted into the American Academy of Arts and Sciences and elected to the Institute of Medicine.

Jennifer Elisseef, PhD
Professor, Johns Hopkins University
Councilor, AWIS National Governing Board

Dr. Jennifer Elisseef is the Morton Goldberg Professor and Director of the Translational Tissue Engineering Center at Johns Hopkins Department of Biomedical Engineering and the Wilmer Eye Institute with appointments in Chemical and Biological Engineering, Materials Science and Orthopedic Surgery. She was elected a Fellow of the American Institute of Medical and Biological Engineering, the National Academy of Inventors, and a Young Global Leader by World Economic Forum. In 2002 she was named by MIT Technology Review as a top innovator under 35.

Holly J. Falk-Krzesinski, PhD
Vice President, Research Intelligence, Global Strategic Networks, Elsevier

Holly Falk-Krzesinski, PhD, is the Vice President, Research Intelligence on the Global Strategic Networks team at Elsevier, where her responsibilities center on how insights from data and analytics guide strategic planning for research institutions, funders, and science policy organizations. Holly’s engagement activities include building partnerships around gender diversity and equity issues. Actively involved in promoting early career researchers and women leaders in STEM, she co-launched the Chicago Collaboration for Women in STEM while a faculty member at Northwestern University, served as the editor-in-chief of the AWIS Magazine, is co-chair of the Gender Working Group at Elsevier, and co-authored Elsevier’s public report, “Gender in the Global Research Landscape.”

Rachel Haurwitz, PhD
President and Chief Executive Officer, Caribou Biosciences, Inc.

Rachel is a co-founder of Caribou Biosciences and has been President and CEO since its inception. She has a research background in CRISPR-Cas biology, and is also a co-founder of Intellia Therapeutics. In 2014, she was named by Forbes Magazine to the “30 Under 30” list in Science and Healthcare, and in 2016, Fortune Magazine named her to the “40 Under 40” list of the most influential young people in business. Rachel is an inventor on several patents and patent applications covering multiple CRISPR-derived technologies, and she has co-authored scientific papers in high impact journals characterizing CRISPR-Cas systems. Rachel earned an A.B. in Biological Sciences from Harvard College, and received a Ph.D. in Molecular and Cell Biology from the University of California, Berkeley.
**Bahija Jallal, PhD**  
President, MedImmune and Executive Vice President, AstraZeneca,  
AWIS National Governing Board

As part of AstraZeneca’s Senior Executive Team, Dr. Bahija Jallal is tasked with advancing the biologic organization’s pipeline of drugs targeting cancer, infections, respiratory and inflammatory diseases, cardiovascular and gastrointestinal disorders, and pain. Bahija received a master’s degree in biology from Paris Diderot University and her doctorate in physiology from Pierre-and-Marie-Curie University. She conducted her postdoctoral research at the Max-Planck Institute of Biochemistry in Martinsried, Germany.

**Leisa Johnson, PhD**  
Vice President, Preclinical Research & Development, 4D Molecular Therapeutics

Dr. Johnson has over 20 years of experience in cutting edge biological sciences and biotherapeutics R&D. She completed her PhD in Biology at MIT in the lab of Dr. Tyler Jacks, a world-leader in animal disease modeling. Her industry experience started as a post-doctoral associate at Onyx Pharmaceuticals, where she quickly rose to take leadership of a new oncolytic virus and gene therapy product development program. Leisa subsequently held leadership roles at Exelixis and Genentech, where she built and directed scientific and preclinical development teams focused on supporting oncology target discovery and validation efforts as well as the development of novel small molecule drugs and therapeutic antibodies. She is currently the Vice President of Preclinical R&D at 4D Molecular Therapeutics, a leader in next-generation AAV vector discovery that is dedicated to curing patients with severe, inherited rare diseases through targeted and optimized AAV gene therapy products.

**Alex Jung**  
Managing Director, Parthenon-EY practice, Ernst & Young LLP

Alex Jung works primarily on strategic transformation projects. Alex has worked with many health care and life sciences companies across the country and has developed and implemented large-scale plan design and funding strategies such as the introduction of innovative consumer-driven health care plans, health savings accounts and health improvement initiatives, including on-site pharmacies and clinics for her former clients. Alex led corporate strategy at Walgreens, and has performed work on several large-scale transactions, mergers and acquisitions, including the divestiture of Walgreens’ pharmacy benefit manager, acquisition of AllianceBoots and other assets. She has been quoted in numerous articles in the Chicago Tribune, Business Insurance, Workforce Management magazine, Crain’s Chicago Business and other industry publications.

**Sara Kenkare-Mitra, PhD**  
Senior Vice President, Development Sciences, Genentech  
Councilor, AWIS National Governing Board

Sara Kenkare-Mitra, PhD, is senior vice president of Development Sciences at Genentech, a member of the Roche Group. She has had a significant impact on the development of a number of medicines leading to Genentech’s key product
approvals and more than 65 Investigational New Drug applications. Sara also is an adjunct faculty at UCSF in the Department of Bioengineering and Therapeutic Sciences. She was selected one of the 150 Most Influential Business Women by San Francisco Business Times in 2011. Sara was elected to the Institute of Medicine, National Academy in 2014.

Talmadge E. King, Jr., MD
Dean, School of Medicine and Vice Chancellor – Medical Affairs, University of California, San Francisco

Talmadge E. King, Jr., MD is Dean of the School of Medicine and Vice Chancellor-Medical Affairs at the University of California, San Francisco. He is a member of the National Academy Medicine, the American Academy of Arts and Sciences, the Association of American Physicians, the American Clinical and Climatological Association and the Fleischner Society, a Master of the American College of Physicians and a Fellow of the American College of Chest Physicians. Talmadge is a past president of the ATS and Secretary/Treasurer of the American Board of Internal Medicine. He received the Trudeau Medal from the ATS and the Breathing for Life Award from the Foundation of the ATS. His research interest is the pathogenesis, diagnosis and management of inflammatory and immunologic lung injury. His bibliography comprises more than 300 publications. He has co-authored 11 books, including the reference book Interstitial Lung Disease, now in its 5th edition.

Janet Bandows Koster, MBA
Executive Director and CEO, Association for Women in Science

Janet Bandows Koster, is Executive Director and CEO of the Association for Women in Science (AWIS). Her newest book “Equitable Solutions for Retaining a Robust STEM Workforce,” addresses systemic factors leading to the dearth of women in STEM careers and its impact on the workforce. A sought-after speaker, she has presented at various conferences around the world including the International Gender Summit, the U.S. News STEM Solutions Conference, and the UNESCO Women in STEM meeting at the United Nations. Ms. Bandows Koster has authored numerous reports related to issues at the nexus of gender and STEM. Her work has appeared in the Chronicle of Higher Education, Inside Higher Ed, Forbes, the Journal of International Innovation, and Open Science EU. In 2016, she was named one of the 100 Inspiring Women in STEM by INSIGHT into Diversity.

Dana Krueger, PhD
Managing Director, Global Leader of Biotech & Pharmaceuticals Practice, Russell Reynolds Associates

A PhD scientist by background, Dana Krueger leads the firm’s Global Biotech & Pharmaceuticals Practice. She focuses on leadership assignments at the executive and non-executive levels. She also advises clients across a range of sectors on senior R&D/innovation roles. Prior to joining Russell Reynolds Associates, Dana served as a Global Account Manager and key member of the European Life Sciences practice at the Monitor Group (now part of Deloitte). Earlier in her career, she was a Post-Doctoral Fellow at Harvard University and a Fulbright Fellow at the University of Sydney. Dana is a member of the Healthcare Business Women’s Association (HBA), and also participates in the Ivy Circle and the Harvard Club of the...
Netherlands. She received her B.A. in Biology (summa cum laude) from Lawrence University and her A.M. and Ph.D. in Biology from Harvard University.

Crystal Lee
Director of Human Resources, Boehringer-Ingelheim

Crystal Lee currently serves as Director of Human Resources at Boehringer-Ingelheim. In her current role, she serves as the human business partner for process science and oversees the supply chain and logistics, engineering and technology, project management, business development, and business and contracts functions. Crystal is a graduate of Cornell University with an MILR in Industrial and Labor Relations and received a BA in Political Science from the University of Washington.

Ann Lee-Karlon, PhD
Senior Vice President, Portfolio Management and Operations, Genentech
Immediate Past President, AWIS National Governing Board

Ann Lee-Karlon, PhD leads Portfolio Management and Operations with oversight for over 30 product development teams and heads business operations for the research and early development division. Prior to joining Genentech, Ann was a leader in venture development at Eli Lilly and interned at UBS investment bank in London. Ann holds an MBA from Stanford University, BS in bioengineering from UC Berkeley, and PhD in bioengineering from UC San Diego, where she was a National Science Foundation Fellow. Ann currently serves as President and Board Chair of the Genentech Access to Care Foundation. Ann was named a Fellow of the Aspen Institute in the inaugural Health Innovators program.

Wendy Mayer, MBA
Vice President Strategy, Pfizer Innovative Health
Councilor, AWIS National Governing Board

Wendy Mayer, MBA, is vice president Strategy, Pfizer Innovative Health. In this role, she is responsible for articulating and evaluating strategic opportunities across Pfizer’s Innovative portfolio (Vaccines, Oncology, Internal Medicine, Rare Disease, Immunology & Inflammation, and Consumer Health), including business development and transformative innovation. She joined Pfizer in 1997 and has had various roles across different aspects of the commercial organization.

Pamela McCauley, PhD
Professor, Department of Industrial Engineering and Management Systems, University of Central Florida
Councilor, AWIS National Governing Board

Dr. Pamela McCauley is an internationally recognized Industrial Engineering researcher in the development of mathematical models, human engineering, and engineering leadership. She is an award-winning educator, often described as an “outstanding” and “enthusiastic” professor, on a mission to empower students and professionals to successfully pursue STEM educational, career, and innovation goals. An author of over 100 technical publications, an internationally-used ergonomics textbook, and several inspiring books on STEM
leadership, Pamela serves as the Director of the Ergonomics Laboratory in the Department of Industrial Engineering and Management Systems at the University of Central Florida. In January 2018, Dr. McCauley was selected to serve as Program Director for the National Science Foundation Computer Information Science and Engineering Directorate’s I-Corps Program. Pamela earned her bachelor’s, master’s, and PhD in industrial engineering from the University of Oklahoma.

Pamela Moore
Evening News Anchor, KRON 4
Pamela Moore joined KRON 4 in March 1991 as an anchor and general assignment reporter and anchors the evening newscasts. Pam’s work on KRON 4’s five-part news series “About Race” garnered a number of awards, including a prestigious George Foster Peabody Award, the Pew Center Batten Prize for Civic Journalism, an In-Depth Reporting Award from the Northern California Chapter of the Society of Professional Journalists, top honors from the Black Filmmakers Hall of Fame and Best Documentary Award from the California Associated Press Television Radio Association. In addition, Pam was nominated for an Emmy for the special “Selma to Ferguson”. She has been inducted into the National Academy of Television Arts & Sciences Silver Circle, honoring her significant contribution to Northern California television and honored for her career achievements by the Society of Professional Journalism, NorCal. Pam is a member of the Bay Area Black Journalists Association, has worked in the past with the Black Journalists Association of Southern California, and was a former vice president for broadcast for the National Association of Black Journalists.

Rhona O’Leary, PhD
Global Head Portfolio and Product Development Strategy, Genentech
In her role as the Global Head of Portfolio and Product Development Strategy for Genentech, Rhona O’Leary is responsible for driving strategy for the Roche portfolio and the Product Development organization. Prior to this role, Rhona was Vice President gRED Business Operations and Project Team Leaders, responsible for leading drug development teams in multiple therapeutic areas, including Immunology, Neuroscience, Ophthalmology, Infectious Diseases and Metabolism. Rhona received her Ph.D. in Biochemistry at Dublin City University, Ireland, in 1994 and then moved to Genentech for a Post-Doctoral position in the department of Recovery Sciences. She worked in the area of downstream processing for 13 years, and has had experiences in many aspect of biologics process development including early clinical development, commercial development, post-approval and validation. She was the Director of Early Stage Purification at Genentech for 4 years, leading the department responsible for purification of all clinical candidates from research through Phase II development.

Tony Prophet, MBA
Chief Equality Officer, Salesforce, Inc.
Tony Prophet leads Salesforce’s Equality initiatives, focusing on gender, LGBTQ, and racial issues—ensuring the company reflects the diversity and upholds the values of the communities it serves. He reports directly to the CEO and Chairman Marc Benioff. Prophet is also a board member of Gannett where he chairs the Transformation Committee. He also serves on the board of College Track.
Throughout his career, Prophet has worked for social justice including addressing the root causes of migratory worker flows, educating female workers in developing countries on reproductive health issues and reducing supply chain greenhouse gas footprint. Prophet holds a BSIE degree from General Motors Institute and an MBA from the Stanford Graduate School of Business attending as a GM Fellow.

Sara Radcliffe, MPH
President and Chief Executive Officer, California Life Sciences Association (CLSA)

Sara Radcliffe was appointed the president and chief executive officer of the California Life Sciences Association (CLSA) in December 2014. She formerly served as the Executive Vice President for Health at the Biotechnology Industry Organization (BIO). Previously, Sara served as Senior Director, Biologics & Biotechnology at the Pharmaceutical Research and Manufacturers of America (PhRMA). She also served in the Alliance and Technology Group at SmithKline Beecham Pharmaceuticals as a Research and Development Policy Analyst, working on evaluation and communication of the promise, ethics, and impact of rapidly-developing technologies in DNA Research. In addition, she worked for the Core Services Committee of the New Zealand Ministry of Health. Sara holds a Master of Public Health and a Master of Arts in Philosophy from the Johns Hopkins University, and a Bachelor of Arts from Wellesley College.

Karene Richards
CEO, The Karene Group LLC
Chair, AWIS Audit and Finance Committee

Karene Richards is a capital markets quantitative expert and women’s advocate with over 14 years’ experience in the investment banking industry. Karene most notably built the first carbon finance model for the World Bank in addition to a mortgage backed security model that generated $25M for Route 66 Ventures. She received a master of financial mathematics and statistics from Columbia University and an undergraduate degree in electrical engineering from Howard University.

Melinda Richter, MBA
Global Head, Johnson & Johnson Innovation, JLABS

Melinda Richter, MBA, is the Global Head of Johnson & Johnson Innovation, JLABS. In her role, she fosters the Johnson & Johnson Family of Companies external R&D engine and supports the innovation community by creating capital-efficient commercialization models that give early stage companies a big company advantage. Melinda has received numerous industry awards including: The PharmaVOICE 100; Fierce Biotech Top 15 Women; Most Influential Women in Business (San Francisco Business Times); MM&M 2017 Healthcare Transformer; BIO Super Hero; and Fast Company’s Most Innovative Company in Biotech. She serves on various boards and advisory panels and is currently board member and Treasurer of the California Life Sciences Association (CLSA).
Maria Salamanca
Senior Associate, Unshackled Ventures

Maria Salamanca, Senior Associate, has worked with Unshackled Ventures, an early stage fund focused on immigrant founders, since the firm launched in 2015. A Colombian immigrant herself, she has worked to scale out the firm’s deal sourcing as well as sourced her own deals. She also organizes Startup Weekend: Latinx Tech Edition and her newsletter, Making a Technie. Maria has been recognized by Forbes as a 30 Under 30: Venture Capital and a Fellow at Higher Ground Labs. Maria received a BA in Government and Legal Studies at the University of California, Berkeley and attended the Summer Venture in Management Program at Harvard University.

Marc Tessier-Lavigne, PhD, FRS FRSC FMedSci
President and Bing Presidential Professor, Stanford University

Pioneering neuroscientist Marc Tessier-Lavigne became Stanford University’s 11th president on September 1, 2016. He returned to Stanford after serving as president of The Rockefeller University, a graduate biomedical research university in New York city. From 2001 to 2005, he was a professor of biological sciences at Stanford, where he held the Susan B. Ford Professorship in the Humanities and Sciences. He has also held faculty positions at the University of California, San Francisco, and executive positions at biotechnology company Genentech.

Susan Windham-Bannister, PhD
Managing Director, Biomedical Innovation Advisors, LLC, and President and CEO, Biomedical Growth Strategies, LLC
President-Elect, AWIS National Governing Board

Dr. Susan Windham-Bannister is a world-renowned innovation expert, recognized by the Boston Globe as one of the “10 Most Influential Women in Biotech” in 2013. She currently serves as managing partner of Biomedical Innovation Advisors LLC, as well as the president and CEO of Biomedical Growth Strategies, LLC. Sue received a BA from Wellesley College, a doctorate in health policy and management from the Florence Heller School at Brandeis University, and a doctor of science from Worcester Polytechnic Institute (honoris causa).
Target Audience:
• Executive leadership in academia, technology, biotech, and other STEM industries

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AWIS Accelerator explores the unique experiences and pathways of STEM women in entrepreneurship, providing a customized entrepreneurship development training series and an advisory board of investors, commercialization experts, and advanced entrepreneurs to women who want to commercialize their science.
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Revolutionizing the STEM Entrepreneurship Ecosystem

Despite evidence that diversity is good for science and for business, AWIS research shows gender and racial gaps remain particularly in the overlapping spaces of STEM workplaces and entrepreneurship. Yet, even in the face of clear evidence about the benefits of diversity, many entrepreneurship support programs and funders continue to systematically reinforce homogeneity through their networks, outreach strategies, curricula, funding practices, and more.

New AWIS research builds on our understanding of inclusion in STEM entrepreneurship ecosystems and brings encouraging and actionable news to effectively and systemically address the absence of diversity. In this report we provide some simple, and fully-achievable steps that organizations can take immediately to:

- Increase diversity in STEM entrepreneurship.
- Improve existing entrepreneurship support and development programs.
- Invest intentionally.

These critical points and recommendations are based on the findings of our STEM to Market Program (AWIS S2M), funded by the Ewing Marion Kauffman Foundation. AWIS S2M is a two-pronged initiative that intervenes in STEM entrepreneurship ecosystems to effect positive systemic change through entrepreneurship support, investor transformation, and network enhancement. AWIS S2M is informed by over four years of research; data collection; training with over 2,000 entrepreneurs, funders, entrepreneurship support program leaders, and information gathered across three National Summits on Innovation and Entrepreneurship in Washington, DC, Oakland, CA, and Chicago, IL.

Women of color STEM entrepreneurs are ready for advancement and funding.

Entrepreneurship support programs and investors regularly attribute their low enrollments of and investment in founders who are women, especially women of color, to a “pipeline” problem. Our research, data, and experience say otherwise.

The women entrepreneurs who participated in STEM to Market: The AWIS Accelerator have advanced degrees in 26 different STEM disciplines. Fully one-third of them hold patents and 64% of them are women of color. The success of the AWIS S2M program illustrates there is plenty of talent and investment-worthy innovation created by marginalized entrepreneurs, but concerted efforts must be made to find them.

We attribute our recruitment success to an expanded network of AWIS members, academic partners, national labs, and industry partners, which we grew intentionally over time to serve a diversity of women and allies. We also engaged in additional outreach activities. We connected with other organizations that emphasize gender and racial diversity in STEM and entrepreneurship. We shared our call for participants with local universities, emphasizing minority-serving and historically black colleges and universities. We used images and real stories of our members rather than stock photography. We conducted outreach to Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grantees, I-Corps program participants, local accelerators and incubators, and diversity listservs organized by the federal funding agencies. We spoke at and shared materials at events for women of color in entrepreneurship. We drew on our advisory board, comprised of a diversity of advanced entrepreneurs and investors, to disseminate materials in their networks and communities. We posted targeted advertisements on social media. And, we made ourselves available to field a wide range of applicant questions. Intentional outreach to expand your network isn’t easy, but it’s worthwhile. And, it works.
Less than 4% of venture capital is awarded to women and less than 1% to women of color.

The investment process is embedded with bias and barriers to diversity at every step along the way. Rather than solely placing the burden on entrepreneurs to navigate those barriers, as major gatekeepers to entrepreneurship ecosystems investors have the capacity and responsibility to change.

Inclusive investing practices work. When they are implemented, more women founders get funded. In the last two years, only 2.2% of the total venture capital dollars and less than 15% of angel funds went to woman-led companies. In contrast, AWIS intentional investors invested up to 100% of their funds in companies with women founders.

To develop the Intentional Investing Curriculum, AWIS S2M drew upon existing research, AWIS institutional experience with implicit bias training in other applications, and new input from funding stakeholders to identify key points in the investment decision process where unconscious bias is likely to create conditions for an uneven playing field. AWIS S2M used this information to develop tools, strategies, and training to address the biases at each point.

Traditional accelerator programs need retooling. Our work confirms that accelerators should not only provide STEM-relevant expertise in conjunction with startup knowledge, but also take a flexible and holistic approach that prepares participants to navigate the biases of the startup work from an empowered position.
Career Development: Dare to Take the Journey!

By Márcia D. Bolé, MBA
R&D Director, Hygiene Home Business Unit, Reckitt Benckiser
AWIS Member Since 2017

After years of consistent performance, outstanding results, and recognition as a top performer, you anticipate a well-deserved promotion. But, instead, the organization promotes a peer, maybe someone who has less experience or who has not made the same type of contributions as you. I would not be surprised if this peer were a man, with less time spent in the organization proving his merits. Management promoted him for his potential, while you and other female employees, with similar (or superior) talent, have been pushed to prove yourself over and over again, before being given the next opportunity.

The above scenario is one of the most common examples of unconscious bias present in many organizations today. Even when identified and seemingly addressed with programs to attract and retain female talent, many companies continue to fall into these unconscious bias traps.

Why does this happen? Aren’t the female candidates ready for higher positions?

The truth is, more than ever, women are ready and totally prepared but still hit the “glass ceiling” driven by unconscious bias, which prevents them from progressing at the same speed as their male peers.

In many cases, these female candidates are not given the opportunity to compete head-to-head for open positions with male colleagues.

As scientists and technical background professionals, we are masters at designing product strategies and selling a good idea or new technology to our organization. But when it comes to designing and selling our own career strategy, we might not be as keen.

I still hear many talented women saying, “Someone will recognize my talent and do what is right.” Let me tell you a secret: nobody will do this for you. You need to design your own career strategy and be your own best advocate, market yourself, and put yourself front and center for the next opportunity.

You must drive your own career development.

For more than two decades I have identified and developed talents within the technical and R&D fields. I have coached and mentored many employees, especially female talents with scientific backgrounds, encouraging them to use a process for personal development and career progression.

In recent years, I have been using an aviation analogy to explain this career journey:

1. THE FLIGHT PLAN
2. THE CONTROL TOWER
3. THE OXYGEN MASK

THE FLIGHT PLAN
It can be a “solo flight,” or you might have a “shared flight” with company (e.g., a partner, children).

It is crucial to invest time and energy to design your “Flight Plan.” As with every journey, plans can change and you should re-check them regularly. For every phase of your life, I recommend you review your flight plan in coordination with your partner’s or family’s plans.

Start with ambition: what is yours? Next, be practical. If you are starting your career, it is nice to dream about becoming the chief technology officer of your organization, but this dream is not practical in the early years of designing your career flight plan.

I suggest you develop your plan based on your career goals for the next two levels above your current position. This will help you focus on developing the skills needed to perform those jobs in the near future. With each position, consider if you will be able to successfully make the jump to the next planned career move. As you progress in your career, you might realize that you would like to explore new paths, so revisit your flight plan to accommodate those potential opportunities.
And if your flight has “company,” discuss with your partner what his or her flight plan includes. Dual-career partnerships are a common reality but can be tricky. Agree up front how you will address potential changes in one another’s plans. For instance, if one of you receives a job offer involving a move to a new location, what would the other do? If one of you is offered a new position that requires longer hours or additional travel, how will you manage family obligations and activities (especially if you have children) when you are new to the position and want to best position yourself for success?

Many companies, including Reckitt Benckiser (RB), have programs and policies to support dual-career families. Research what your organization and your partner’s organization offer so you can take that into consideration when developing or updating your plan.

**THE CONTROL TOWER**

As with aviation, others need to know your flight plan, so you don’t crash. No matter how competent you are, you cannot progress in your career alone. You need the support and experience of others to guide you through stormy times and office politics. The “Control Tower” can help and support you to reach your “destination.”

Start with your direct supervisor. She/he can coach you on your day-to-day activities and identify what additional skills and abilities you need in order to progress. The direct supervisor should provide your on-the-job development and training and can help identify the people who are operating in the next position you are aiming for. Even more importantly, they can help identify the decision-makers and influential people in the control tower who need to be educated on why you are the right person for the next position.

But don’t put your career responsibility solely on the shoulders of your direct supervisor. Develop your own circle of influencers and suggest how they can support you by putting you “on the radar” of the decision-makers.

You should also identify a mentor. Your direct supervisor or one of your supporters may also be able to help you identify the best mentor.

The role of the mentor is to guide you through the company’s culture and politics. This should be someone in a higher position than you, but not necessarily in the same department or function. Preferably, your mentor should be someone with good knowledge of the organization, a solid career of her/his own, and credibility within the organization. The mentor can support you by understanding and making recommendations to improve your flight plan, so you are better positioned to be on the radar of the control tower. She/he can be your sponsor or help build sponsorship around you.

Research what mentoring programs your organization offers. At RB, we have specific mentoring programs dedicated to high performing women. We also have programs for women going on or returning from maternity leave.

And, of course, it’s imperative to also be on the control tower’s radar by being a consistent high-performer!

**THE OXYGEN MASK**

“Put your own oxygen mask on first. Make sure your mask is secure before helping others.”

This “Oxygen Mask” rule is important when considering your personal values and professional responsibility.

1. **“Put your own oxygen mask on first.”**

How many times have you put your values first when making a career decision?

To successfully progress in your career, your personal interests AND the best interests of the organization you work for have to match. Prioritizing your personal values is akin to putting on your own the oxygen mask first.

Whether it’s your health, your family, your financial stability, your ethics, your passion for science, or something else, let your personal values come first.

Your values are your own and are no one else’s concern. They will be the oxygen that helps you make tough decisions, balancing the company’s best interests with your own (e.g., accepting or turning down a position overseas or a higher position in an area that might not drive your passion).

Putting the oxygen mask on yourself first means allowing your personal values to dictate decisions that align with the best interests of your company.

“Career Development” continues on page 59
More than half of the small and medium biotech companies in California and Massachusetts have all-male boards, according to a 2014 analysis by Lifstream, a search firm that specializes in the life sciences. Women hold just under 10 percent of board seats at those companies and make up about 21 percent of the leadership teams (French, 2014).

Women make approximately 80 percent of health-care decisions in their families, whether they are choosing health plans, scheduling appointments, or making sure their loved ones get the care they need (Matoff-Stepp, Applebaum, Pooler, Kavanagh, 2014). The need for a critical mass of gender diversity in the corporate boardrooms of biotechnology firms, therefore, is clear. Yet, more than half of the small and medium biotech companies in California and Massachusetts have all-male boards, according to a 2014
analysis by Liftstream, a search firm that specializes in the life sciences. And women hold just under 10 percent of board seats at those companies, and make up only 21 percent of the leadership teams (French, 2014).

MSCI, a research-based index and analytics company, found that the presence of three or more women changes boardroom dynamics substantially and "enhances the likelihood that women's voices and ideas are heard" (Lee, Marshall, Rallis, Moscardi, 2015). Research done at Wellesley College’s Wellesley Centers for Women notes that when three or more women serve on a board together, there is a critical mass “where women are no longer seen as outsiders and are able to influence the content and process of board discussions more substantially” (Kramer, Konrad, Erkut, 2006). Gender parity must continue to be the goal to ensure not just representation, but also to ensure influence and corporate success.

However, the continuing lack of gender parity on boards, despite evidence that such diversity is crucial to their firms’ success, has become increasingly clear. Research completed by LiftStream found that among 177 publically listed biotechnology firms, only 10.9 percent of board seats were occupied by women. Liftstream “specifically looked at pre- and post-IPO (initial public offering) board composition and tracked the rate of board director replacement” in the context of gender diversity. Their research also showed that gender-diverse biotech boards had a 19 percent increase in post-IPO share prices. Boards with little-to-no gender diversity saw a 9 percent decrease in share prices (Patel, Stasiak, Simpson, 2017). The Association for Women in Science (AWIS) has also done research in this space, finding that from 2013 to 2016, the percentage of biotech IPOs for companies with no women in any leadership positions rose from 12 percent to 20 percent. Moreover, only 17 of 225 biotech IPOs were led by female CEOs, only four of whom were women of color.

Before much of this critical research was done, Biogen began to press for progress in ending the gender parity gap. We received a wake-up call in 2013, when Deanna Mulligan, president and CEO of The Guardian, made a startling statement at the Breakfast of Corporate Champions in New York. Mulligan noted that at the annual rate of change at that time, we would not reach gender parity on corporate boards for another seventy-five years (Ellig, 2015). That’s a long time to wait for equality, and Biogen’s leaders couldn’t sit idly by.

So, we asked ourselves: what can Biogen do to change these statistics? How can we effect change to close this worrying gender diversity gap? The answer was neither simple, nor immediately apparent, but these questions led to an effort to improve gender diversity at the highest level of our own organization—Biogen’s corporate board of advisors. We knew that breaking the ultimate glass ceiling would require a pio-
To achieve this broad impact, we sought to disrupt the current ecosystem. We decided it was critical to involve both the men and women on our own board. We understood that the board selection process tends to be insular: many boards seek potential members by reaching out to former and current corporate executives. This presented a challenge, however, since as of January 2017, only 5.2 percent of women held CEO positions at S&P 500 companies (Catalyst, 2018). Additionally, the low rate of turnover on corporate boards leads to fewer opportunities to bring in underrepresented candidates.

These particular challenges led us to establish an initiative called *Raising the Bar*, in collaboration with the Institute for Corporate Responsibility at George Washington University (GWU). Together with GWU, we designed a set of learning experiences to support women executives in building the competencies necessary to serve on corporate boards. The program drew on the unique strengths of the GWU School of Business in educating women on corporate governance, the intersection of business and government, and leadership.

Biogen worked with eleven of our top women executives to launch the six-month program with GWU. We had a few key objectives in launching this program:

a. **Development of leadership skills**—Participants would have the opportunity to gain valuable leadership skills, such as decision-making, strategic planning, and consensus building in a high-stakes environment, through formal training and hands-on practice.

b. **Chance to effect change**—We knew that our executive women would benefit from the exposure to different industries and corporate cultures, increasing the intersection and cross-pollination of approaches and ideas.

c. **Expanded networking opportunities**—Our women executives would have the chance to meet and work with a different set of players, developing long-term relationships and professional support systems.

d. **A deeper understanding of corporate governance**—Serving would give participants a deep understanding of what corporate governance is all about, including strategic planning and financial responsibility, among others.

e. **Increased experience with big picture thinking**—Planning for the future of an organization requires thinking not just about today but also about what will be needed in the future, a capability we knew would richly benefit the development of our women executives.

f. **An opportunity to inspire the next generation of women leaders**—*Raising the Bar* was also designed to inspire the next generation of women leaders at Biogen to see career possibilities at the highest levels of the corporation, both at Biogen and other companies in the life sciences industry.

*Raising the Bar* enabled our executive team and board to make introductions for a cohort of women, helping them get placed on the boards of other corporations in the life sciences industry. The initiative also allowed us to help this cohort build the skills and networking needed to be effective on these corporate boards. To date, nine of the eleven original cohort participants are on corporate boards, with a few serving on more than one board. Upon successful launch of *Raising the Bar*, we also noted an increase in the number of external women referred to Biogen for internal roles through our employee referral program. Our workforce was responding to our commitment to women’s leadership!

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So, we asked ourselves: **what can Biogen do to change these statistics?**

How can we effect change to close this worrying gender diversity gap?

At first, *Raising the Bar* was for Biogen employees only, but we aspired to have broader industry impact. To effect a greater change, Biogen paired with Women in Bio (WIB) to expand program access to all senior women executives with experience in the life sciences.

In 2017, and *Raising the Bar* transitioned into an industry-wide program called *Boardroom Ready*, run entirely by WIB, now a leading program for preparing exceptionally qualified women for board service.

Since its inception, the *Raising the Bar/Boardroom Ready* program has received numerous awards for its innovative approach to increasing gender diversity on corporate boards. In 2015, Biogen received the Women Corporate Directors’ Visionary Award for dedication to inclusive leadership. Recently, Biogen and WIB have been recognized by the Xconomy Awards for their commitment to diversity and innovation. Other awards include a Rosoff Company Award and the New York Stock Exchange’s Breakfast of Corporate Champions Women’s Forum Award.
At first, *Raising the Bar* was for **Biogen** employees only, but we aspired to have broader industry impact at an accelerated pace, and in turn, sought to move beyond a focus on our own women executives.

About Biogen

Biogen is a biotechnology company based in Cambridge, Massachusetts, that uses novel science and leading-edge technologies to create, commercialize, and manufacture transformative therapies for neurological and neurodegenerative conditions. Biogen is committed to the development of women and underrepresented talent, with industry-leading programs such as the Women's Leadership Program (WLP), in partnership with Babson College, and the Women's Innovation Network (WIN) Employee Resource Network, with strong engagement of both women and men, globally. Biogen's workforce is composed of 49 percent women and has 43 percent women in SVP roles as of January 2018, globally. To learn more, please visit us at www.biogen.com.

Citations


*Minita Shah-Mara* is the Head of Global Diversity & Inclusion at Biogen. Minita leads the function by developing and executing the company’s workforce, workplace, patient and marketplace D+I strategies. She has attained industry-wide recognition by Mass Lawyers Weekly and the Massachusetts Bar Association for her work in diversity & inclusion in the legal industry.

*Jeffrey Herrera* is the Senior Associate on the Global Diversity & Inclusion team. New to the industry, Jeffrey manages events, sponsorships, industry-benchmarking surveys, communications and data/analytics for his team.
Redefining Global Inclusion and Culture

By Nancy J. Di Dia, Executive Director, Chief Diversity Inclusion Officer, Americas Boehringer Ingelheim USA
Science and technology are borderless, and many companies helping to advance these fields operate in many countries. So, how can we expect our global counterparts to accept the notion of diversity when the English translation—“different,” “unlike,” or “dissimilar”—moves us farther from the concept of inclusion than ever?

Why is global diversity so important to understand? For years, Fortune 100 organizations have been striving to create diverse cultures and assimilate those considered different from “the masses” into our organizations. Yet, where have we gone awry? Force-fitting an American term such as diversity into a non-American culture is a nightmare. Diversity is not just about the visible differences; it is also about the elements we can’t see or touch. Speaking of diversity in a global context will often yield a response like, “That works in the United States, but it won’t work here.” Moreover, why do we continue to struggle with “selling” the concept of diversity globally, when we have substantial quantitative data to support our argument that diverse teams and boards produce better business outcomes? Is it because there has been such marginalization in the United States of underrepresented groups, including people with disabilities and LGBTQ colleagues, that we uphold a desire for world inclusion? Alternatively, is it simply that we recognize that as humans, we are better able to perform fully when we’re respected, valued, and have a sense of belonging—when we are, ultimately, included?

How does inclusion differ from diversity? Inclusion is about inviting everyone to participate—not because they are a woman or a person of color—but because they can bring a unique value and perspective to the table. When you include people in decisions, on teams, and as part of projects, people work “smarter” and exceed expectations. Many ideas never get acted upon because of the choke hold that unconsciously gets created when ideas are disruptive and make the owner or team members uncomfortable. There is always more comfort in group think, generally.

Truly inclusive teams break through the choke hold and embrace thinking beyond the norm. This is where innovation happens and new ways of doing things are advanced. If, for example, your team is composed only of senior managers, outcomes may not be as innovative as those generated by a multi-generational group or those from outside your business function. This is a great time to use employee resource groups as a way to garner diversity. Think of many a business faux pas in which a diverse team could have made a difference. One such faux pas occurred when a global food manufacturer that bottled baby food, placed a baby picture on the little bottles, and distributed them in some parts of Africa. Believing the picture on the jars meant that they contained food made from babies, rather than food made for babies, the reception for that product was not good. Clearly, this unintended consequence was a clear example of a cultural misstep. The impact of this was not only embarrassing but impacted the business in those regions. Something tells me that situation will not reoccur. Another example: many hiring managers make mistaken assumptions about women’s ability to perform in the workplace based on their domestic profiles—Do they have children? Will they have children? Are they strong and courageous enough to deal with hardships at work? Unknowingly, hiring managers often hold women to a higher standard than...
Put the unconscious biases on the table. Have lunch or coffee with someone from another country or region. You will be amazed at the great ideas, insights, and fair assessment of talent that result from moving closer to a more collaborative and inclusive workplace. While the concept of inclusion is easy for most to grasp, making it part of your company culture takes practice. Challenge yourself and your staff to engage people of different generations, backgrounds, and experiences, and those who work in other global markets.

Whether working to discover new medicines or developing the best talent, here at Boehringer Ingelheim, we strive to create an inclusive culture and a sense of belonging in all that we do. We have more than doubled U.S. female representation in our senior ranks over the past ten years, thanks to strong commitment from current leaders who encourage female empowerment. Since 2007, we have put more than one hundred women through local and global programs focused on women’s leadership development, and approximately five hundred women through other award-winning leadership development programs. We are committed to equality and to the success of our female leaders and colleagues—past, present and future.

About Boehringer Ingelheim
Boehringer Ingelheim is one of the world’s top twenty pharmaceutical companies. Headquartered in Ingelheim, Germany, the company operates globally with approximately fifty thousand employees. Since its founding in 1885, the company has remained family-owned and today creates value through innovation for three business areas, including human pharmaceuticals, animal health, and biopharmaceutical contract manufacturing.

Boehringer Ingelheim is committed to improving lives and providing valuable services and support to patients and their families. Our employees create and engage in programs that strengthen our communities. Please visit our website to learn more about how we make more health for more people through our Corporate Social Responsibility initiatives.

In 2016, Boehringer Ingelheim achieved net sales of about $17.6 billion (15.9 billion euros). R&D expenditure corresponds to 19.6 percent of its net sales.

For more information please visit www.boehringer-ingelheim.us

Nancy Di Dia brings more than 25 years of experience in overall management and diversity, inclusion and engagement practices in corporate America to her role as Executive Director & Chief Diversity & Inclusion Officer for the Americas at Boehringer Ingelheim. Nancy is an (ICF) International credentialed and certified Executive Coach and has been trained by Dr. David Rock’s Neuroleadership Group on the neuroscience of leadership and impactful ways to engage the brain in coaching. She is an active member of the advisory board of Hidden Brain Drain Task Force-and the Center for Talent Innovation—a think tank and research group of leading global companies which focuses on developing best practice models for companies seeking to recruit and retain diverse talent. Over the past 5 years she has been the proud recipient of several awards for her work in Diversity & Inclusion as well as her industry wide efforts to improve diversity in clinical trials. This past year, Nancy was recognized for her leadership by the Girl Scouts of Connecticut as a women of merit for her work in diversity and inclusion. With Nancy’s leadership and vision, Boehringer Ingelheim has been the proud recipient of numerous recognition such as the HRC Corporate Equality Index for the best places to work for LGBTQ employees, Disabilities Equality Index, (DEI) NAFE Top 60 and Working Mother Top 100 List, among others.

Nancy is fluent in Italian, an avid exerciser, rower and enjoys gardening, cooking and seeking out fine wines from around the world. You can follow her on Twitter at @njdidia.
Our family’s science, your family’s health.

Boehringer Ingelheim ranks among the world’s 20 leading pharmaceutical corporations. Our vision drives us forward. It helps us to foster value through innovation in our company and to look to the future with constantly renewed commitment and ambition.

For more than 125 years, Boehringer Ingelheim has been committed to the research and development of innovative medicines that help make more health for patients and their families.

Learn more about us at us.boehringer-ingelheim.com
In 2007, Genentech’s then-CEO Art Levinson, speaking to a group of mainly male tech and operations leaders, pulled up a slide showing the gender breakdown within the company. Very few women were in the top ranks. “Do you see how wrong this is?” Levinson asked. There was a stunned silence.

The data made clear that something needed to change. Not only was there a gap the company needed to address, but behind the sobering numbers was an even greater imperative: innovation for patients. Our company has always focused on translating promising new discoveries from research into transformative medicines for people with the world’s most devastating diseases. Over time, as Genentech has navigated the highs and lows of medicine development, we’ve learned that a diversity of backgrounds, thoughts and experiences is essential to fostering scientific innovation. When our CEO showed us these data, we knew we were at risk of missing out on a pool of talent with potential insights and expertise that could help us deliver on our mission.
We also knew we needed to understand more about the barriers to improving gender diversity, specifically. How might we address unconscious bias in our organization? What was it that was preventing women from advancing to senior positions? Is there a reason women didn’t want to pursue these roles?

When I first started at Genentech 20 years ago, there were only a couple of women on the executive team. Although there were many female scientists like myself, there was a very small population in the higher ranks. It was common to walk into a room and see perhaps one woman. As I progressed into leadership roles here, I felt very fortunate to be one of those women and to help blaze that trail. I’d had incredible opportunities, colleagues and mentors (mostly male) who had always supported me—especially when I had to open up about my personal life and make difficult trade-offs to support my family. So when Genentech sought to tackle our gender diversity challenge, I knew I had a role to play. I wanted to apply my experiences to help other smart and talented women bring their intelligence, expertise and leadership to the table.

As a first step, our female leaders made a concerted effort to invite other women to share their experiences. We wanted to understand what was keeping many women from becoming leaders here, and to really dig into attitudes and barriers that were not obvious. These initial efforts quickly gained momentum and grew into a multi-pronged strategy to improve gender diversity at all levels. We stepped up our efforts to recruit more women, as well as to develop them so they would be ready for increasing responsibilities and leadership positions.

We created several internal groups aimed at evolving company practices to better support women in the workplace: Genentech Women Professionals, Genentech Women’s Officer Group, and the one I have been most involved in, Genentech Women in Science and Engineering (gWISE). We like to call ourselves “the wise ones.”

gWISE began because we recognized that women in R&D faced unique challenges and opportunities, and we needed to probe further into these particular areas. Through gWISE, we began to address barriers—such as speaking up—that we’d identified through our discussions with women in the organization, and we worked to help overcome them. We’d learned that often women were too intimidated to speak up in a room of mostly men, even though their contributions would have been valued. They sometimes felt their comments would either be ignored or repeated by a male colleague who might then get credit for the idea. So we conducted roundtables where women could learn tips for speaking up from their female colleagues and leaders. We also brought in speakers and ran classes focused on these issues. As we slowly armed women with better tools, they started to speak up more.

But it wasn’t enough to have this conversation among ourselves. We engaged with male managers to discuss how they could be even more attuned to the challenges women face. For example, we wanted to ensure that a mom (or dad) who needed to take time for a family issue could trust her/his manager to help accommodate that need. When I came to Genentech, I was supported by my own manager and given the flexibility I needed as the mother of a special needs child. However, I know first-hand...
Dr. Sara Kenkare-Mitra is senior vice president of development sciences at Genentech, where she leads the organization responsible for successfully translating promising new discoveries from research through clinical development to patients. In her 20 years at Genentech, Sara has had a significant impact on the development of numerous medicines and the filings of more than 60 investigational new medicines with the FDA and other regulatory agencies. Sara has steered the Genentech Women in Science and Engineering group and is an advisor for the South Asian Network at Genentech. She was elected to the National Academy of Medicine in 2014 and was named one of the top alumni of UCSF in 2015. She serves on the Board of Directors of the Association for Women in Science and the Genentech Foundation.

how difficult it can be to speak up about your family needs, particularly in a rigorous field such as scientific research. Over time we’ve been working to help employees and managers solve work-life integration problems together, with solutions that work for everyone.

gWise also looked to better understand the role unconscious bias could be playing in our recruiting and hiring processes. We have always had incredibly high standards for the scientists we hire. However, this meant that historically we were often recruiting from Ivy League schools where many graduate students were male. By broadening our recruiting window to seek top-notch talent from additional schools, we’ve opened up a more diverse pool of candidates. We also continue to explore how we can demonstrate our commitment to women’s success at Genentech through our recruiting efforts; as data from a recent “Trust Barometer” by Edelman show, this is the best way to attract and retain talented women.

After a decade of determined focus on the issue of gender diversity, we have data showing we’ve made real progress. In 2017, 53% of Genentech’s employees and 56% of new hires were women. Since the day Art Levinson issued the challenge to improve our gender diversity, we’ve more than doubled the number of female officers (VP-level and above) at Genentech - from 15% to 40%. In this time, we’ve also brought 13 innovative new medicines to patients, and I believe that a continued focus on diversity of all types—gender, sexual orientation, background, ethnicity, experience and thought—has been critical to this success.

While I’m personally encouraged by this progress, I know there’s still more we can do. I want to see the day when no one in our field feels like a minority or is afraid to speak up. This is the environment we need to foster innovation and harness cutting-edge science to tackle the most challenging diseases. And I am proud that gWise is working every day, alongside many others at Genentech, to help lead that change.

We’ve made significant progress since Genentech initiated a dedicated focus on accelerating the advancement of women. But within gWise, we continue to work on addressing the unique issues that women encounter in research and technical fields where it has remained more challenging to close the gender gap.

We have a full roster of initiatives designed to develop leadership skills and provide role models for women within our R&D, clinical development and manufacturing groups. These include roundtables and panel discussions on such topics as “Amplify Our Voice,” “Creating a Positive and Rigorous Culture” and “The Joys and Challenges of the Scientist Track in Research.” We’re holding trainings in negotiations and dealing with the infamous “Imposter Syndrome.” We’ve also lined up speakers to spotlight women’s career journeys in science and engineering.

Perhaps most importantly, we are working with our Human Resources team to analyze gender demographics at a more granular level—for example, by job family and level, promotions and candidate funnels throughout different parts of the organization. We’re scientists, so we’re focused on using hard data to measure change and better understand areas we need to work on.

We see evidence that change is happening; in fact, our chief medical officer is a woman and half of our most senior R&D leadership team is female. But beyond the statistics, what I’m perhaps most encouraged to see at Genentech today is that everyone I encounter is invested in the notion that gender diversity is good for our business and mission. We need the best scientists in the world—from all backgrounds, genders, ethnicities, sexual orientations, and perspectives—working with us to transform diseases like cancer, multiple sclerosis and Alzheimer’s.

Heleen Scheerens, Ph.D. is Senior Director and Global Head of the OMNI-Biomarker Development department at Genentech. Her group is responsible for biomarker strategies in support of the development of effective and personalized medicines in all OMNI indications: ophthalmology, metabolism, neurology, inflammation, autoimmune and infectious diseases. Prior to joining Genentech, Heleen held scientific positions at two other biotech companies: Celera Genomics and Rigell Pharmaceuticals. Heleen received her PhD in Immunopharmacology from the University of Utrecht, The Netherlands. She has been with Genentech since 2006. Heleen is also a key advocate for women leaders and currently is the chair of gWise (Genentech Women in Science and Engineering), an organization that is committed to the development of women leaders.
THE FUTURE OF SCIENCE IS HERE

Genentech’s mission is the mission of all science—going beyond test tubes, patents, and profits, and committing every moment of every day to a broader charge of social responsibility.

We support the future of science and medicine, the scientists who dedicate their lives to it, and the patients who depend on it.

THE FUTURE OF SCIENCE IS HERE.
Driving Innovation Through Diversity

By Pam Marrone, PhD, CEO, and Founder of Marrone Bio Innovations
AWIS Member Since 2011

The key to aligning people in an organization is through culture. Culture is “how we do things around here.” Behind a company’s culture are core values. At Marrone Bio (MBI), like most organizations that have been in business long enough to go from start-up to scale, we’ve had challenges in which the culture was hijacked by strong individuals who were operating from their own self-interest. Therefore, we make sure we codify our culture and core values and use them as a filter for hiring and behind everything we do.

Diversity is a core company value at MBI, where wide-ranging ideas and perspectives have provided the basis for innovation and market growth since our founding. We’ve developed seven new products in eleven years, and we’ve done it with teams composed of both mixed genders and mixed ethnicities. Our research and development team of thirty-five includes fifteen women from various ethnic backgrounds, including Asians, African-Americans, Hispanics, and whites.

At Marrone Bio we take advantage of the wide range of skills, experience, and intelligence available in the company, in large part by relying on these practices:

1. Ensure everyone is heard: Some people are introverts, while others are extroverts. Moreover, speaking customs can vary widely from culture to culture. Sometimes those most comfortable talking end up talking over others or dominating meetings with their own ideas. MBI is careful both to seek input from everyone and to consider all input deeply before making crucial decisions. Over time, those of us who are strong extroverts have learned to talk less and listen more!

2. Make it safe to propose novel ideas: In our business, we need to keep innovating to compete with large, established companies. Relying too heavily on standard methods and common assumptions can sometimes lead to missing outlier solutions. The ability to see unusual and novel cases and to consider an entirely different approach provides a quantum leap forward. In brainstorming meetings at MBI, there really are no bad ideas. I have observed with our research and development teams that “thinking outside of the box” means solving tough scientific problems. Without this creativity, progress is stymied, and goals are not met.

3. Give team members decision-making authority: Having worked at two large and established companies before I struck out as an entrepreneur, I’ve seen up close how strictly hierarchical management—the sort in which you have multiple layers of sign-off for every decision, and long waits to get top approval—not only slows progress but discourages people and significantly affects morale and motivation. At
4. Share credit for success: Nothing builds resentment, distrust, and lack of enthusiasm more than feeling that someone on your team not only doesn’t support you, but actively engages in political posturing or tries to steal credit for your work. MBI has zero tolerance for that. I became an entrepreneur to get away from corporate politics and to focus on creating products. More importantly, we’ve designed the workplace to discourage that from happening: the primary unit at MBI is the team.

5. Implement feedback from the team: If you seek feedback and input, you need to establish that it’s listened to and find ways to address the concerns it brings up. I know of one CEO who refused to have a suggestion box at his company, simply because he didn’t want to imply that he would respond to any suggestions. It might initially seem messier to seek input from everyone, and to take the time to carefully listen. But ultimately, we’ve found that doing so not only increases morale and productivity but also helps our bottom line.

Diversity doesn’t need to be perceived and measured only as a product of ethnicity. The Center for Talent Innovation studied 1,800 professionals and identified employees with both inherent diversity traits (e.g., gender, ethnicity, sexual orientation) as well as acquired diversity traits (working in another country, selling products solely to female customers, etc.).

The study examined companies whose leaders exhibited at least three inherent and three acquired diversity traits and identified these companies as having two-dimensional diversity. By correlating diversity in leadership with market outcomes as reported by respondents, they found that companies with 2-D diversity out-innovate and outperform others. Employees at these companies were 45 percent likelier to report that their firm’s market share grew over the previous year, and 70 percent likelier to report that the firm captured a new market.

Finally, teams themselves are important, too. I’ve consistently mentioned “teams” in this piece because MBI is deliberately very team-focused: that’s one way we encourage input and listening. After all, it doesn’t help too much to have a diverse workforce if no one is talking to each other, and instead they just sit in separate silos behind closed office doors. MBI has all sorts of product and project teams, as well as a manufacturing task force. We have a “Compass” group of senior executives who report to me, and a “Navigators” team of managers closer to the front lines. Each team meets regularly to drive goals and processes, exchange ideas, and discuss key decisions.

As both the study cited above and our own years of experience at MBI show, diversity isn’t only about equal representation and social fairness. There’s a powerful and compelling
Diversity and Inclusion: The Key to Unlocking Innovation’s True Potential

By Dana M. Krueger, PhD, Lauren McCourt and Saule Serikova
Russell Reynolds Associates

Almost every leading company today has defined a diversity and inclusion (D&I) strategy. Our “D&I Pulse,” proprietary research conducted in 2017 with more than 2,100 executives across the globe, reveals the main reasons why corporations are committing resources to D&I, and innovation plays a prominent role (see Figure 1):

Figure 1: Why organizations commit to D&I

Top five responses to the question “Why does your organization commit to D&I?”

Direct implication on employees

- Empower workforce
- Strengthen employer brand

Direct implication on business

- Compete globally
- Deepen understanding of customers
- Innovate

Unlocking the true potential of diversity within the innovation environment is a real game changer. In this article, we offer insights into how the health care industry fares with respect to the journey toward unlocking the value-add of D&I, particularly when it comes to leaders driving the (scientific and medical) innovation engine.

**Health Care—Key Trends in D&I**

Looking specifically at leading pharmaceutical organizations based in Europe and the United States, there is evidence of increasing diversity in leadership teams over the last two years in some functions, but overall executive-level diversity remains a work in progress.

Specifically, 22% of executive team members in the top thirty-five companies are female—an increase of 4 percentage points over the last two years. However, only 13% are ethnic minorities, which is actually a slight decrease versus two years prior. Functionally, we observe the most female representation (as well as the biggest change over time) among corporate officers in human resources (HR), legal, finance, and other functional areas (33% in 2018 vs. 22% in 2016). Female executives are least represented among the CEO cadre (5%) but also similarly underrepresented among scientific leadership, with only 6% of research and development (R&D) leaders being women. In terms of ethnicity, minority groups have the most ExCo representation in the commercial and operations functions (both at 18%) and are least represented among CEOs and corporate officers (both at 8%) (see Figure 2).

Biotechnology firms have tended to slightly outperform big pharma at the overall ExCo level in gender diversity. The real difference, however, becomes apparent when digging into the functional areas. Biotech has nearly twice the share of women CEOs as large pharma (9% vs. 5%) and nearly five times the level of female representation in the scientific function of R&D (29% vs. 6%) (see Figure 3).

**Health Care—Leading in Inclusion . . . but More Work Is Needed**

The second critical aspect of D&I that organizations must get right is culture. Specifically, in our “D&I Pulse” survey, 47% of
health care respondents said a culture of inclusion was core to their strategy, putting this industry ahead of all others. However, only 60% believe that their organizations actually foster an inclusive working environment and culture.

Even more dramatically, 29% of health care respondents feel they see more diverse talent actually leaving their organizations due to a lack of inclusion culture or engagement (see Figure 4).

While nearly half of health care executives (48%) state that their organizations have a clear, holistic definition of diversity, only about a quarter (26%) are aware of an organizationally shared definition of inclusion.

In daily reality, inclusion manifests in common elements of cohesiveness and flexible accommodation, such as collaborative team structures, advocacy by leadership, flexible work arrangements, and other programs and trainings specifically aimed toward promoting a diverse workforce.

**Innovation: The Payoff of “Belonging”**

We have established that an approach to diversity must be more than gathering professionals of various backgrounds in a single space. Diversity’s success requires a commitment to inclusion and the cultivation of a culture that encourages the expression of that diversity. What happens when diversity is prioritized and inclusion efforts are successful? In a word—belonging.

Our work with clients highlights that a sense of belonging is the missing link within organizational operating models. A shared sense of belonging is a crucial factor to unlocking the true potential of diversity in the team. The current status quo defines the challenge:

- 17% of health care respondents feel they have to cover something up about themselves to be accepted in the workplace
- 21% feel they have to sacrifice who they are to be successful in their organization
- 38% feel they need to assimilate to be successful at work

When belonging and authentic expression are celebrated, employees bring their best selves to the table, and the organization reaps the benefits. We have not yet independently proven a concrete link between these human capital outcomes and increased innovation. Related research, however, along with our own observations of and experiences with leading innovative organizations support the idea that the following components of belonging are enablers of workplace innovation (see Figure 5):

- **Psychological safety**: Amy Edmondson, a pioneer in the research of psychological safety, has led much of the academic work in understanding this phenomenon and its impact on team performance. It is a necessary condition of an individual’s comfort with taking risk, and risk-taking is fundamental to innovation.

- **Creativity**: The link between creativity and innovation is largely undisputed, but it is also the case that a sense of belonging supports creativity. 64% of health care respondents agree that their organization brings out their most creative ideas, leaving a third of our health
care respondents feeling that their organizations could do more to nurture their creativity.

Engagement: Health care is on the right track in this component of belonging, with 85% of survey respondents saying that they were highly engaged in their jobs. Engaged employees are more likely to be committed to their organizations, to identify opportunities for improvement, and to execute them.

Intent to stay: Employees can only contribute to organizational innovation if they stick around. 66% of our health care respondents report that they intend to stay with their organization for the foreseeable future.

An organization cannot account for all factors that lead to a talented employee's departure, but they have direct control over whether a lack of a sense of belonging is the culprit. Developing, implementing, and sustaining a successful diversity and inclusion strategy is an organization’s best chance at cultivating this sense of belonging.

**Practical Steps Toward Achieving Belonging**

Belonging is an individual-level outcome of workforce diversity and a culture of inclusion, and there are two main elements to achieving this outcome: D&I strategy and committed leadership:

**D&I strategy:** Though 77% of health care organizations have a D&I strategy, set by the company CEO in the majority of organizations (55%) or by the Chief HR Officer (33%), it looks less optimistic when it comes to strategy implementation. Only a quarter of companies (26%) are finding success when looking across all measures of D&I strategy effectiveness—attracting, developing, and retaining talent.

Committed leadership: The clear commitment of organizational leadership is an essential building block of diversity success. However, only 55% of health care respondents say that senior leaders in their organizations make a visible effort to support the company’s D&I initiatives. Also, less than half (46%) believe leadership in their organizations is held accountable to fostering a culture of inclusion.

Effective D&I strategy and leadership’s commitment to D&I are significant undertakings, and typically include a laundry list of comprehensive actions and programs over time:

**Increase visibility and awareness:**
- Establish a D&I task force to increase awareness of diverse employees and cultures.
- Ensure diverse role models have a voice.
- Provide a platform for underrepresented groups to share success stories, such as employee resource groups or video streams.
- Support cross-cultural mentoring and global talent rotations.

**Put structure and strategy in place:**
- Set and communicate D&I goals.
- Appoint a chief diversity officer who partners with the CEO.
- Remove process bias from talent attraction, development and retention—e.g., establish diverse hiring panels.
- Create assisted succession planning for underrepresented groups.

“Diversity and Inclusion” continues on page 53 ➔
Gender-Friendly Male Leadership Competence via Women Mentoring College-Age Men

By Joseph R. Lennox, PhD, Visiting Assistant Professor of Organic Chemistry, Antioch College
AWIS Member Since 2017

I had the good fortune of meeting Dr. W. Brad Johnson (United States Naval Academy) at the University of New Mexico Mentoring Institute 10th Annual Conference in late October 2017 and was intrigued by his seminar on “Competence, Boundaries, and Cultural Humility: Toward a Mentoring Code of Ethics.” Also intriguing is his book, Athena Rising: How and Why Men Should Mentor Women. His seminar and his book have inspired me to unify my mentoring practice with curriculum design, and to pose the question: “Should women mentor college-age men?” What could come of this?

Mentoring Relationships

Mentoring relationships have a multitude of etiologies. Many times we are not as concerned about how they get started as we are about the fact that they simply get started. Mentoring of women is something that began for me with no preconceived plan. However, my goal was and still is to utilize learner-centered teaching approaches, combined with my thirteen-plus years of industrial experience, to groom women in science for anticipated careers and life outside academia, using an empowerment model that focuses on individual growth. The mentoring draws upon personal experience and current issues, employing compassion and empathy, to foster mentee learning of knowledge and skills needed to thrive in career cultures that have been traditionally dominated by men.

Many who engage in a developmental model of mentoring are people who love to give of themselves, and hence they enjoy what they do. Watching their mentees grow and prosper is enough reward for them. They hope and anticipate that their mentees will become effective mentors (not clones, but rather, the individuals they were meant to be), and that they will beneficially influence others in the future.

“We make a living by what we get, we make a life by what we give.” ~ Winston Churchill

Recently I constructed a course entitled, The Art and Science of Inclusive Mentoring. I have no doubt that this offering will be the culmination of much of what I have learned in academia, industry, and life. The first student to sign up for this new course was female, and so I started wondering what would happen if I were to include a module and follow-up discussions on mentoring men. What could result from this?

The Feminist College Male Pool

I would like to entertain the notion of 20 percent of our male STEM college students, perhaps one-third of whom are feminist,1 being mentored by skilled, experienced (mid-career or later) females in academia, industry and private organizations. I would further like to propose that these females mentor in a style that employs critical democratic and feminist pedagogies, with the goal of placing males into teaching roles of shared power. Placing males from the scientific disciplines into these teaching roles, in which they learn to identify with women’s concerns and issues, may be viewed as an opportunity to promote compassionate leadership in the future through a purposeful focus on diversity, equity, and inclusion.

By no means would there be a limitation on the “diversities” to which a student would be exposed. Hence, the teaching would not only provide training in working with women, but also training in working with all gender identities across all aspects of diversity. As such, any reference to “female” or “women” herein is inclusive to all those who would identify with female gender, including those of trans-, mixed, and non-binary genders. Likewise, any reference to “male” or “men” is treated comparably.

Aside from logistics and implementation challenges, the only question I have is: “What effect could this training have in working toward gender balance at all levels in the workplace?” If this were effected in STEM, particularly in engineering, how many women might remain in their respective fields, thereby leading to less attrition?
**Supporting Gender Equity Means Taking Risks**

Some time ago, a female scientist and friend became pregnant. She faced a male supervisor who expected her to continue in the lab as a practicing organic chemist, along with a human resources (HR) department that reluctantly (due to company policy) asked her to sign a release that would forever legally protect the company should anything happen to her unborn fetus. As a friend, I chose to intervene. We had two long conversations in which I supported her strongly and indicated that she had the right to be temporarily reassigned to alternative duties, at least until she gave birth to her child and returned from maternity leave. I went as far as to voice my concerns to HR.

My activism did not make me immensely popular with the male supervisor in the short term. However, I was vocal, informed, and convincing, and others soon followed suit. My localized lack of popularity was only temporary, because the company appreciated my high level of performance, and the female assistant vice president of HR was happy to see a male taking a risk in support of the rights of a female employee.

While I am hesitant to sound immodest, I am convinced that my willingness to take a risk is what we need in males. We need male students groomed by experienced female mentors, in one capacity or another, so they become particularly aware of women's issues in the workplace. Those males who are high-achieving will have to demonstrate their value to the company before daring to make waves. However, this takes approximately three years for those who are achievement oriented. When said males win the respect of the company, the risks involved in being vocally supportive of change are offset by the individual and team contributions that have been lucrative to the company.

The ultimate goal here is to have such males in leadership positions, so they can make hiring and appointment decisions favoring diversity, equity, and inclusion and influence the outcomes of managerial boards, helping their employers make compassionate, ethical, and broadly gender-inclusive high-level decisions.

Admittedly, I have not seen this model implemented in industry, as I chose to leave shortly after a pregnant colleague was fired (under the deliberate guise of being laid off) by a senior vice president, who laughed while boasting, “That’s not the first time I fired a pregnant woman!” My reasons for leaving industry were not exclusively rooted in this particular event. However, the event impacted my decision to leave.

**Gender Balance Promotes Better Business**

I have heard of and seen unsavory decisions made in industry because patriarchal males at senior leadership and board meetings outnumbere d females by a shamefully large margin. There are times when the gender imbalance favoring males leads to an unethical vote, since female representation is in the minority. Scenarios such as this are where gender balance is needed most, and this is why I mentor women.

The *Harvard Business Review* has reported that “any solutions that involve only 50 percent of the human population are likely to have limited success,” meaning that corporate support groups for women, while necessary, will be insufficient to effect change. Men must be integrally involved in the process. What is further indicated is that “gender parity in the workplace [is] associated with improved profitability.” Companies with female board members are stellar performers, when compared to their counterparts who lag in fair and wise gender practice.

**Model of Mentorship for Unlearning Gender Stereotypes**

I dare say no one in American culture escapes being assaulted by gender stereotypes. Hence we cannot expect to reach adulthood unaffected by them. Over the years I have been systematically deprogramming myself of gender stereotypes, once I became aware of them. The advantage of female mentors for men is that they will likely facilitate this process at an earlier stage, hence empowering males to become more mindful and reflective. Only consciousness induces understanding of the potential stereotypes that men might be unaware of. Perhaps no field can benefit more than STEM from such an endeavor.

Recent events ushered into blinding light by the #MeToo movement have brought us into sober awareness of the unrelenting sexual discrimination and harassment practices in the United States. We are now being called upon as a nation to promote social justice by strategically placing gender-competent profes-
Early Development of the AWIS Palo Alto Mentoring Program

With the belief that mentoring would foster the retention and growth of women in science, the National Association for Women in Science (AWIS) leadership received a substantial grant from the Sloan Foundation for three years (1990 to 1993) and made funds available to any chapter upon completion of a mentoring proposal to National AWIS. The AWIS Palo Alto leadership members wrote two grant proposals to cover the program years of 1991 to 1992 and 1992 to 1993. Whereas AWIS Palo Alto had included mentoring among the programs at the inception of the Palo Alto chapter in 1985, the program was in early development. With the funds received from the Sloan Foundation grant, the chapter became adept in enlisting mentors for Stanford University protégées and matching pairs to establish valued one-on-one mentoring relationships. Programs for the mentoring events included topics on career opportunities and options, professional contacts and networking, self-image and self-confidence, balancing work and family, selection of academic coursework, and research opportunities. Funding for the 1993 to 1995 years came from the chapter budget and included one year of National Science Foundation funding received by National AWIS in 1995. Funding beyond 1995 came from the chapter budget and sponsors, including Stanford University support and campus meeting room. The experience of AWIS Palo Chapter in the Sloan-funded Mentoring Program has been the topic of an article in The Scientist (July 26, 1993).

1. Can you give a brief overview of your Chapter’s mentoring program? What is the structure, the timeline, who facilitates or leads the program, etc.

Beyond 1995, the AWIS Palo Alto Mentoring program has had the goal of building bridges between professional female scientists in the SF Bay area and female graduate students and postdoctoral associates/fellows in STEM disciplines at Stanford University. The Mentoring program is led by 2-3 co-chairs and a committee of volunteers. Everyone contributes program ideas. Individuals invite speakers, write summary reports, reserve the room and caterer, track finances. We take turns to help run the dinner meetings.

One aspect of our program that has allowed it to run continuously since 1991, is the dedicated support of veteran mentors, mostly from the industry sector. A second pillar of support comes from the Office of the Vice-Provost for Graduate Education (VGPE) at Stanford who pays for catered suppers, small honoraria for speakers, and books for door-prize raffles. Many members who have joined over the last few years and have stayed in the area, have become part of the AWIS community and continue to volunteer their time to the mentoring program. Many have transitioned from mentee to mentor!

The Palo Alto AWIS mentoring program runs every academic year with 4-5 meetings on the Stanford campus. At the first meeting of the academic year, a panel of veteran mentors, postdocs and graduate students share tips for effective mentoring, how to fill out the pairing questionnaire, and how the program is structured overall. Importantly, this meeting occurs before the pairing questionnaires are sent out as this panel discussion helps participants especially our mentees provide enough detail so that more successful pairs are made. The mentoring committee makes 1-on-1 pairs based on common interests, experience, and needs. After the pairing, introduction emails are sent out, and we host a social where we encourage mentors and mentees to meet up. We give coffee shop gift cards to the pairs that show up. Pairs are encouraged to meet throughout the year in whatever format is most convenient for them – over coffee, or a meal, by email, text, or over the telephone. We host a total of 4-5 meetings at Stanford in the academic year where anyone can attend including the mentor/mentee pairs. The speakers offer short talks on professional development topics ranging from communication, leadership, networking, resume writing, panel events etc.

2. Matching and facilitation can be two of most challenging aspects of a mentoring program. How does your Chapter match participants and how do participants meet (one-on-one, circles, virtually, etc.)?

Matching is accomplished by questionnaires and committee matchmakers. Each summer, the Co-Chairs and Committee examine whether the current pairing questionnaire needs to be refined to facilitate more successful matches. Some of our questions will be generic such as applicants research background and career stage and there will also be clarifying questions such as what kind of mentor is desired (academic or industry), or what do they hope to get out of the mentoring program.

The committee matches up protégées and mentors based on the information from the questionnaires – common interests, experience and needs. In general, we match early stage graduate students with postdoc mentors, and postdocs are usually paired with industry professionals or professors. We require that postdocs who want a mentor also need to serve as a mentor. Once matches are made, the committee sends email introductions and participants meet one-on-one or via telephone. To help break the ice between mentor
and mentee, we host a pairing social to help pairs meet. In addition, if a pairing does not work for some reason, we try to re-pair protegees as best as we can.

Over the last several years we have formed peer mentoring circles which were centered around a theme such as academic careers or motherhood. For these mentoring circles to be successful, we found that we needed a strong leader to dedicate herself to keeping the group moving forward.

3. What’s the most important leadership lesson you’ve learned through your mentoring program and how is it valuable?

It’s most important for mentors to listen well and not feel you must have all the answers. Protegees have different needs, whether it is help dealing with a specific problem e.g. a difficult PhD advisor, advice on a particular career path, help with networking, or just a sympathetic listener who can give advice from a neutral standpoint. Sometimes mentees do not even realize what they really want or need and so this can take time to coax out – by support and listening.

4. Have you been able to successfully leverage technology to keep participants who do not work or live in same area connected?

Mentor/mentee pairs are able to connect via email or telephone if in-person meetings are difficult. We also have begun to explore using a LinkedIn group, where people can stay connected or ask for informational interviews.

5. What does success look like for participants and your Chapter? Do you have a success story you can share?

Success is women flourishing in whatever they are doing – finishing a thesis and graduating, getting a first industry job, overcoming a problem at work, making friends and feeling valued and listened to, getting a promotion, giving back to the community etc.

For example, I had a mentee who was in a department and lab that was overwhelmingly male. She struggled to have her voice heard and was often burdened with administrative tasks. She wanted to have a better relationship with her advisor and meet other women in her field to see what jobs they went on to do and to discuss different career opportunities. By talking through these problems with her mentor, she became more assertive in the lab and was able to better articulate her priorities and goals to her supervisor. Through networking facilitated by her mentor, she found others in her line of study – solar cells – and who had found industry jobs and she was able to arrange some informational interviews to learn about different options that would be open to her after graduation.

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Featured Chapter

AWIS Metropolitan Washington, DC

1. Can you give a brief overview of your Chapter’s mentoring program? What is the structure, the timeline, who facilitates or leads the program, etc.

The DC Chapter’s Mentoring Circles program offers an opportunity for members to participate in peer mentoring groups for the year. We provide some structure by arranging the circles, doing regular check-ins, and providing resources. However, the details of how the circles spend their time are up to each circle.

The process for the program starts the fall before — so for 2018 we started in fall 2017 — with a survey of current participants. We’re trying to get an idea for what is working and what isn’t. We also start to advertise for sign-ups in the fall. We usually open up the opportunity to nearby chapters and to non-members, though non-members are required to pay a participation fee. In early-January, we finalize our plans for a kick-off event and do a final advertising push for sign-ups. The exact timing of the kick-off event depends on the availability of our speaker and a venue, but this serves as the first meeting for the mentoring circles. We usually arrange a mid-year event for all of the participants to get together, but other than that it’s up to each group to schedule their own meetings.

2. Matching and facilitation can be two of most challenging aspects of a mentoring program. How does your Chapter match participants and how do participants meet (one-on-one, circles, virtually, etc.)?

Matching is the most difficult challenge on our end. Our goal is to have each circle have a similar enough set of interests that they have something to discuss and a different enough set of experiences that they can learn from each other. We also try to take into account general location preferences. Our sign-up form is set up to help us gather enough information to make appropriate matches. The most challenging part of the program for the participants is finding a time when everyone in their circle is available. The goal is to have the whole circle meet once per month for the whole year. We have received feedback from people who would like to be able to meet virtually. Mentoring circles are certainly allowed to meet this way, if they choose, but for next year we might look into making this a “location” option for our matching.

3. What’s the most important leadership lesson you’ve learned through your mentoring program and how is it valuable?

One of our greatest goals is that AWIS DC members find great benefits from attending the mentoring circles. We want members to feel that their voices are being heard and we do our best to reflect their wishes in how we match them up in mentoring circles. We have learned that taking the time to incorporate feedback from previous years (through surveys) is invaluable. Also, throughout the year we continually listen to members’ comments and questions so that we can address any problems that may arise in the circles (i.e. not enough people consistently attending).

4. Have you been able to successfully leverage technology to keep participants who do not work or live in same area connected?

We try to incorporate geography into our mentoring circle calculations. That is, mentoring circles tend to be from the same local area (or as close as possible). Of course, some members still live at greater distances. We leave it up to each mentoring circle to decide how often they would like to use virtual meetings so everyone can attend. This may increase the likelihood of all members consistently attending and improve overall morale.

5. What does success look like for participants and your Chapter? Do you have a success story you can share?

We consider some of the greatest success stories to be mentoring circle members that continue to meet after the year is over! They continue to strengthen the bonds they made during the year and want to maintain that network. Also, we have had mentoring circle members become AWIS DC Board members because they wanted to be even more involved.
Argonne National Laboratory is a multidisciplinary laboratory where more than 1,500 scientists and engineers perform world-class research. Argonne’s Postdoctoral Program provides early career professionals with the opportunity to join them in conducting meaningful, cutting-edge research. There are two types of appointments available.

**ARGONNE NAMED FELLOWSHIPS** are the Laboratory’s most prestigious fellowships. Applications are accepted in October for the Enrico Fermi Fellowship and in March for the Maria Goeppelet Mayer Fellowship. Named Fellows work closely with an Argonne sponsor to pursue their research interests. A Named Fellow is hired as an Argonne Scholar with full benefits, a competitive salary and a stipend for research support. Named Fellows may renew their appointments on an annual basis for up to 3 years, with the possibility of retention.

**DIVISIONAL POSTDOCTORAL APPOINTEES** perform research in existing science and technology programs; present and publish research; contribute to the overall research efforts of the Laboratory; advance knowledge in basic and applied research; and strengthen U.S. scientific and technical capabilities. Candidates are selected based on their academic background and possible input to the lab’s research. Initial postdoctoral appointments are for one year with the opportunity to extend up to three years.


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**Enhance accountability:**
- Develop dashboards and scorecards to track D&I metrics.
- Tie performance, KPIs, and compensation to D&I targets and behaviors.
- Acknowledge and reward inclusive employees and managers.
- Embed D&I objectives into business plans.

**Foster an inclusive culture:**
- Diagnose the company’s level of inclusion to uncover pain points.
- Provide unconscious-bias training to all managers.
- Hire and promote inclusive leaders, and invest in inclusive leader assessment.
- Develop an inclusive definition of “great talent” and ensure that the need for “culture fit” is not an excuse to reject diverse talent.

But, to unlock their full potential around innovation especially, organizations will need to understand all of the areas within their action plans in which they may have unconscious biases and take bold moves to address those issues. They will need to embrace new ways of thinking, new styles of behavior, and cultural modifications. And, most importantly, they must focus on ways to ensure D&I strategy and initiatives accelerate a true sense of belonging for each member of the organization.

A PhD scientist by background, Dana Krueger leads the firm’s Global Biotech & Pharmaceuticals Practice. She focuses on leadership assignments at the executive and non-executive levels. She also advises clients across a range of sectors on senior R&D/innovation roles. Dana is based in Amsterdam. Prior to joining Russell Reynolds Associates, Dana served as a Global Account Manager and key member of the European Life Sciences practice at the Monitor Group (now part of Deloitte). Earlier in her career, she was a Post Doctoral Fellow at Harvard University and a Fulbright Fellow at the University of Sydney. Dana is a member of the Healthcare Business Women’s Association (HBA), and also participates in the Ivy Circle and the Harvard Club of the Netherlands. She received her B.A. in Biology (summa cum laude) from Lawrence University and her A.M. and Ph.D. in Biology from Harvard University.

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“Diversity and Inclusion” continued from page 47
Our Collective Impact: Omnibus Spending Bill Provides Largest Research Increase in Nearly a Decade and AWIS Members Weighed In

By Josipa Ilic
AWIS Communications Intern

Just one week before Congress approved, and the President signed, the 2018 Omnibus Spending Bill, more than 21 AWIS members from Florida, Maryland, Massachusetts, New Jersey, New York, Virginia, Washington DC and West Virginia converged in the nation’s capital on March 14-15 to participate in the “Diversity and Inclusion Fuels Innovation in STEM.”

Our advocacy “ask” focused on funding for science with a specific emphasis on the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA), agencies which support fellowships and funding for AWIS members around the country. Collectively, these three agencies stood to lose over three billion dollars under the president’s budget proposal for 2019. Specifically, AWIS called for Congress to fund NSF to full $8.45 billion suggested by the science community to support research and development activities and continue to broaden participation in STEM innovation.

AWIS efforts were met with support from legislators, as reflected is the Omnibus legislation passed on Friday, March 23. The Omnibus proposes funding NSF at $7.7 billion compared to 7.4 B for FY17 and a 24 percent increase of the presidents proposed budget of $6.2 billion. In the Omnibus, the EPA’s Science and Technology budget receives flat funding compared to FY17 at $706 million, which is a 78 percent increase from the presidents FY18 budget proposal of $397 million. NOAA’s Oceanic and Atmospheric Research received an increase of funding from FY17 to $549 million which is a 56 percent increase of the president’s proposed budget for FY18 at $350 million. AWIS clearly had an impact and we are very proud to see budget increases for federal scientific research.

“Science has had strong, bipartisan support in Congress, and I appreciate the efforts by AWIS to advocate for the important research their members are engaged in. It is groups like this that allow Congress to do its job appropriating funds where they are needed, and these efforts were beneficial to the 12.8 percent R&D funding increase in the final FY 2018 spending bill which Congress recently passed and the President signed into law,” said Congressman Randy Hultgren (R-IL), member of the Committee on Science, Space and Technology, of his meeting with AWIS members.

In fact, total federal R&D spending has now reached the highest point ever in inflation-adjusted dollars. Basic and applied research funding has received its largest year-over-year increase since the FY 2009 Recovery Act.

As Daniela Nikolova, AWIS member from Florida noted: “I am now convinced that together we can make a difference in reaching our ambitious goals.”

The 2018 Capitol Hill Days were organized by AWIS in conjunction the Society of Women Engineers (SWE). AWIS members met with 25 legislators, including Senator Bill Nelson (D-FL), ranking member of the Committee on Commerce, Science and Transportation, Senator Tim Kaine (D-VA), founder and co-chair of the bipartisan Career and Technical Education (CTE) Caucus, Congressman John Carter (R-TX), member of the Subcommittee on Commerce, Justice and Science Appropriations and Congressman Ken Calvert (R-CA), member of NASA and STEM Caucuses.
“Advocacy empowers us to realize that collectively, we can have an influence. We can maximize our impact and engage others together as AWIS,” stated Kamana Mitra, AWIS member from New Jersey. Our members shared their personal experiences of how the proposed budget cuts would impact them and STEM fields they work in. They pointed out the importance of governmental funding for basic science research in their respective fields, emphasizing that private enterprises have not traditionally been the source of funding at early stages of research. They further spoke about the difficulties they and their colleagues face when confronted with possible budget cuts, and the need for steady, sustainable sources of funding. There currently is a growing frustration among scientists doing research, our members said, with many choosing to transition into private industries, due to uncertainty of sustainable scientific research funding. This trend stifles the innovation and progress in all disciplines of STEM.

As an organization that represents women in every discipline of STEM, AWIS offers a wealth of knowledge, research, data and expertise - Kelsey Sugrue, participant from Washington, DC, said, “Getting ourselves out there is really important. We were able to educate members of Congress that AWIS is there as a resource for them, which is really impactful”. To learn more about AWIS advocacy, and how you can get involved, visit www.awis.org, and follow us on Twitter @AWISNational, Facebook and LinkedIn.

MD Anderson Cancer Center proudly supports the Association for Women in Science and its mission to drive interest and inclusion in STEM education and employment.
In March, our third cohort of entrepreneurs celebrated the halfway point in their journey with STEM to Market: The AWIS Accelerator at our workshop in Chicago. At the workshop, entrepreneurs tapped into their visions, practiced their pitches to investors and members of the S2M advisory board, and mapped out action plans for advancing their ventures.

Because of our commitment to taking an intersectional approach to inclusion challenges, each of our cohorts of The AWIS Accelerator are richly varied in their career pathways and demographic backgrounds and bring a wide range of STEM expertise to the table. The Chicago cohort is no different! It is our great pleasure to introduce you to the exceptional entrepreneurs in our Chicago cohort of S2M: The AWIS Accelerator.

**The Chicago Cohort**

- **Briana Dye and Alyssa Miller**, both PhDs in Cell and Developmental Biology and co-founders, patented a three-dimensional lung tissue model used in the study of lung development and early developmental diseases.
  - Briana: “I am very passionate about my research and, through commercialization, I can share it with others and fuel more breakthroughs in lung development.”
  - Alyssa: “Striking out on my own path as an entrepreneur allows me to create an independent way forward instead of having a traditional academic trajectory.”

- **Anne Marie Finley**, MS in Science and Technology Commercialization, is founder and President of Thrombopharma, Inc, a company that develops pharmaceuticals for disorders and diseases with no current treatment available.
  - “I want to have a positive impact on my environment and create positive solutions to biomedical issues, particularly in the rare disease and unmet medical needs space.”

- **Marija Gajdardziska-Josifovska, PhD**, Physics and **Carol Hirschmugl, PhD** in Applied Physics, co-founders of SafeLi, LLC, patented materials for enhancing energy storage in Lithium-ion batteries.
  - Marija: “I have always been entrepreneurial, including selecting applied areas in physics for much of my education and research.”
  - Carol: “I’m commercializing my work because if I do not, no one else will.”

- **Ivy Krystal Jones, PhD** in Physics, developed direct-ink writing of solid state materials with specific properties not possible in traditional materials science and engineering R&D.
  - “In becoming an entrepreneur and creating novel inventions, I can not only improve my quality of life, but my ideas would impact society as a whole.”
**Angeliki Koulouri, MS** in Sustainable Energy and Electrical and Computer Engineering, is designing technology tools that inform and educate users about their energy consumption.

- “Entrepreneurship is part of my identity. I like experimenting with new ideas, asking questions, and striving to learn new things.”

**Eileen Krepkovich, MS** in Biomedical Engineering, invented an at-home rehabilitation system for patients with knee osteoarthritis that combines electromyography biofeedback with video game therapy.

- “Successful commercialization will allow my technology to reach and reduce the pain of a wide range of arthritis patients.”

**Hien Anh Nguyen, PhD** in Biochemistry and Structural Biology and co-founder and Chief Scientific Officer of Enzyme by Design, engineers enzymes that enable drugs to retain their potency in disease treatment while reducing their toxic side-effects.

- “My desire to do and think differently than available conventional methods is what makes me an entrepreneur.”

**Salomeh Tabatabaei, PhD** in Mechanical Engineering and Materials Science and co-founder of LICEE, designed electronic devices for a variety of medical purposes, including connecting mothers with their babies and facilitating diagnosis and treatment of cancer.

- “My work as an entrepreneur helps create a healthier, happier generation and offers patients a higher quality of life.”

**Guest Entrepreneur: Kayla Rodriguez Graff, MBA,** co-founder and COO of SweetBio, Inc., a biotech startup revolutionizing dentistry with a “sweet” take on an oral surgery product.

- “As an entrepreneur, I can develop products that make the world smile.”

### References:


Congratulations to Our FY18 AWIS Star Award Winners

Many chapters and affiliates around the country have strong leaders, are well-organized, and execute stellar programs that deserve to be recognized. The AWIS Star Chapter and Affiliate Award honors those groups that have accomplished key objectives outlined in the association’s Strategic Plan. The award encourages groups to perform specific activities designed to ensure that women in STEM fields are able to achieve their full potential. Groups that successfully accomplish twelve of the goals outlined by the AWIS National Governing Board and the Chapters and Affiliates Committee during the fiscal year will be honored with the annual AWIS Star Chapter and Affiliate Award.

**AWIS STAR Chapter & Affiliate Award Winners**

AWIS Bethesda, Maryland Chapter  
AWIS Central Massachusetts Chapter  
AWIS Central New Jersey Chapter  
AWIS Chicago, Illinois Chapter  
AWIS East Bay, California Chapter  
AWIS Fairbanks, Alaska Chapter  
AWIS Notre Dame, Indiana Chapter  
AWIS LA / Ventura County, California Chapter  
AWIS Massachusetts Chapter  
AWIS Metropolitan Washington, DC Chapter  
AWIS New York WINS Chapter  
AWIS Northwestern Ohio Chapter  
AWIS Palo Alto, California Chapter  
AWIS Philadelphia, Pennsylvania Chapter  
AWIS San Diego, California Chapter  
AWIS Seattle, Washington Chapter  
AWIS Southern Louisiana Chapter  
AWIS St. Louis, Missouri Chapter  
AWIS Gulf Coast-Houston, Texas Chapter  
AWIS West Virginia Chapter  

Cal State U-LA AWIS Affiliate Group  
Denver Anschutz Medical Campus AWIS Affiliate Group  
Emory University AWIS Affiliate Group  
Kentucky AWIS Affiliate Group  
University of Michigan AWIS Affiliate Group  
Oklahoma AWIS Affiliate Group  
DeSales University AWIS Affiliate Group  
Austin, TX AWIS Affiliate Group  
Janelia Research Campus AWIS Affiliate Group  
Inland Northwest / WSU AWIS Affiliate Group
2. “Make sure your mask is secure before helping others.”

It’s not about being selfish: it’s about career survival.

By respecting others, being a high-performer, and consistently surpassing your goals, you will be able to secure that mask.

Make sure you think and act on behalf of your career progression. And be generous. By taking care of your career, you will be in a much better position to coach and mentor others and support them in developing their own career plans. Contributing that back, especially to other women in the science field, is part of our professional responsibility.

Design your flight plan, position yourself on the control tower’s radar, and make sure your oxygen mask is securely on before helping others.

Enjoy the journey and dare to fly high! Mónica D. Bolé is the R&D Director responsible for RB’s (Reckitt Benckiser, maker of Lysol, Air Wick and Finish) Hygiene Home Business Unit in North America. With an MBA degree and two Post-MBAs, Mónica started her Pharmacist-Biochemist career in Quality Assurance before moving to R&D. Originally from Brazil, Mónica has been with RB for over 10 years. With vast experience in leading companies such as P&G, J&J and RB, Mónica actively supports the promotion of female talents in the corporate world and in the field of science.

About Marrone Bio Innovations

The world population is soaring, and consumers are increasingly concerned about the environment, their health, food safety, and ongoing access to clean water. Now, more than ever, our world needs effective, sustainable pest management solutions that are safe for people and protect our natural resources. At Marrone Bio Innovations we understand these challenges and are dedicated to delivering high-performing, bio-based solutions that address these daunting global issues.

As experts at discovering, developing, and commercializing naturally derived technologies, we have created an industry-leading platform of pest management and plant health products that are used in agricultural, turf and ornamental, and water treatment applications. Our solutions help customers around the globe control pests, improve plant health, and increase crop yields while reducing the environmental pesticide load, decreasing chemical residues on food, and fighting the development of pest resistance.

Pam Marrone is CEO and founder of Marrone Bio Innovations (MBI) (NASDAQ: MBII), a bio-based pest management and plant health company. Pam is active with industry and other ag and education-related organizations. She is the founding chair of the Bioproducts Industry Alliance (BPIA), a trade association of more than 100 biopesticide and related companies. Pam is a Fellow of the American Association for the Advancement of Science (AAAS), is treasurer of AWIS National Governing Board, and is on the board of trustees of Cornell University.

Future Outlook

While only time will tell, I believe that fostering a highly inclusive, anti-gender-bias culture, in which women mentor college-age men on campuses nationwide, could lead to the creation of workplaces that treat the female gender, as well as reproductive and maternity rights, with respect. Shouldn’t such a fundamental ideology be an integral component of essential human rights?

Mahatma Gandhi eloquently phrased a simple plan for social justice, requiring only individual enrollment in a cause: “Be the change you wish to see in the world.” By choice, we are empowered to promote the change we desire through mentoring the next generation of skilled male leadership.

“In the book, Athena Rising, experienced men are strongly encouraged to mentor women. If we collectively, as a skilled and willing people, mentor women, who in turn, mentor men to attain a higher level of consciousness about women’s issues, might we, in part, promote the fundamental change we all wish to see in American culture?”

The Greco-Roman scientist Ptolemy (c. 100-170 AD) formulated a statement that has become a pillar of scientific philosophy: “We consider it a good principle to explain the phenomena by the simplest hypothesis possible.” We now know this as Occam’s Razor, which may be understood as meaning that the simplest solution to a problem is the best, or at least one well worth pursuing. Personally, I know of no simpler solution than that proposed herein, as it rests democratically with the American people and with ubiquitous opportunity in higher education.

References:

Impact!

How do you define it?
I think of impact as both the noun, meaning the effect you have from action you take, as well as the verb — a call to action to have an effect that matters.

Has your word influenced you during your career, or is it a word that you have chosen retrospectively?
The idea of impact has influenced choices throughout my life. I became a scientist because I wanted to have the greatest positive impact on the world I could, and I viewed science as the path to this goal. Why help only one person when I might be able to discover ways to help many? (I’ve since evolved in my thinking about the importance of helping just one person, but I do still want to help many.)

Science policy fellowships at the National Academy of Sciences and through the American Association for the Advancement of Science (AAAS) exposed me to the incredible impact the government has and can have on our nation and the world. The great potential impact I can contribute through public service is why I love working in government. I also love collaborating with amazing colleagues at the U.S. Small Business Administration and sister federal agencies, who are dedicated to ensuring we are doing the best we can to have a positive impact.

Because I want to have an outsized impact, I look to be a force multiplier — empowering individuals to achieve their best by creating an environment and the conditions for them to do so. This is why I am passionate about working with entrepreneurs, who can each have such great impact; helping those who will change the world with their technology, creativity, and humanity. Together, we can unleash the innovation needed to solve the world’s toughest problems.

If you had one piece of advice to someone just starting out as an entrepreneur, what would it be?
Be persistent and know you are not alone.

For scientists moving into the entrepreneur space, remember that you already made it through so many “failed” experiments and you kept learning. Entrepreneurship is not so different from science — there are a lot of “failed” experiments to come but you will keep learning and growing toward that big impact.

Another similarity between science and entrepreneurship is that a broader community exists and many resources are available to support you as you venture into the unknown. As a researcher, you know how to find information. A great starting place is to check out federally-supported programs and resource partner networks. Find a wealth of learning opportunities on SBIR.gov and SBA.gov. Tap into that great AWIS network and start doing your research!

Jennifer Shieh, PhD is Chief Scientist and Senior Technology Policy Advisor in the Office of Investment and Innovation of the U.S. Small Business Administration. She advances technology commercialization and an inclusive innovation ecosystem through the Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) programs, building partnerships and coordinating policy across the eleven participating federal agencies. She studied brain and cognitive sciences at MIT, then earned her PhD in neurosciences at Stanford University.  

Photo credit: TMD Enterprises
We help our clients build diverse and inclusive teams of leaders who can meet today’s innovation challenges and anticipate disruptive trends that are reshaping the global healthcare environment.

We advise organizations on developing an inclusive culture, resulting in higher levels of engagement and a sense of belonging.

Our Healthcare team is at the leading edge with clients seeking to enhance diversity and achieve optimal performance and breakthrough innovation.
MedImmune/AstraZeneca Supports Women in STEM

MedImmune is the global biologics research and development arm of AstraZeneca, a global, innovation-driven biopharmaceutical business that focuses on the discovery, development and commercialization of small molecule and biologic prescription medicines.

Our employees pioneer innovative research and explore novel pathways across Oncology; Respiratory, Cardiovascular & Metabolic Diseases; and Infection & Vaccines. Our headquarters is located in Gaithersburg, MD, one of AstraZeneca’s three global R&D centers, with additional sites in Cambridge, UK and California.

For more information, please visit us at www.medimmune.com.