Assessment of Equity, Diversity and Inclusion
Challenges and Strengths in the Medical Physics Field

Successful Equity, Diversity and Inclusion Strategies: EDI is Intentional

AAPM’s WMRSC
- Who are we
- What are our goals
- AAPM’s New Initiatives on EDI
- What is EDI
- EDI in Physics
- EDI in Med Phys
- Strategies that can help with EDI in AAPM and abroad
Hello!

Julianne Pollard-Larkin, PhD
Chair of AAPM WMRSC
Chief of Thoracic Radiation Physics
MD Anderson Cancer Center

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We must not only learn to tolerate our differences. We must welcome them as the richness and diversity which can lead to true intelligence.

Albert Einstein

https://www.azquotes.com/quote/1125617

1. WMRSC: Who are we?
Formerly the Women and Minority Recruitment Sub-committee

Currently, the Minority Recruitment Sub-committee

What are our goals?

- Increase number of women and minorities in Medical Physics
- Create new diversity-focused recruitment activities
- Establish collaborations of women and underrepresented physicists
Diversity is about a collective or a group and can only exist in relationship to others. A candidate is not diverse — they're a unique, individual unit.
Med Physics = Medicine + Physics

Therefore,

EDI Med Phys = EDI Medicine + EDI Physics

Physics is far from being a diverse discipline....
Women are just as capable in Physics as men
Only 7.4% Black Women Hold PhDs in Physics. She's Raising Money to Make It 75.

Lashana Williams is hoping to raise £100,000 to get to the Rice/Vanderbilt PhD program this fall.

https://www.colorlines.com/articles/only-74-black-women-hold-phds-in-physics-she%E2%80%99s-raising-money-to-make-it-75

WOMEN % TOTAL APPLICANTS AND MATRICULANTS

Brief Opinion

Achieving gender equity in the radiation oncology physician workforce

Emma B. Holliday MD 1, Malika Siler MD 1, Christina H. Chapman MD, MS 1, Rashma Jagal MD, DPhil 1, Barabara S. Bitterman MD 1, Awad A. Ahmed MD 1, Karen Winfield MD, PhD 1, Maria Kelly MD 1, Nancy J. Tarbell MD 1, Curtland Seville Jr, MD 2 1Department of Radiation Oncology, The University of Texas MD Anderson Cancer Center, Houston, Texas 2Department of Radiation Oncology, Medical College of Wisconsin, Milwaukee, Wisconsin

Received 25 May 2018; revised 2 September 2018; accepted 4 September 2018
> 50 years for gender equity in Rad Onc!!

Over the past 50 years, the percentage of women in the academic IMID physician workforce has increased by approximately 0.5% per year for both residents and faculty, compared with 1% per year for medical oncology fellows and faculty. At this rate, it would take over 30 years for women to hold equal numbers of resident and faculty positions within IMID. Furthermore, Med Phys is Ahead of the Gender Equity Game
**Entering Class - Nationality**

<table>
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<tr>
<th>Nationality</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<tbody>
<tr>
<td>MS/MD - Domestic</td>
<td>95%</td>
<td>85%</td>
<td>89%</td>
<td>77%</td>
<td>60%</td>
</tr>
<tr>
<td>PhD - Domestic</td>
<td>80%</td>
<td>77%</td>
<td>78%</td>
<td>79%</td>
<td>78%</td>
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</table>

Other: American Indian or Alaska Native | 0%  | 0%  | 0%  | 0%  | 0%  |

Other: Asian | 0%  | 0%  | 0%  | 0%  | 0%  |

Other: Black or African American | 0%  | 0%  | 0%  | 0%  | 0%  |

Other: Hispanic or Latino | 0%  | 0%  | 0%  | 0%  | 0%  |

Other: Native Hawaiian or Other Pacific Islander | 0%  | 0%  | 0%  | 0%  | 0%  |

Other: American Samoa | 0%  | 0%  | 0%  | 0%  | 0%  |

Other: Micronesia | 0%  | 0%  | 0%  | 0%  | 0%  |

Other: Marshall Islands | 0%  | 0%  | 0%  | 0%  | 0%  |

Other: Other Place of Origin | 0%  | 0%  | 0%  | 0%  | 0%  |

**Graduate Program Applicants**

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<tbody>
<tr>
<td># applications reviewed</td>
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<td>1995</td>
<td>1586</td>
<td>1921</td>
<td>1912</td>
<td>1912</td>
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<td># offered</td>
<td>545</td>
<td>662</td>
<td>577</td>
<td>628</td>
<td>628</td>
<td>628</td>
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<tr>
<td># accepted</td>
<td>105</td>
<td>134</td>
<td>126</td>
<td>143</td>
<td>143</td>
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<tr>
<td>Average GPA (unweighted)</td>
<td>3.536</td>
<td>3.536</td>
<td>3.536</td>
<td>3.536</td>
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**Entering Class - Gender**

<table>
<thead>
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<th>Gender</th>
<th>M/F</th>
<th>PhD</th>
<th>MD</th>
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<tbody>
<tr>
<td>MS/MD - Male</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>MS/MD - Female</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>PhD - Male</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>PhD - Female</td>
<td>50%</td>
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</tbody>
</table>
42% of Med Phys PhD students are women!!

Med Phys is Ahead of the Gender Equity Game

But complacency is not an option, hence, WMRSC’s plan of actions…
What Strategies Work

- Mentorship!!!
- Protégé Programs
- Outreach
- Diversity Awards to Recognize UR Scholars and Allies/Advocates
- Network with Established HBCUs (Historically Black Colleges and Universities) and HSIs (Hispanic Serving Institutions), programs and related groups
- Have leaders who champion diversity and create inclusive, diverse and equitable cultures where everyone can succeed
- Create programs that monitor diversity, equity and inclusion

Mentorship Matters!!

18% of girls with male mentors dropped out of STEM subjects, study says

11% of girls without mentor dropped out.

0% of girls with women mentors dropped out!!


One Black Teacher/Mentor Matters!

29% increased interest in college
39% increased interest in STEM fields

Standing on the shoulders of giants: Results from the Radiation Oncology Academic Development and Mentorship Assessment Project (ROADMAP)

Emma B. Haldy, M.D.1; Raksha Jagar, M.D. D.PHIL.1; Charles R. Thomas Jr, M.D.2, 3; Lynn B. Wilkins, M.D.1; W.F.1; Laura R. Platt, M.D.1
1The University of Texas MD Anderson Cancer Center
2The University of Michigan
3Vanderbilt University School of Medicine

Having a mentor almost doubles faculty productivity!!

ASTRO's Pipeline Protégé Program

2016-19 Protégé Term Year

• Work closely advancing an ongoing or new project that clearly fits into his assigned Council.
• Attend Council and Committee meetings and draft/peer activities
• Maintain current awareness of new ASTRO programs and efforts of the Council and Board.
• Develop valuable connections with Committee and Council leadership.
• Attend the September 2016 ASTRO Board meeting and report out on his/her Pipeline Protégé Program experience and project goals.
• Attend the September 2017 ASTRO Board meeting and report out on his/her Pipeline Protégé Program experience and project goals.
• Upon completion of the Pipeline Protégé Program, protégés will be assessed on their progress.

ASTRO will provide:
• Complimentary registration for the 2018 Annual Meeting at which the protégé will report out on his/her experience.
• One of the top former experience from the 2018 Annual Meeting.
• Two nights of socializing in New York for the 2018 Annual Meeting.

https://www.astro.org/About-ASTRO-and-Leadership/Pipeline-Protégé-Program
AAPM’s Science Council Associates Mentorship Program could have slots for UR trainees

AAPM Committee Tree
Science Council Associates Mentorship Program

Mentorship

The AAPM Science Council Associates Mentorship Program identifies and cultivates outstanding research at an early stage in their careers, with the goal of promoting a long-term commitment to science within AAPM. The program uses the process of mentoring to integrate the Associates into the scientific activities of the organization. The program will include a variety of activities that allow the Associates to participate meaningfully in the Council’s committees, helping to shape the organization's agenda. The mentorship will be ongoing, with regular check-ins to assess progress and provide feedback.

The Associate should be approximately 1-4 years post-doctoral and must be a member of a diverse background, including underrepresented minorities. The mentor should be a senior member of the organization with a history of service to the organization.

Outreach at STEM conferences

ABRCMS.org (Annual Biomedical Research Conference for Minority Students)
100 Black Men of Houston Mentor to Medicine Event in 2017

2016 Strong, Smart and Bold Outreach Event at MD Anderson Cancer Center

2018 AAPM Med Phyzy Wiz Kidz
WPSC and WMRSC joint Happy Hour at 2018 Annual Meeting

“Hollywood Comes to the AAPM: AAPM Wins AIP Grant to Fund Diversity Videos”

Sign up to be interviewed today!!

Voices for gender equity in medical physics

Adrienne M. Roland-Larson, 1 Chad C. Trappet, 1 Anna M. Wimp, 2 Mary V. Meehan, 1 and E. Rose 1, 2

1 Author information - Article notes - Copyright and License Information - Guidelines
MD ANDERSON: Effective Leadership

Faculty Gender Demographics

- 36% Rad Oncs are women
- 25%Physicists are women

12% African American Faculty in Rad Onc!!
Thanks to RO leadership!

MD Anderson Women and Minority Faculty Inclusion

Diversity, Inclusion and Equity require being intentional
No one of us could've done it alone," Bouman said. "It came together because of lots of different people from many backgrounds."

Thanks!
You can find me at @JulieLarkin305
jmpollard@mdanderson.org