







WMRSC

- Formerly the Women and Minority Recruitment Sub-committee
- Currently, the Minority Recruitment Sub-committee













1. Four-Month Activity Report

Month	Activity
July	Creation of the Women and Minority Recruitment Sub-Committee (WMRSC) at the 2005 AAPM annual meeting in Seattle, WA
August	Contracted potential members who agreed to be on the committee (see membership section)
September	0917: Budget request submitted to AAPM (see budget section) 0919: Website request submitted to AAPM 0921: WMRSC website created
October	1007: Budget approved by AAPM Budget Committee meeting 1008: Lecture by Dr. Avery at the University of South Carolina 1015: Lecture by Dr. McKetty at the University of South Carolina 1012: WMRSC renamed Minority Recruitment Sub-Committee as requested by AAPM










2. Current Membership

Person	Affiliation	Function
Dr. Paul Guibert	Hampton University (VA)	WMRSC Chair
Dr. Steven Avery	University of Pennsylvania (PA)	African-American Coordinators
Dr. Mark Harvey	MD Anderson (TX)	African-American Coordinators
Dr. Christopher Njeh	University of California at Fresno (CA)	African Coordinator
Dr. Albert Goodman	Frederick Regional Medical Center	Hispanic Coordinators
Dr. David Ernst	Yonkers University	Hispanic Coordinators
Dr. Carolann Harris	UMinn (MN)	Women Coordinators
Dr. Marlene McKetty	Howard University (DC)	Women Coordinators
Dr. Lari Fowl	The University of Arizona	Native-American Coordinator



VOTING Appointments There are 8 voting members

 David Ernst, PhD Yonkers University 11/2017 - 12/31/2019 Member	 Mark Harvey, PhD MD Anderson 11/2017 - 12/31/2019 Member	 Steven Avery, PhD University of Pennsylvania 11/2017 - 12/31/2019 Member	 Carolann Harris, PhD UMinn 11/2017 - 12/31/2019 Member
 Paul Guibert, PhD Hampton University 11/2017 - 12/31/2019 Member	 Marlene McKetty, PhD Howard University 11/2017 - 12/31/2019 Member	 Christopher Njeh, PhD University of California at Fresno 11/2017 - 12/31/2019 Member	 Albert Goodman, PhD Frederick Regional Medical Center 11/2017 - 12/31/2019 Member
 Lari Fowl, PhD The University of Arizona 11/2017 - 12/31/2019 Member	 David Ernst, PhD Yonkers University 11/2017 - 12/31/2019 Member	 Steven Avery, PhD University of Pennsylvania 11/2017 - 12/31/2019 Member	 Carolann Harris, PhD UMinn 11/2017 - 12/31/2019 Member

Non-VOTING Appointments There are 3 non-voting members and guests

 David Ernst, PhD Yonkers University 11/2017 - 12/31/2019 Member	 Mark Harvey, PhD MD Anderson 11/2017 - 12/31/2019 Member	 Steven Avery, PhD University of Pennsylvania 11/2017 - 12/31/2019 Member
 Carolann Harris, PhD UMinn 11/2017 - 12/31/2019 Member	 Marlene McKetty, PhD Howard University 11/2017 - 12/31/2019 Member	 Christopher Njeh, PhD University of California at Fresno 11/2017 - 12/31/2019 Member
 Paul Guibert, PhD Hampton University 11/2017 - 12/31/2019 Member	 David Ernst, PhD Yonkers University 11/2017 - 12/31/2019 Member	 Steven Avery, PhD University of Pennsylvania 11/2017 - 12/31/2019 Member

Guest Appointed to Committee There are 2 guests

 David Ernst, PhD Yonkers University 11/2017 - 12/31/2019 Member	 Mark Harvey, PhD MD Anderson 11/2017 - 12/31/2019 Member
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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

Focus Areas & Strategic Goals
 adopted by the AAPM Board of Directors - April 11, 2018, revised August 2, 2018

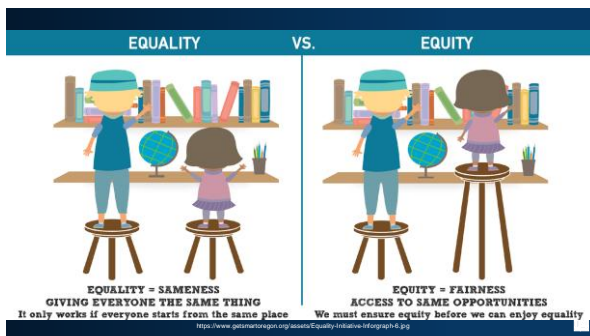
- **Innovation**
 Strategic Goal: Drive scientific and clinical innovation in medical physics to improve human health.
- **Membership**
 Strategic Goal: Enhance the value of AAPM membership experience and services.
- **Leadership**
 Strategic Goal: Promote leadership role of the organization and its members.
- **Education**
 Strategic Goal: Cultivate excellence in medical physics education.
- **Organizational Management**
 Strategic Goal: Practice stewardship in continuous assessment of programs and services.
- **Communication**
 Strategic Goal: Improve communication internally and externally.
- **Patient Care**
 Strategic Goal: Ensure High Quality Patient Care
- **Diversity and Inclusion**
 Strategic Goal: Champion equity, diversity, and inclusion (EDI) in the field of medical physics.

“

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.

<https://geneticscanr1.ly/50tgdiversity-inclusion-equity-differences-in-thinking>

<https://www.aapm.org/~/media/Default/Files/Network/174922.jpg>

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Med Physics = Medicine + Physics

Therefore,

$$EDI_{\text{Med Phys}} = EDI_{\text{Medicine}} + EDI_{\text{Physics}}$$

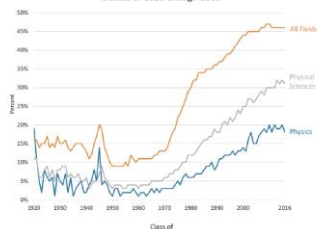


Physics is far from
being a diverse
discipline....





Percent of PhDs Awarded to Women in Specified Fields,
Classes of 1920 through 2016



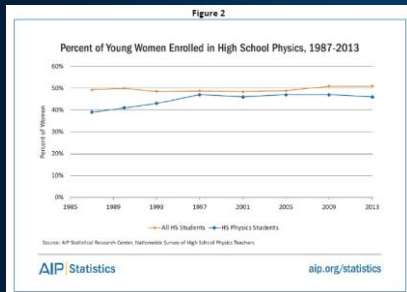
Source: National Science Foundation, National Center for Science and Engineering Statistics.
Data compiled by NSF Statistical Research Center.

AIP Statistics

aip.org/statistics

https://www.aip.org/aip/statistics/about-us/physics-and-astronomy-2019

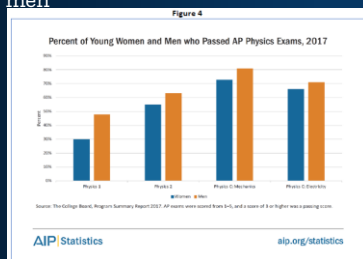
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<https://www.aip.org/statistics/reports/women-in-physics-and-astronomy-2019>

“

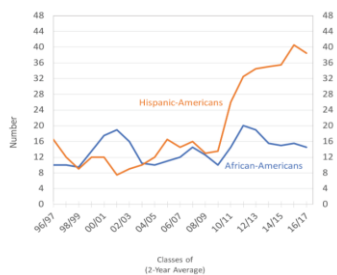
Women are just as capable in Physics as men



<https://www.aip.org/statistics/reports/women-in-physics-and-astronomy-2019>

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Number of Physics Doctorates Earned by African Americans and Hispanic Americans, Classes 1996 through 2017.

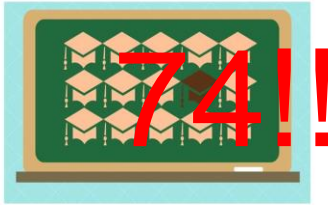


<https://www.aip.org/statistics/data-grahtics/number-physics-doctorates-earned-african-americans-and-hispanic-americans-0>

Only 74 Black Women Hold PhDs in Physics. She's Raising Money to Make it 75.

LaNeil Williams is hoping to raise \$3,000 to get to the Fisk-Vanderbilt program this fall

Source: Biggest 7, June 16, 2018, 11:12AM EDT

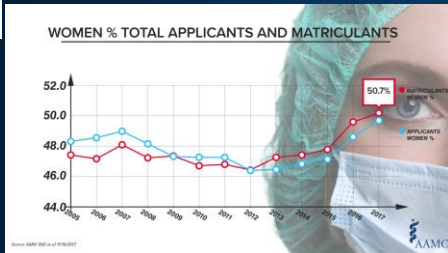


Modified: News Regional Collection

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

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WOMEN % TOTAL APPLICANTS AND MATRICULANTS



Source: AAMC 2017, as of 10/20/2017

http://w1.goweb.com/pdfdoc/2017/1221/15041571/APPELLROLL_FINAL.jpg

“

Brief Opinion

Advances in Radiation Oncology (2018) 3, 478–483

Achieving gender equity in the radiation oncology physician workforce

Emma B. Holliday MD^a, Malika Siker MD^b,
Christina H. Chapman MD, MS^c, Reshma Jaggi MD, DPhil^d,
Danielle S. Bitterman MD^e, Awad A. Ahmed MD^f,
Karen Winkfield MD, PhD^g, Maria Kelly MD^h, Nancy J. Tarbell MD^e,
Curtland Deville Jr, MD^{i,j}

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^bDepartment of Radiation Oncology, Medical College of Wisconsin, Milwaukee, Wisconsin

^cDepartment of Radiation Oncology, University of Michigan, Center for Clinical Management Research, Veterans Affairs Ann Arbor Healthcare System, Ann Arbor, Michigan

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^gDepartment of Radiation Oncology, Wake Forest Baptist Medical Center, Winston Salem, North Carolina

^hDepartment of Radiation Oncology, U.S. Department of Veterans Affairs, New Jersey Health Care System, New Brunswick, New Jersey

ⁱDepartment of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, Maryland

Received 25 July 2018; revised 2 September 2018; accepted 4 September 2018



▫ > 50 years for gender equity in Rad Onc!!

Over the past 30 years, the percentage of women in the academic RO physician workforce has increased by approximately 0.3% per year for both residents and faculty, compared with 1% per year for medical oncology fellows and faculty.⁹ At this rate, it would take over 50 years for women and men to hold equal numbers of resident and faculty positions within RO.¹⁰ Furthermore,



EDITORIAL

Putting Women on the Escalator: How to Address the Ongoing Leadership Disparity in Radiation Oncology

Miriam A. Knoll, MD,* Eitan Gluckman, BS,* Nancy Tarbell, MD,[†] and Reshma Jagsi, MD, DPHI[‡]

*Department of Radiation Oncology, John Thorar Cancer Center, a NIMH-NSECC partnership, Hackensack, New Jersey; †Department of Radiation Oncology, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts; and ‡Department of Radiation Oncology, Center for Biometrics and Social Sciences in Medicine, University of Michigan, Ann Arbor, Michigan

Received Jul 26, 2018, and in revised form Jul 27, 2018; accepted for publication Aug 2, 2018.

Table 1 Gold medal winners by sex

Time period	Gold medal awarded	Male winners, % (n)	Female winners, % (n)
1977-2004	52	90.4 (47)	9.6 (5)
2005-2017	32	93.8 (30)	6.3 (2)

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Med Phys is Ahead of the Gender Equity Game





2017 SDAMPP/CAMPEP Annual Residency Programs Report

Entering Class - Nationality

Nationality	2013	2014	2015	2016	2017
MS/MSc - Domestic	91%	80%	80%	77%	80%
PhD - Domestic	80%	77%	78%	73%	74%

Under-Represented Ethnic Groups (3 programs chose not to respond)
 * (23 institutions reported 47 students (34% of new students))

Black/ African American	12
Latino/ Hispanic	11
Pacific Islanders	1
Other	23
Total	47

<http://www.sdampp.org/resources.php>



2017 SDAMPP/CAMPEP Annual Residency Programs Report

Graduate Program Applicants

	2013	2014	2015	2016	2017
# applications reviewed	1801	1953	1836	1921	2012
# offered admission	545	602	577	608	594
# matriculated	289	324	294	325	314
Average GPA (MS/PhD)	3.5/3.6	3.5/3.6	3.5/3.6	3.5/3.7	3.4/3.6

Entering Class - Gender

	2013	2014	2015	2016	2017
MS/MSc - Male	64%	69%	67%	61%	62%
PhD - Male	71%	69%	68%	63%	58%
DMP - Male		60%	85%	58%	58%

<http://www.sdampp.org/resources.php>



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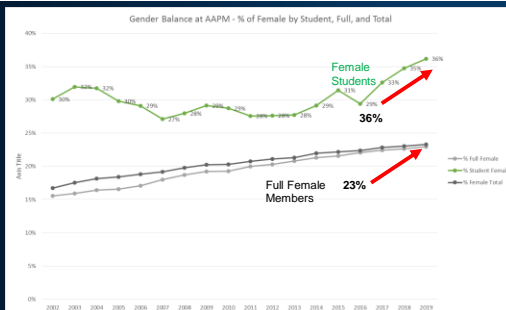
<http://www.sdampp.org/resources.php>



- **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 STEM major

11% of girls without mentor dropped out

0% of girls with women mentors dropped out!!

<https://www.glamour.com/story/woman-to-woman-mentoring-stem-subjects-study>

One Black Teacher/Mentor Matters!



<https://hub.jhu.edu/2017/04/05/black-teachers-improve-student-graduation-college-access/>

AAPM's Science Council Associates Mentorship Program could have slots for UR trainees

AAPM

Committee Tree

Science Council Associates Mentorship Program

Charge/Mission:

The AAPM Science Council Associates Mentorship Program recognizes and cultivates outstanding researchers 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 shadowing to integrate the Associates into the scientific activities of the organization. The program will include eight Associates, each assigned to shadow one member from the AAPM Science Council, Research Committee, Therapy Physics Committee, Imaging Physics Committee, or Technology Assessment Committee. The Associate participates in selected meetings of the Mentors' Committee and joins and contributes to one Task Group (chosen with input from the mentor). The Associate would shadow AAPM-related activities of the mentor, including committee phone calls, abstract review, Young Investigator judging, committee activities at the Annual Meeting, etc.

SC Associates participate in the program for one year, and are funded to attend two consecutive AAPM Annual Meetings, including the pre-meeting activities associated with each Committee.

<https://www.aapm.org/education/>

Create Leadership Diversity Awards



https://onysync.com/8689/news_posts/265280

Outreach at STEM conferences



ABRCMS.org (Annual Biomedical Research Conference for Minority Students)



SACNAS

The SACNAS National Diversity in STEM Conference



6,000+
Members



115
Student + Professional Chapters



20,000+
Community of Supporters



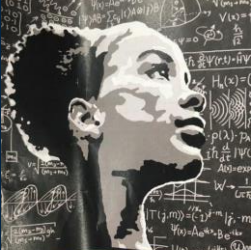


301
Leaders Trained Since 2009



4,093
Research Presentations Since 2015

SACNAS.ORG (Society for Advancement of Chicanos/Hispanics and Native Americans in Science)



1938: Marie Skłodowska-Curie

Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less.

MOST FAMOUS WOMAN SCIENTIST

Marie Curie

During World War I, she developed mobile radiography units to help the wounded in battle. She was the first woman to be knighted by the British monarchy in 1921.

1911: Nobel Prize in Chemistry for the discovery of Radium and Polonium

1903: Nobel Prize in Physics for the discovery of Radium and Polonium

KU KANSAS

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 Phys
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!!



Journal List • J Appl Clin Med Phys • v 19(5); 2018 Nov • PMC6236816

American Association of Physicists in Medicine

Journal of Applied Clinical Medical Physics



J Appl Clin Med Phys. 2018 Nov; 19(5): 6–10.
Published online 2018 Nov 8. doi: [10.1002/acm2.12487](https://doi.org/10.1002/acm2.12487)

PMCID: PMC6236816
PMID: [30408312](https://pubmed.ncbi.nlm.nih.gov/30408312/)

Voices for gender equity in medical physics

Julianne M. Pollard-Larkin,¹ Kelly C. Paradis,² Jean M. Moran,² Mary K. Martel,¹ and Yi Rong^{2,3}

• Author information • Article notes • Copyright and License information [Disclaimer](#)

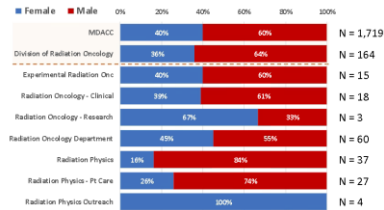
J Appl Clin



MD ANDERSON: Effective Leadership

Faculty Gender Demographics

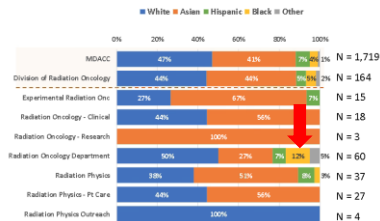
- 36% Rad Oncs are women
- 25% Physicists are women



MD ANDERSON

Faculty Ethnicity Demographics

- 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**

Impact of WMFI

GOAL 1: PROMOTE ORGANIZATIONAL CHANGE TO FACILITATE WOMEN AND MINORITY FACULTY PARTICIPATION THROUGHOUT THE INSTITUTION

LEADERSHIP SEARCHES

Significant progress has been made since the implementation of Leadership Search Policy #ACAR022 in FY 2005.

Pre-implementation (FY 1999 - FY 2007) 38 searches occurred for leadership appointments
27% of women members on search committee
8% or 3 women appointed

Post-implementation (FY 2008 - FY 2018) 68 searches occurred for leadership appointments
41% of women members on search committee
34% or 13 women appointed

