

# Gender Equality in the Radiation Oncology Physician in the United States of America (USA)

The Japanese Association for Women  
Radiation Oncology (JAWRO) session  
on December 1, 2023

The 36<sup>th</sup> JASTRO ,Yokohama, JAPAN

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# Disclosure of Conflict of Interest

## Ritsuko Komaki, M.D.

- **Advisory Board for ECOG-ACRIN  
Data Safety Monitoring Committee (DSMC)  
NCI Supported**
- **Visiting Professor of Hiroshima University Medical  
School**
- **Visiting Professor of Nagoya City Hospital**
- **Consultant of HIPRAC in Hiroshima**
- **Executive Advisor of Proton Treatment at SAFRA,  
Sapporo Kojinkai Memorial Hospital**

**No COI for This Presentation**



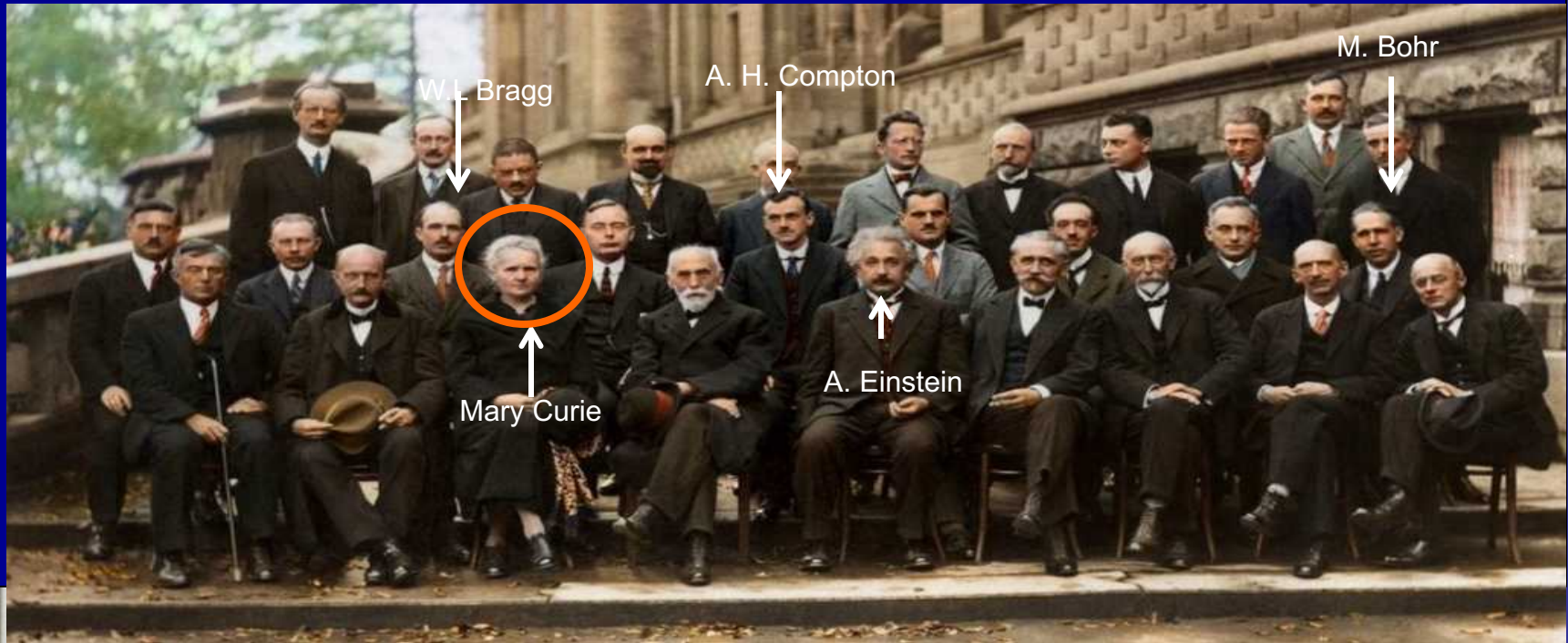
# Outline of My Talk

- Background : Women in the Science/Medicine & Business (The World Economic Forum's Global Gender Gap Index)
- Women in ASTRO
- Women in USA Medical Graduates, Full-Time Faculty, Practicing Physicians, RO Residents, RO Full-Time Faculty, RO Practicing Physician
- Representation of Women Among Residency Application
- Future For Women in Radiation Oncology



# Background: One Woman out of 28 Men(34%)

## The Fifth Solvay Physics Conference Brussels, Belgium on Oct. 23-29, 1927



### The Fifth Solvay Physics Conference Brussels, Belgium, 23-29 October 1927

Sponsored by the Solvay International Institute of Physics.

- |                    |                    |                   |                      |
|--------------------|--------------------|-------------------|----------------------|
| 1. A. Piccard      | 9. W. Heisenberg   | 17. A. H. Compton | 25. A. Einstein      |
| 2. E. Henriot      | 10. R. H. Fowler   | 18. L. de Broglie | 26. P. Langevin      |
| 3. P. Ehrenfest    | 11. L. Brillouin   | 19. M. Born       | 27. Ch. E. Guye      |
| 4. Ed. Herzen      | 12. P. Debye       | 20. N. Bohr       | 28. C. T. R. Wilson  |
| 5. Th. De Donder   | 13. M. Knudsen     | 21. I. Langmuir   | 29. O. W. Richardson |
| 6. E. Schrödinger  | 14. W. L. Bragg    | 22. M. Planck     |                      |
| 7. E. Verschaffelt | 15. H. A. Kramers  | 23. Mme. Curie    |                      |
| 8. W. Pauli        | 16. P. A. M. Dirac | 24. H. A. Lorentz |                      |
- Absent: Sir. W. H. Bragg,  
H. Deslandres et E. Van Aubel



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# Background

- In the USA, 70%-75% of the Cancer Patients have been treated by Radiation Treatment (RT) as curatively or palliatively which is much more utilized as a part of Cancer Treatment compared to other countries.
- In Japan, only 25 % -30%of Cancer patients were treated by RT.

# Background

- More recently the role of RT has been expanded to use Oligometastatic disease (OMD) to different type of cancer other than the Non Small Cell Lung Cancer (NSCLC) with or without immunotherapy or systemic treatment.
- This means that radiation Oncologists are needed more in the USA.

# Background

- USA is ranked 43 of 146 nations in the World Economic Forum's Global Gender Gap Index (WEFGGGI) for 2023.
- This Index is much better than Japan.
- However, in USA this index is worse compared to 2022.
- USA was ranked 27 of 146 nations in WEFGGGI for 2022.
- Japan is ranked 125 of 146 nations in WEFGGGI for 2023.

# ASTRO Members

- ASTRO has more than 10,000 members
- 30 % of ASTRO membership are Women
- Domestic & International Radiation Oncologists:5,302
- Medical Physicists:1,309
- Biologists:49
- Administrators:148
- Medical Dosimetrists:36
- Radiation Therapists :69
- Nurses/NP/PA:61
- Residents:1,177and others
- Medical Students: 832
- Other:234

Information given by Dr. Jeffery Michalski( President of ASTRO)





# Presentation of Women in USA Physician Workforce

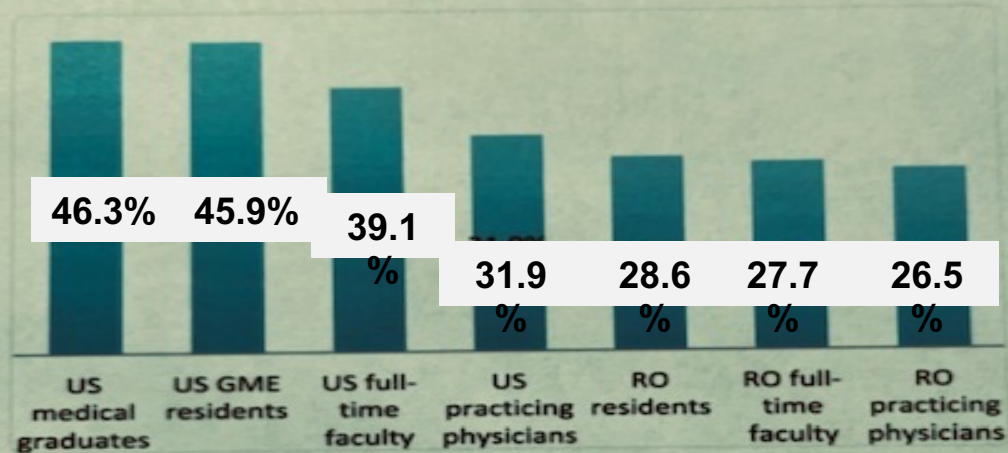


Figure 1

Representation of women in the United States physician workforce for 2015 in descending order of representation.  
*Abbreviations:* GME: graduate medical education; RO: radiation oncology.

# Presentation of Women among Residency Applicants

Table 1

Representation of women among residency applicants in 2017 for the 20 largest training specialties: Top and bottom 5

Rank	Specialty	Total number of applications	Total number of female applicants	Percentage of female applicants
<b>Top 5 residency programs by percentage of female applicants</b>				
1	Obstetrics and gynecology	2641	2009	76.1%
2	Pediatrics	7174	4649	64.8%
3	Dermatology	1084	576	53.1%
4	Family medicine	14,479	7205	49.8%
5	Psychiatry	5241	2563	48.9%
<b>Bottom 5 residency programs by percentage of female applicants</b>				
16	Radiology	2442	693	28.6%
17	Radiation oncology	539	152	28.2%
18	Urology	500	135	27.0%
19	Neurosurgery	415	88	21.2%
20	Orthopedics	1474	247	16.8%

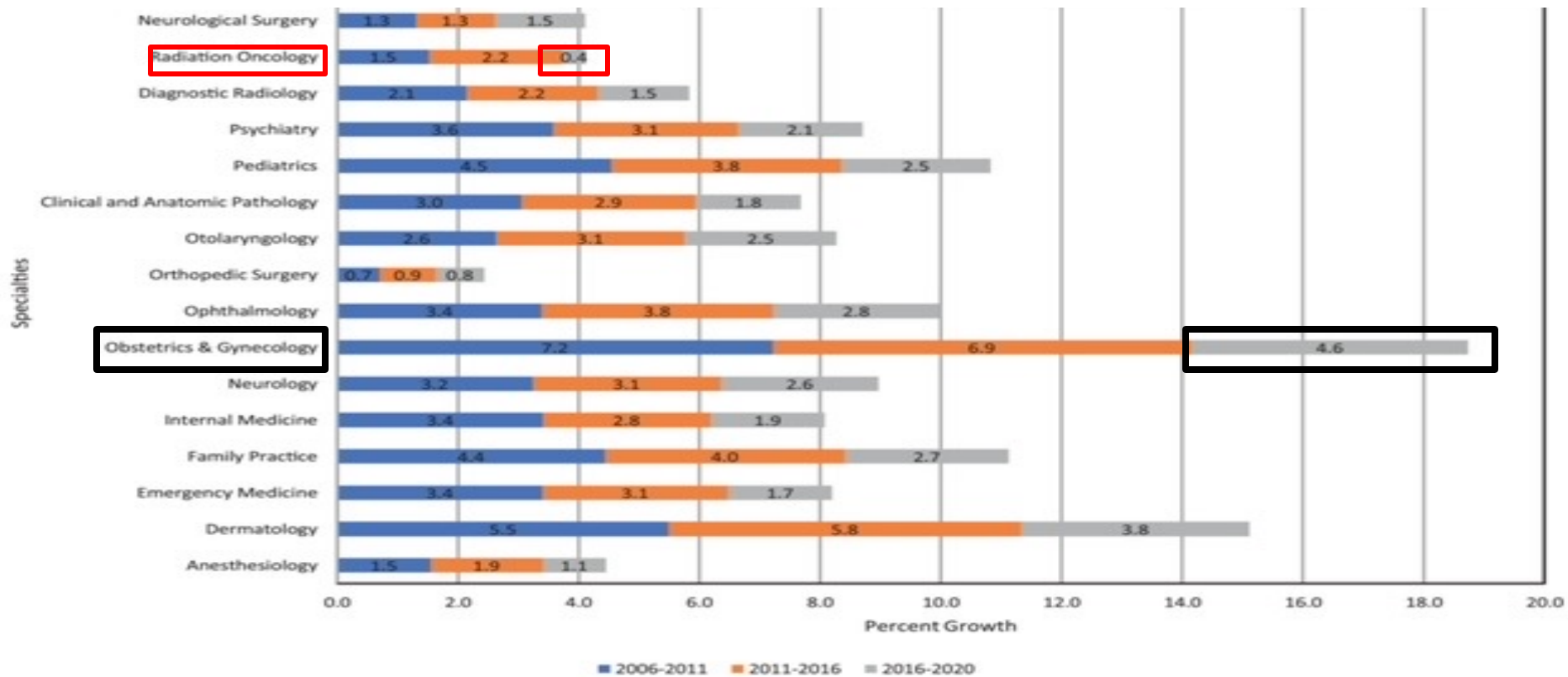
## Distribution of women among medical specialties in 2006 and 2020

	(2006 )		(2020)		Absolute Difference
	n = 146,344	%	n = 224,859	%	(%)
Pediatrics	27,761	53.5	38,405	64	64.3
OB/ GYN	14,750	40.9	23,921	60	59.6
Dermatology	3,568	35.8	6,329	51	51
Psychiatry	11,760	31.3	14,570	40	40
Clinical Pathology	4,362	31.3	4,399	39	39
Family practice	26,922	31.1	46,575	42	42.3
Internal medicine	30,573	30.7	45,994	39	38.7
<b>Radiation oncology</b>	<b>952</b>	<b>23.4</b>	<b>1,451</b>	<b>28</b>	<b>27.5</b>
Neurology	2,621	21.8	4,306	31	30.7
Anesthesiology	7,969	21.5	10,901	26	25.9
Diagnostic radiology	4,576	21.3	6,813	27	27.2
Emergency medicine	5,681	20.1	12,699	28	28.3
Ophthalmology	3,025	16.6	5,091	27	26.6
Otolaryngology	911	10	1,778	18	18.3
Neurologic surgery	250	5.1	532	9.3	4.2
Orthopedic surgery	663	3.3	1,095	5.8	5.8

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# Increase in Female Representation among Specialties between 2006-2011, 2011-2016 and 2016-2020



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## Conclusions

# “Where Are the Women in Radiation Oncology Compared with Other Specialties ?”

- The proportion of women in RO continues to lag behind other medical specialties, with a worsening trend in recent years ( only 0.4% increase).
- Effective change requires a commitment to steadfast and focused interventions that address the drivers of improved diversity, which include holistic residency admission processes, initiatives to increase exposure, and expansion of mentorship opportunities.
- Specifically, incorporating or expanding on initiatives such as a women's summer research fellowship, improved social media utilization, and early engagement of premedical students will be important.
- We call on stakeholders to explore these avenues to improve female representation in RO.

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# Educate Younger Generation

- Women are not scary to younger generation.
- Teach High School and Medical students, Residents and junior attending.
- Try to get Radiation Oncology program in the Medical School Curriculum.
- You need to teach Oncology as well as Radiation Oncology.

Ref. Ingledew PA et al: Int J Radiation Oncol Biol Physics, Vol 115 No.5pp1017-1025,2023

# Future for Women in Radiation Oncology



- Set up your goals.
- My goal was to establish the Proton Center opened in 2006 at the MDACC.
- Luckily I had a best mentor ( James D. Cox, MD) to achieve one of my goals. But it was not done without my persistence.

← The gift for Dr. Cox's retirement from the Chairman & Division Head of Radiation Oncology Department Of UT MDACC in 2015.

# Future for Women in Radiation Oncology



- Find the best mentor for your future
- Learn from your mentor to achieve your goals.
- Educate medical students about Oncology and Radiation Oncology.
- Be mentor to Medical Students and Residents as well as Junior Attending in any specialties.
- Take Medical Students and Residents with you when you discuss cases by other specialties.

Dr. James D Cox kept working at the Proton Center after he retired from the chairman of RO till 2018.



# Gender Equality in Radiation Oncology

## Summery

- Women need to set up their goals and have good mentors to achieve your goals.
- Enforce leaders at the Medical Schools to set up Radiation Oncology Curriculum and encourage women to be Rad. Oncologists.
- Be Multidisciplinary Oncologists rather than just Radiation Oncologists which means that we need to know the Cause , Prevention, Diagnosis (Pathology & Imaging), Surgery, Chemotherapy, Immunotherapy , Technology of Radiation Treatment and side effects of Cancer Treatment.
- Be a good mentor to younger generation including High School and Medical Students.
- Do the best for your patients even you have to fight with other physicians. Show the evidence for your discussion.
- Publish your articles & help others to publish articles.



# ご清聴ありがとうございました! Acknowledgments

JAWRO officers

Dr. Nobue Uchida : Chair of JAWRO

Dr. Naoko Sanuki : Moderator of JAWRO

JASTRO officers

Dr. Takashi Uno : President of JASTRO2023

Dr. Naoyuki Shigematsu: Congress Chair of JASTRO2023

Thank you for your invitation.

Any questions??

You can email me at [drkomakicox@gmail.com](mailto:drkomakicox@gmail.com)

