

# Situation of professional development of the medical physicist in P.R.China

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*Medical Physics Education in P.R.China*

## Present Status of Medical Physics in China

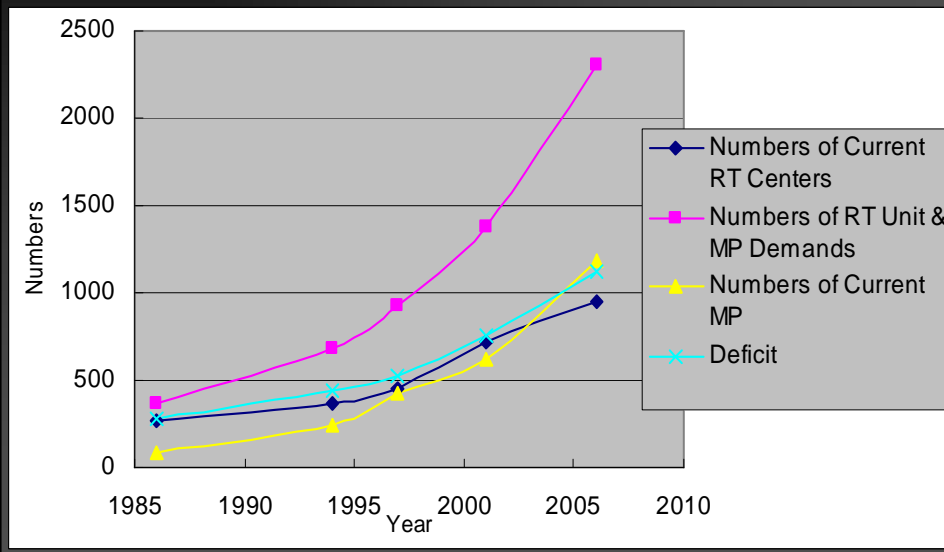
- Numbers of MPs being involved in doing research, teaching and working on different areas relating to medicine.

Areas	Subjects	Numbers
Medical Universities and Colleges	<ul style="list-style-type: none"> <li>▪ Teaching Medical Physics to Medical Students</li> <li>▪ Medicinal-oriented Project Research</li> </ul>	Over 1500
Universities and Colleges	<ul style="list-style-type: none"> <li>▪ Project-based Research related to Medicine</li> </ul>	Approx 400
Hospitals and Clinics	<ul style="list-style-type: none"> <li>▪ Working as an clinical Physicist in Radiology, Nuclear Medicine, and Radiation Oncology</li> <li>▪ Clinical-Oriented Project Research</li> <li>▪ Manufactural-Oriented Project Development</li> </ul>	Over 1400

Total: Approx 3300

- Professional Body: **Chinese Society of Medical Physics**
  - **Founded in 1981**
  - **Member of IOMP since 1986**
  - **Publish Chinese Journal of Medical Physics since 1986**

## Example: Big Demands of Medical Physicists in Chinese Radiation Oncology Community



## The big gap between the market demands and the available numbers of qualified medical physicists is due to the following reasons:

- Not enough number of graduate programs
- Current programs do not meet common standards
  - Lack qualified lecturers
  - Do not have a complete set of courses
  - Lack clinical practice opportunities
- For the existing MPs the professional competency for some is questionable because of poor educational background and training.
- Promotion is difficult for some MPs, as they can not pass examinations that belongs to other professions.
- No mp resident program
- Medical physics has not been recognized as a discipline equal to biomedical engineering

## Solutions

- Try to seek **policy support** and to get **professional recognition** of medical physicist from authorities.
- **Demand-driven motivation**  
More universities/colleges are interested in Medical Physics programs, as the students easily find satisfactory job
- Efforts should be done to enhance education and training by **setting up Medical Physics residency programs** and more graduate programs in big centers, and for that a strict **accreditation system** needs to be set up.

## Accreditation(I)

- There is a Shang Gang examination system administered by the Public Health Ministry since 1996 and executed yearly by the academic societies affiliated with the Chinese Medical Association.
- This examination system is designed only for those people including physicians, medical physicists, technologists, medical engineers who are involved in using and operating LA (Linear Accelerator), CT/MRI, PET, etc.
- In Xiangshan meeting held in 2004 in Beijing, we intended to set up in China a profession system for medical physicist working in hospitals and clinical-oriented research institutes as a four-level system:

## Accreditation (II)

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## Accreditation(IV)

- In Xiangshan meeting held in 2004 in Beijing, we intended to set up in China a profession system for medical physicist working in hospitals and clinical-oriented research institutes as a **four-level system**:

Assistant Medical Physicist

Medical Physicist

Associate Professor of Medical Physicist

Professor of Medical Physicist

## Accreditation(V)

- To qualify, one has to meet certain entrance academic requirements:

To have BS, MS, PhD degrees of physics  
or related science

To have a minimum period of time working  
in clinics and to get a minimum score  
by paper examinations before promotion  
to one of the four qualified professional  
levels of medical physicist.

## Suggestions for MP Accreditation

- We intend to set up in China a profession system for medical physicist working in hospitals as a

four-level system:

Assistant Medical Physicist ( BS+ 4Year's working )

Medical Physicist ( MS + 2 Year's working, or Ph.D )

Associate Professor of Medical Physicist ( by paper exams )

Professor of Medical Physicist ( by paper examinations )

The DTT program sponsored by Varian  
is going on in Mainland China  
( 81 students plus 12 tutors)



**Thank you !**