

International Conference on Medical Physics 2011

Medical Physics Board Certification:  
Looking Ahead

Raymond K. Wu, PhD  
Edward S. Sternick, PhD  
Kin Yin Cheung, PhD

Members, IOMP TG on Certification



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International Labor Organization (ILO)

- International Classification of Occupations (ISCO)
- Medical Physicists not recognized until now
- Not yet as a professional in a **medical field**
- Many Countries do not include Medical Physics in the Job Classification Systems

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International Labor Organization

2111 Physicists and astronomers

Examples of the occupations classified here:

- Astronomer
- Medical Physicist
- Nuclear Physicist
- Physicist

<http://www.ilo.org/public/english/bureau/stat/isco/isco08/index.htm>

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American College of  
Medical Physics  
ACMP

International Medical Physics  
Symposium - 2008

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IBMP Constituting Panel

Edward S. Sternick, PhD, Chair  
Raymond K. Wu, PhD, TG  
K. Y. Cheung, PhD, PRC  
Tae Suk Suh, PhD, AFOMP  
Anchali Krisanachinda, PhD, SEAFOMP  
Liaison FAMPO  
Maria-Ester Brandan, PhD, ALFIM  
Ibrahim Duhaini, MS, MEFOMP  
Josef Novotny, PhD, East Europe  
Ervin Podgorsak, PhD, Canada  
Arun Chougule, DRP, PhD, India  
Yimin Hu, Prof., China  
Timothy Solberg, PhD, CAMPEP  
N. Suntharalingam, PhD  
Si Yong Kim, PhD

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International Board of Medical Physics (IBMP)  
Constituting Panel Membership

- Board-Certified
- Senior-Ranked
- Recognized Expertise with Certification Practices
- Executive Committee Level Officers

Constituting Panel will not be involved with  
setting up and operating the Board

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### IOMP Initiative

IOMP Executive Committee  
approved the Task Group on  
International Medical Physics Certification  
**in 2009**  
under the PRC  
Professional Relations Committee

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### IOMP Involvements

IOMP Executive Committee  
provided advice to the TG  
in World Congress 2009  
in Munich  
and in Virtual Meetings of  
EXCOM

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### IOMP Feedback

- IOMP supports in principle
- Improves quality of MP and benefits patients
- Needs time and careful planning
- Should avoid legal liabilities
- Be consistent with IOMP policies
- ETC will accredit E or T programs
- Explore current credentialing models of MP in different parts of the world

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### Credentialing Models

- Voluntary model – recognized by hospital only
- Registry / Certification established by professionals and seek directive in force
- Registry / Certification with government directive in force

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**A certified medical physicist is recognized by AFOMP as a qualified clinical medical physicist**

**AFOMP POLICY STATEMENT NO 1 The role, responsibilities and status of the clinical medical physicist in AFOMP**

Australasian Physical & Engineering Sciences in Medicine Volume 32 Number 4, 2009

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### ACMP Policy Statement

**An individual will be considered competent to practice one or more of the subfields of Medical Physics if that individual is certified in that subfield by any one of the following:**

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**ACMP Policy Statement**

An individual will be considered competent to practice one or more of the subfields of Medical Physics if that individual is certified in that subfield by any one of the following:

- a) The American Board of Medical Physics
- b) The American Board of Radiology
- c) The American Board of Health Physics
- d) The American Board of Science in Nuclear Medicine
- e) The Canadian College of Physics in Medicine
- f) Additional certifying organizations may be added as they are recognized.

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**IOMP Policy Statement No. 1**

Role and Responsibilities of MP

**IOMP Policy Statement No. 2**

Requirements for Education and Training of MP

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**IAEA INT/6/054**

Strengthening Medical Physics in Radiation Medicine

WG2- Clinical Requirements, educational Materials, Accreditation & Certification

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**United States**

- RSNA began certifying MP since 1936
- ABR took over since 1949
- ABMP began operation since 1987
- Focused on MRI & Health Physics since 2001 by agreement with ABR

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**Change in ABR Requirements**

- Graduated from CAMPEP accredited program – 2012
- CAMPEP Residency Program - 2014

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**May 23<sup>rd</sup>, 2010**

International Medical Physics Certification Board was established  
[www.IMPCB.org](http://www.IMPCB.org)

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### CHARTER MEMBER ORGANIZATIONS

KSMP	
LAMP	HKAMP
ACMP	FMOFM
CSMPT	IMPS
NAMP	ABFM
CSMP	ACPSEM

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### Resolutions

- Designate Timothy Chiang to form a committee to open a bank account and to incorporate the organization
- Designate Edward Sternick to form a committee to draft guidelines

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### Guidelines IBMP Constituting Panel

- Latest draft dated August 2010
- Reviewed by TG - August
- Reviewed by PRC - September
- Reviewed by IMPCB – November
- Reviewed by IOMP EXCOM - November

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### Constituting Panel Draft

- Certification Process
- Objectives
- Examination format
- Eligibility
- Re-examination

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### Certification Process

Certification should be by examination, conducted by a country-specific, geographically regional or other designated Medical Physics Certification Board

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### Objectives

To establish minimum standards and improve the practice of medical physics

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### Objectives

- To establish minimum standards and improve the practice of MP

**To develop standards and procedures for the certification of medical physicists**

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### Objectives

- To establish minimum standards and improve the practice of MP
- To develop standards and procedures for the certification of MP

**To establish and evaluate qualifications of candidates requesting examination for certification**

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### Objectives

- To establish minimum standards and improve the practice of MP
- To develop standards and procedures for the certification of MP
- To establish and evaluate qualifications of candidates requesting examination for certification

**To arrange, and conduct examinations to test the competence of candidates for certification in the field of medical physics**

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### Objectives

- To establish minimum standards and improve the practice of MP
- To develop standards and procedures for the certification of MP
- To establish and evaluate qualifications of candidates requesting examination for certification
- To arrange, and conduct examinations to test the competence of candidates for certification in the field of medical physics

**To grant and issue certificates in the field of medical physics to applicants who have been found qualified by the Board**

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### Objectives

- To establish minimum standards and improve the practice of MP
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**To maintain a registry of holders of such certificates and serve the public by preparing and furnishing lists of medical physicists who have been certified by the Board**

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### Objectives

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- To develop standards and procedures for the certification of MP
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### Examination Format

It is recommended that the certification examination consist of three parts: Candidates will pass both Part I and Part II before taking Part III

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### Guidelines

Part I is designed to test the competence of the candidate in fundamental aspects of medical physics (General Medical Physics).

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### Guidelines

- Part I is designed to test the competence of the candidate in fundamental aspects of medical physics (General Medical Physics).

Part II is designed to determine the competence of the candidate in a specialty area of medical physics

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### Guidelines

- Part I is designed to test the competence of the candidate in fundamental aspects of medical physics (General Medical Physics).
- Part II is designed to determine the competence of the candidate in a specialty area of medical physics,

Part III is designed to determine the candidate's knowledge and fitness to practice clinical medical physics in a designated specialty

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### Guidelines

- Part I is designed to test the competence of the candidate in fundamental aspects of medical physics (General Medical Physics).
- Part II is designed to determine the competence of the candidate in a specialty area of medical physics,
- Part III is designed to determine the candidate's knowledge and fitness to practice clinical medical physics in a designated specialty

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### Medical Physics

- Radiation Oncology Physics
- Medical Imaging Physics
- Nuclear Medicine Physics
- Non-ionizing Radiation Physics
- Medical Health Physics
- Physiological Measurements

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### Eligibility – Part I

Education – Masters or Doctorate in physics, medical physics or an equivalent degree in an appropriate physical or engineering science discipline.

Professional Training – none required

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### Eligibility – Part II

Professional Training – 2 years full-time equivalent training preceding the date of application for examination

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### Eligibility – Part II

Training should be carried out under the supervision of a Certified Medical Physicist (CMP) specializing in the same sub-field or under the supervision of a qualified individual with a level of professional experience and expertise equivalent to that of a CMP

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### Part III

- Oral Examination
- Medical Physics Specialty
- Prerequisites – successfully passed Parts I and II

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### Re-examination

A candidate who fails to pass any part of the three-part examination may petition to be re-examined in that Part within one year from the previous attempt

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### Re-examination

If any Part of the examination has been taken unsuccessfully three times, the candidate should be required to reapply for the entire sequence of examinations

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### Constituting Panel Draft to be continued

- Life long learning guidelines
- Core functions of IMPCB
- Financial model
- Other concerns

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### Review of National Certification Program

- Eligibility requirements may not be lowered without special approval by IMPCB
- Grandfather clause policy
- More ...

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### Years to Certification

The CP's model will likely take 6 years, as illustrated below -

Based on the examination schedules of August for Part I and Part II, and May for Part III. The shortest time to complete the certification process is 6 years, as shown below:

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### Years to Certification

- Sept 2011 - student enters advanced MP program for a Master's degree
- June 2013 - student graduates, and applies to take Part I but does not know if accepted by a clinical training program
- Sept 2013 - candidate starts clinical training program

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### Years to Certification

- Aug 2014 - candidate takes Part I and passes
- June 2015 - candidate completes clinical training program and applies to take Part II
- Aug 2016 candidate takes Part II and passes
- May 2017 candidate takes Part III
- The 6-year process may be reduced to 5 year if the processing time to register for the Part II examination can be cut to 2 months

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### Years to Certification

Part I and Part II may be administered together. But the candidate will have to wait till June 2015 to apply to take the first examination, after the completion of clinical training.

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## Question on Universal Recognition

### Subsidiarity Principle

A central authority should perform only those tasks that cannot be performed by the local authorities

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## Tasks Ahead

- Establish bylaws
- Recruit volunteers
- Elect officers and governing board
- Establish model to assure financial viability
- Set up service structures
- Create policies ...

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## Tasks Ahead

- Application records will be archived and available for review by other national organizations when recognition is requested
- Technologies will be adopted to facilitate international peer review of programs
- ...

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## Infrastructure

- Independent Certification Board - IMPCB
- Supervising Board of Trustees
- Accreditation of Graduate Programs
- Accreditation of Residency Programs
- Accreditation of Continuing Education Programs

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## Projected Results

- Technologies need qualified staff
- Certified MPs remain in profession longer
- Hospitals prefer certified candidates if available
- Job market is in favor of certified physicists
- More people want to get certified
- Quality of medical physics service improves
- Patient outcome improves

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# Thank you

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**Round Table Discussion**

Immediately following the  
Plenary Session  
**In Hall E**

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**Looking Ahead Further**

**Engineers  
Technologists  
Health Physicists  
Non-MP Graduates**

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**Thank you**

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**CP and IMPCB Meeting**

Immediately following the Round  
Table Discussion

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