

# The International Medical Physics Certification Board

Raymond Wu PhD  
CEO, IMPCB

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Formerly: Member Accreditation Committee IMPCB



# Acknowledgements

We thank the following for their  
dedication and input

Members of the Accreditation  
Committee

Board of Directors

Elected Officeholders

The International Medical Physics  
Certification Board was officially formed

on

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

with help from the

IOMP

Professional Relations Committee

# Present Board of Directors

## Board of Directors

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**President and Chair of BOD –  
Colin G. Orton, PhD**

Term: January 2014 – December 2021



**Chief Executive Officer –  
Raymond K. Wu, PhD**

Term: January 2014 – December 2021



**Secretary General – Ti-Chuang  
(Timothy) Chiang, B.Sc.**

Term: January 2014 – December 2021



**Registrar and Chair of Registry  
and Records Committee – Tae  
Suk Suh, PhD**

Term: January 2014 – December 2020



**Chief Examiner and Chair of  
Accreditation Committee –  
Adel Mustafa, PhD**

Term: January 2020 – December 2022



**Treasurer – Alejandro  
Rodriguez Laguna, M.Sc.**

Term: January 2014 – December 2020



**At-Large Board Member 1 –  
Wendy Smith, PhD**

Term: January 2019 – December 2021



**At-Large Board Member 2 –  
Xiance Jin, PhD**

Term: January 2014 – December 2020



**At-Large Board Member 3 –  
Ahmed Meghzifene, PhD**

Term: January 2020 – December 2022



**Board Member and IOMP  
Liaison 1 – John Damilakis, PhD**

Term: January 2016 – December 2021



**Board Member and IOMP  
Liaison 2 – Paolo Russo, PhD**

Term: January 2016 – December 2020



**Board Member and IOMP  
Liaison 3 – Arun Chougule, PhD**

Term: January 2020 – December 2022?

# Website (<https://www.impcb.org/>)

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Officers | IOMP | IAEA | Supporting Organizations

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CERTIFICATION BOARD

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**IMPCB**  
INTERNATIONAL MEDICAL PHYSICS  
**CERTIFICATION BOARD**

Welcome to **IMPCB**

Our **Policies**

Our **By-Laws**

## Charter Supporting Organizations

- ▶ Associação Brasileira de Física Médica;
- ▶ American College of Medical Physics;
- ▶ Australasian College of Physical Scientists and Engineers in Medicine;
- ▶ Chinese Society of Medical Physics;
- ▶ Chinese Society of Medical Physics – Taipei;
- ▶ Federación Mexicana de Organizaciones de Física Médica;
- ▶ Hong Kong Association of Medical Physics;
- ▶ Iraqi Medical Physics Society;
- ▶ Korean society of Medical Physics;
- ▶ Lebanese Association Of Medical Physics;
- ▶ Nepalese Association of Medical Physicists;

## Regular Supporting Organizations

- ▶ Hong Kong Institution of Physicists in Medicine
- ▶ Japanese Board for Medical Physicist Qualification
- ▶ Nigerian Association of Medical Physicists
- ▶ College of Medical Physics of India

**IOMP is the Principal Supporting Organization**

**IAEA is also helping**

# Role of IMPCB

- **Accredit national certification boards** where they exist and provide help for the setting up of such boards where they do not
  - IMPCB will provide guidance and support to medical physics organizations for the establishment of national medical physics certification boards.
  - IMPCB has established the infrastructure, requirements and assessment procedures for the accreditation of medical physics certification programs in accordance with the requirements of IOMP guidelines.
- **Certify individual Medical Physicists** *where national certifications boards do not exist – this presentation will focus on this*

# Examinations for Certification of Individuals

- Part I written examination: **General Medical Physics** 100 MCQs, 3 hours
- Part II written examination: **Medical Physics Specialty** e.g., Radiation Oncology Physics, Diagnostic and Interventional Radiology Physics, 100 MCQs, 3 hours
- Part III oral examination: **Medical Physics Specialty**



# Requirements for Admission to Examinations

## **Part I Written Examination (General Medical Physics)**

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

Professional Training – none required

## **Part II Written Examination (Medical Physics Specialty)**

Professional Training – 2 years full-time equivalent training preceding the date of application for examination. The training should be carried out under the supervision of a Certified Medical Physicist (CMP) specializing in the same specialty.

## **Part III Oral (Medical Physics Specialty)**

Successfully passed Part I and II

\*These follow IOMP recommendations see IOMP Policy Statement No. 2, Basic Requirements for Education and Training of Medical Physicists

# Requirements for Part I: Undergraduate core physics/maths courses expected in cases when 1st degree non-conventional

## **Physics Core Courses:**

- Classical and Relativistic Mechanics
- Electricity and Magnetism
- Optics
- Physics of Fluids and Gases
- Quantum Mechanics
- Atomic and Nuclear Physics
- Solid State Physics
- Thermodynamics and Statistical Physics
- Measurement, Instrumentation and Signal Processing
- Computational Physics and Computer Programming

## **Mathematics Core Courses:**

- Applied Linear Algebra
- Advanced Calculus
- Complex Variables
- Differential Equations
- Numerical methods

## To Prepare for Exams

Are you ready for the examination?

[▶ Minimum qualifications](#)

[▶ Undergraduate Core Courses](#)

[▶ Subjects Covered in Part I](#)

[▶ Preparing for Part II](#)

[▶ Residency training](#)

[▶ Part III is Oral Examination](#)

[▶ IMPCB requirements V10b](#)

[▶ Samples of questions](#)

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# Travel Considerations

- One can take Part I and II in the same exam session, if qualified
- No need to re-take Part II if only failing Part I
- Cannot take Part II and III in the same session
- Following Part II candidates must wait a minimum of 5 months before taking Part III

## Part III Orals

- Panel of five oral examiners
- Each examiner asks questions in five categories in one-on-one setting in 25 minutes, in front of a computer screen displaying the questions
- Total time is two and half hours
- The assessment result is based on the average score of the examiners in the Panel

## **Part III Orals The Five Categories of Questions**

- Patient-Related Measurements
- Image Acquisition, Processing and Display
- Calibration, Quality Control and Quality Assurance
- Equipment
- Radiation Protection and Patient Safety

# Current situation – updated Jan 1, 2020

- 16 Supporting Organizations - IOMP is the principal supporting organization
- 3 national certification boards have been accredited and a fourth is being evaluated
- Since 2017, the following certification examinations have been held:
  - 2017, Trieste, 6 took Part I, 4 Part II (RO)
  - 2017, Trieste, 30 took Part I, 13 Part II (RO), 4 Part III (RO).
  - 2018, Dakha, Bangladesh, 13 took Part I, 5 took Part II (RO)
  - 2018, Prague, 6 took Part III (RO)
  - 2018, Mexico City, 9 took Part I, 6 took Part II (3 in RO, 3 in DI)
  - 2018, Trieste, 23 took Part I, 12 took Part II (RO)
  - 2019, Riyadh, SA, 25 took Part I, 11 took Part II (9 in RO, 2 in DI)
  - 2019, Trieste, 5 took Part I, 2 took Part II (RO)
  - 2019, Amman, Jordan, 12 took Part I, 6 took Part II (5 in RO, 1 in DI)
  - 2019, Vienna, 5 took Part I, 5 took Part II (RO)
  - 2019, Santiago, 3 took Part I, 3 took Part II (RO)
  - October 2019 Doha Qatar, 27 took Part I, 19 took Part II, 11 took Part III
  - December 2019, Trieste, 11 took Part I, 14 took Part II
  - 2020: Saudi Arabia, Yucatan Mexico...
- 180 candidates from 40 different countries have been admitted into the examination process: [16 have completed all three parts, 80 are qualified to do Part II, 50 are qualified to do Part III.](#)

# Certificate for Individuals

0007



June 2, 2018

## The International Medical Physics Certification Board

This certifies that

**Wei Long Jong, MSc, Ph.D.**

has passed the examinations conducted under the authority of

**The International Medical Physics Certification Board**

and has demonstrated to the satisfaction of the Board the fulfillment of all certificate requirements to practice the specialty of

**Radiation Oncology Medical Physics**

Ongoing validity of this certification is contingent upon meeting the requirements of Maintenance of Certification

*IMPCB President*  
Colin Orton, Ph.D.

*IMPCB Chief Examiner*  
Tomas Kron, Ph.D.

*IMPCB Chief Executive Officer*  
Raymond Wu, Ph.D.



# Formation and Accreditation of National Boards

IMPCB will provide guidance and support to medical physics organizations for the establishment of national medical physics certification boards.

IMPCB has established the infrastructure, requirements and assessment procedures for the accreditation of medical physics certification programs in accordance with the requirements of IOMP guidelines.



**INTERNATIONAL MEDICAL PHYSICS  
CERTIFICATION BOARD**

# Thank you

<https://www.impcbdb.org>