

“PROBLEMS AND SOLUTION IN MEDICAL PHYSICS – NUCLEAR MEDICINE PHYSICS” BY KWAN HOON NG, CHAI HONG YEONG AND ALAN CHRISTOPHER PERKINS

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Abstract— This article is a brief review of the textbook “Problems and Solutions in Medical Physics : Nuclear Medicine Physics” by Kwan-Hoong Ng , Chai Hong Yeong, Alan Perkins, 2019, CRC Press, 139 p., ISBN 9781482240009

The book Problems and solution in Medical Physics – Nuclear Medicine Physics represents an innovative way of teaching.

Instead of using the conventional flow of introducing the basic principles, explaining the theory, providing the numerical equations linking the physical figures of merit, providing examples and finally proposing to the reader some practical exercises, the authors Kwan Hoon Ng, Chai Hong Yeong and Alan Christopher Perkins have chosen a completely different approach.

They start from a problem and ask the reader to provide an answer. The problem can be theoretical, descriptive, technological or practical. Irrespective of the nature of the problem, the authors provide a detailed and comprehensive solution for each of them. In doing so the introduce the underlying theory, suggest the qualitative link between the variables involved, illustrate the numerical equations which allows to quantitate the relationship between the variables and guide the reader step by step in the numerical calculations necessary to obtain the final solution, when needed.

Following this approach, they cover all the different areas of the Nuclear Medicine specialty: radionuclide and radiopharmaceutical production; imaging, with a special focus on the instrumentation (counters, planar camera, SPECT and PET), the techniques and the ways to ensure the quality of the imaging; radionuclide therapy; internal dosimetry and radioprotection.

I was fascinated by this approach, which I found in line with the modern educational techniques. Having had the privilege of chairing the EFOMP - European School for Medical Physics Expert, I was always challenged with the increasing need and demand coming from our students of practical, hands-on, question and answer sessions.

I am pleased to recognize that this book provides many, if not all, the answers to the questions that a Medical Physicist must answers in his everyday clinical practice as a health professional.

A famous quote of Yogi Berra, a former US baseball player says: “In theory there is no difference between theory and practice. In practice there is”. This book reconciles practice and theory, showing the reader, step by step, that should this difference really exists, it must be negligible.

