

APPLIED PHYSICS IN CARDIOLOGY: A SUMMARY ON IMPORTANT RESEARCHES

VIROJ WIWANITKIT*

ABSTRACT

Cardiology is an important branch of medicine. The application of basic science concept in cardiology is very interesting. In the present article, the author discuss on applied physics in cardiology. It can show that applied physics are useful in cardiology and this is an interesting issue for further research in medical physics.

KEYWORDS: Physics, Cardiology, Research.

INTRODUCTION

Cardiology is an important branch of medicine dealing with cardiac disease diagnosis, treatment and prevention. The application of basic science concept, including mathematics, biology, chemistry and physics, in cardiology is

very interesting. In the present article, the author discuss on applied physics in cardiology. It can show that applied physics are useful in cardiology and this is an interesting issue for further research in medical physics.

Table 1 Important reports on applied physics in cardiology

Authors	Details
Waksman [1]	Waksman discussed on intracoronary brachytherapy in the Cath Lab on physics dosimetry aspect [1].
Weidmann [2]	Weidmann discussed on electrophysiology based on applied physics principle [2].
Ishiguro [3]	Ishiguro discussed on mechanobiology and the heart [3].
Espino et al. [4]	Espino et al. reported on evaluation of a transient, simultaneous, arbitrary Lagrange-Euler based multi-physics method for simulating the mitral heart valve [4].
Hanus et al. [5]	Hanus et al. discussed on on-line integration of computer controlled diagnostic devices and medical information systems in undergraduate medical physics education for physicians [5].
Geselowitz [6]	Geselowitz discussed onelectric and magnetic field of the heart [6].
Peng et al. [7]	Peng et al. discussed onstatistical physics approach to categorize biologic signals: from heart rate dynamics [7].
Mirvis [8]	Mirvis discussed onphysiology and biophysics in electrocardiography [8].

*Adjunct Professor, Joeph Ayobabalola University, Ikeji-Arakeji, Nigeria.

Correspondence E-mail Id: editor@eurekajournals.com

IMPORTANT REPORTS ON APPLIED PHYSICS IN CARDIOLOGY

There are many interesting important reports on applied physics in cardiology. The important reports are hereby listed in Table 1.

CONCLUSION

Physics can be applied in cardiology. It can help explain the pathogenesis and the principles of cardiology medical tool, especially for EKG.

CONFLICT OF INTEREST: None

REFERENCES

- [1]. Waksman R. Intracoronary brachytherapy in the Cath Lab. Physics dosimetry, technology and safety considerations. *Herz*. 1998 Sep; 23(6): 401-6.
- [2]. Weidmann S. Heart: electrophysiology. *Annu Rev Physiol*. 1974; 36: 155-69.
- [3]. Ishiguro Y. Mechanobiology and the Heart. *Masui*. 2016 May; 65(5): 461-9.
- [4]. Espino DM, Shepherd DE, Hukins DW. Evaluation of a transient, simultaneous, arbitrary Lagrange-Euler based multi-physics method for simulating the mitral heart valve. *Comput Methods Biomech Biomed Engin*. 2014; 17(4): 450-8.
- [5]. Hanus J, Nosek T, Zahora J, Bezrouk A, Masin V. On-line integration of computer controlled diagnostic devices and medical information systems in undergraduate medical physics education for physicians. *Phys Med*. 2013 Jan; 29(1): 83-90.
- [6]. Geselowitz DB. Electric and magnetic field of the heart. *Annu Rev Biophys Bioeng*. 1973; 2: 37-6.
- [7]. Peng CK, Yang AC, Goldberger AL. Statistical physics approach to categorize biologic signals: from heart rate dynamics to DNA sequences. *Chaos*. 2007 Mar; 17(1): 015115.
- [8]. Mirvis DM. Physiology and biophysics in electrocardiography. *J Electrocardiol*. 1996 Jul; 29(3): 175-7.