

Editorial

Introduction to a New Journal: International Journal of Clinical Medicine and Bioengineering

Po-Lei Lee^{1,*}, Yuri Shelepin², and Teen-Hang Meen³

¹ Department of Electrical Engineering, National Central University, Taoyuan 320, Taiwan

² I.P.Pavlov Institute of Physiology, Russian Academy of Sciences, St-Petersburg 391, Russia

³ Department of Electrical Engineering, National Formosa University, Yunlin 701, Taiwan

* Correspondence: pllee@ee.ncu.edu.tw; Tel: +886-3-4227151 ext 35132; Fax: +886-3-4255830

Received: Jan 29, 2021; Accepted: Feb 6, 2021; Published: Mar 20, 2021

Clinical medicine is the branch of medicine about the practice of how clinical physicians carry on patients to promote health and cure illness. In contrast to traditional clinical medicine performs diagnosis and treatment on human subjects simply through direct observation, biostatistics, and clinical examination. The progress in recent medical technologies have provided more effective and efficient ways for physicians to treat patients. Scientists employ interdisciplinary knowledge, such as thermodynamics [1], kinetics [2], biocatalysts [3], biomechanics [4], bioinformatics [5], gene therapy [6], bioreactor design [7], fluid mechanics [8], bioelectronics [9], tissue engineering [10], computing technologies [11–13], and medical imaging technologies [14], in order to bridge applied sciences and clinical medicine. The necessity of medical technology prompts the emergence of bioengineering which gathers scientists, engineers and clinical physicians to resolve difficult clinical medicine problems, especially the issues of new clinical diseases and health threatens that we have never faced before. Researches in bioengineering field comprehensively develop usable and eligible medical devices, including diagnostic equipment, biocompatible materials, wearable devices, neurological stimulation devices, and surgical instruments. In order to discover new technologies for clinical medicine, we created a new journal: International Journal of Clinical Medicine and Bioengineering. This journal aims to attract medical doctors, physicians, researchers, neuroscientists and engineers who are interested in studying advanced bioengineering technologies to cope with the issues of health care, risk factors, preventive medicine, and clinical practices. Potential topics include:

- Clinical Laboratory Diagnosis Technology
- Bioelectronic medicines
- Surgical Techniques
- Genomics, Proteomics, and Bioinformatics Technology
- Neurological and Psychiatric Disorders investigation and treatment technology
- Ophthalmological and Otolaringology Technology
- Nuclear Medicine
- Medical Imaging and Neuroimaging
- Analysis of Signals and Images in Clinical Medicine
- Emergency Care
- Wearable and Implantable Technologies
- Neural Prostheses

Scholars from academic institutions and research personnel from company research departments are welcome to contribute research papers to this new journal. We will run the journal with a very strict and high-

IJCMB 2021, Vol 1, Issue 1, 1–2, https://doi.org/10.35745/ijcmb2021v01.01.0001

quality peer-review process. This journal will be published on Open Access Model. It will be beneficial to share the latest research results within the research community without any barriers. We hope that this journal will enable interdisciplinary collaboration and networking between clinical physicians and engineers from different research fields. We aim to facilitate more collaboration around the world through the studies published in *International Journal of Clinical Medicine and Bioengineering*.

References

- 1. J. Heijnen and J. Van Dijken. In search of a thermodynamic description of biomass yields for the chemotrophic growth of microorganisms. *Biotechnology and Bioengineering* **1992**, vol. 39, no. 8, pp. 833–858, 1992.
- 2. D. H. Sutherland. The evolution of clinical gait analysis part III-kinetics and energy assessment. *Gait & Posture* 2005, vol. 21, no. 4, pp. 447–461.
- 3. M. D. Truppo. Biocatalysis in the pharmaceutical industry: the need for speed. *ACS Medicinal Chemistry Letters* **2017**, vol. 8, no. 5, pp. 476–480.
- 4. E. Chao et al. Biomechanics of malalignment. The Orthopedic Clinics of North America 1994, vol. 25, no. 3, pp. 379–386.
- 5. A. Bayat. Science, medicine, and the future: Bioinformatics. BMJ: British Medical Journal 2002, vol. 324, no. 7344, p. 1018.
- 6. S. M. Selkirk. Gene therapy in clinical medicine. *Postgraduate Medical Journal* 2004, vol. 80, no. 948, pp. 560–570.
- I. Martin, T. Smith, and D. Wendt. Bioreactor-based roadmap for the translation of tissue engineering strategies into clinical products. *Trends in Biotechnology* 2009, vol. 27, no. 9, pp. 495–502.
- 8. D. M. Wootton and D. N. Ku. Fluid mechanics of vascular systems, diseases, and thrombosis. *Annual Review of Biomedical Engineering* **1999**, vol. 1, no. 1, pp. 299–329.
- 9. K. Birmingham *et al.* Bioelectronic medicines: a research roadmap. *Nature Reviews Drug Discovery* **2014**, vol. 13, no. 6, pp. 399–400.
- 10. A. Atala. Tissue engineering and regenerative medicine: concepts for clinical application. *Rejuvenation Research* **2004**, vol. 7, no. 1, pp. 15–31.
- 11. S. E. Dilsizian and E. L. Siegel. Artificial intelligence in medicine and cardiac imaging: harnessing big data and advanced computing to provide personalized medical diagnosis and treatment. *Current Cardiology Reports* **2014**, vol. 16, no. 1, p. 441.
- 12. P. M. Doraiswamy, V. A. Narayan, and H. K. Manji. Mobile and pervasive computing technologies and the future of Alzheimer's clinical trials. *NPJ Digital Medicine* **2018**, vol. 1, no. 1, pp. 1–4.
- 13. C. Floerkemeier and F. Siegemund. Improving the effectiveness of medical treatment with pervasive computing technologies. In *Workshop on Ubiquitous Computing for Pervasive Healthcare Applications at Ubicomp*, 2003: Citeseer.
- 14. P. Suetens. Fundamentals of Medical Imaging; Cambridge University Press: Country, 2017.

Publisher's Note: IIKII remains neutral with regard to claims in published maps and institutional affiliations.

Copyright: © 2021 The Author(s). Published with license by IIKII, Singapore. This is an Open Access article distributed under the terms of the <u>Creative Commons Attribution License</u> (CC BY), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.