It is a great pleasure to introduce the special issue of *International Journal of Computational Models and Algorithms in Medicine* (IJCMAM) on Privacy and Security Issues for Medical Data. This special issue covers some recent advances in the field of privacy and security protection for medical data.

Digitalizing and sharing medical data is crucial to curb the growing healthcare costs and facilitate medical research. However, privacy and security issues remain major barriers during this process. As required by the Health Insurance Portability and Accountability Act (HIPPA), it is necessary to protect the privacy of patients and ensure the security of the medical data.

The special issue contains four articles that cover a wide range of topics that range from novel encryption and privacy preserving techniques to policy issues.

- "Exploring Type-and-Identity-Based Proxy Re-encryption Scheme to Securely Manage Personal Health Records" by Luan Ibraimi, Qiang Tang, Pieter Hartel, and Willem Jonker studies the problem of how to safely store personal health records (PHRs) in Web-based PHR systems such as Microsoft HealthVault and Google Health. The authors propose a new encryption technique called a type-and-identity-based proxy encryption scheme which allows patients to securely store their PHRs on commercial Web-based PHRs and securely share their PHRs with other users such as doctors.

- "Privacy Preserving Integration of Health Care Data" by Xiaoyun He, Jaideep Vaidya, Basit Shafiq, Nabil Adam, and Tom White proposes approaches for integration and querying of health care data from multiple sources in a secure and privacy preserving manner. In particular, this paper proposes two approaches: the first approach ensures secure data integration based on unique identifiers (e.g., social security numbers), and the second one considers data integration based on quasi identifiers (e.g., name, birthrate, gender, and zip code).

- "Regulatory Compliance and the Correlation to Privacy Protection in Healthcare" by Tyrone Grandison and Rafae Bhatti studies actual privacy policies in the healthcare industry and finds that the vague representations in published privacy policies are not strongly correlated with adequate privacy protection for the patient. This paper also describes an infrastructure for privacy protection based on the idea of policy refinement to allow the transition from the current state of perceived-to-be privacy-preserving systems to actually privacy-preserving systems.

- "Computer Aided Detection and Recognition of Lesions in Ultrasound Breast Images" by Moi Hoon Yap, Eran Edirisinghe, and Helmut Bez proposes a complete end-to-end solution for automatic Ultrasound Computer Aided Detection (US CAD) using classification methods. This paper describes a comprehensive analysis to determine the best classifier-feature set combination that works optimally in US imaging.

We are grateful to the authors for submitting and revising their papers and the external
reviewers for reviewing the papers as well as providing suggestions for improvements. We hope you enjoy reading this special issue.  

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Guest Editor for the Special Issue

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