## **2020 IEEE 2nd International** Workshop on System Biology and **Biomedical Systems (SBBS 2020)**

Taichung, Taiwan **3-4 December 2020** 



**IEEE Catalog Number: CFP20O98-POD ISBN**:

978-1-6654-0461-7

## Copyright © 2020 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP20O98-POD

 ISBN (Print-On-Demand):
 978-1-6654-0461-7

 ISBN (Online):
 978-1-6654-0460-0

## **Additional Copies of This Publication Are Available From:**

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



## Table of Contents

Page:	Table of Contents
1	Opening Address
3	Keynote
5	Machine Thinking for Telehealth – Toward the Next Generation of Healthcare
8	Quality of Service Management in Wearable Heart Rate Measurement
11	The Role of User Satisfaction Management in Mobile Healthcare
15	A Microphone Calibration Scheme for Cough Sound Analysis and Diagnosis
18	Skin Impedance Measurement in Wearable Non-invasive Optical Blood Glucose Monitors
22	Restoring Severe Quantized Signals for Blood Glucose Estimation
26	Toward a Contextual-Conceptual Web of Wisdom (WOW) Model
30	Use Empirical Mode Decomposition and Ensemble Deep Learning to Improve the Performance of Emotional Voice Recognition
34	Smart Elderly Care Robot
38	IoT Tree Healthcare with Improved Sensor Deployment Scheme
42	Prediction of Depression using Machine Learning Techniques: A Review of Existing Literature
45	Multi-Channel Transcranial Direct Current Stimulation (tDCS) utilizing A.I. and IoT Technologies for Remote Tele-Treatment