## 2020 International Conference on Public Health and Data Science (ICPHDS 2020)

**Guangzhou, China** 20 – 22 November 2020



IEEE Catalog Number: CFP20Z20-POD ISBN: 978-1-7281-8572-9

## 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:
 CFP20Z20-POD

 ISBN (Print-On-Demand):
 978-1-7281-8572-9

 ISBN (Online):
 978-1-7281-8571-2

#### **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



# 2020 International Conference on Public Health and Data Science (ICPHDS) ICPHDS 2020

### **Table of Contents**

Preface xiii  Committees xiv
1. Big Data Medical Analysis and Health Informatics Research
From Evolution to Solution: Battling SARS-CoV-2 .1
Analysis of Depression for Aging People in China .8
Analysis of Mindfulness and Flow .13
Data Associated with Epigenetic Changes Brought by SARS-Cov-2: Enlightment on the Treatment and Public Health Practices .19
Analysis of the Relationship between Coronavirus and PTSD .24. <i>Jiawen Wu (University of York, United Kingdom)</i>
Analysis on the Effect of Heavy Metals and Genetics on the Prevalence of Parkinson's  Disease 29
A Study on the Relationship Between Job Demand-Control-Support and Job Burnout of College English Teachers .33
A Paradigm for Working Memory Research: The N-Back Tasks Collaborating with Information Theory 39
Research on the Judicial Application of the Crime of Impairing the Prevention and Control of Infectious Diseases Under the Background of Novel Coronavirus Epidemic 43

Investigation and Countermeasures on the Current Situation of Patients' Demand for Nursing Workers in Chifeng Area .48
Ethical Issues of Child Abuse — A Cultural Comparison .52
Ethical Issues of Child Abuse by Parents and Other People in Makassar City, Indonesia .56
Ethnical Issues of Women's Protection: Ending the Violent Crime Against Women in Indonesia.60  Yao Yu (Chongqing University of Education, China) and Weiwei Liu  (Chongqing Medical University, China)
Effect of Sexism and Self-Esteem Toward Self-Objection .64
The Ethical Problems of Criminals .68
Chinese Experience of Stakeholder Coordination in the COVID-19 Crisis .72
Research on Emotional Analysis of Netizens and Topic Distribution Under Public Health Emergencies: A Case Study of COVID-19 .76
Analysis of Factors Influencing the Spatial Distribution of Provincial Cumulative Confirmed Count of Novel Coronavirus Pneumonia (COVID-19) in China .81  Liyun Su (Chongqing University of Technology, China) and Haiqin Yu  (Chongqing University of Technology, China)
Features of Taiwan's Public Health System Revealed in the Covid-19 Epidemic .86
Research on Adaptive Learning Methods of Chinese Medicine Based on big Data .90
Spatial Clustering of Gastrointestinal Diseases in Middle-aged and Elderly Chinese Based on Cross-Sectional Data .94
Forecast Volatility Based on Realized GARCH and Deep LSTM Neural Network .99

Optimal Design of Police Emergency Intelligence Mechanism Under the Background of Major Public Health Emergencies .104
Association Between Sleep Duration and Cognitive Impairment: A Cross-Sectional Study Using the BRFSS Database .108
Western Perspectives of the COVID-19 in China .116
Improvement of China's Public Crisis Management Under the Background of the Epidemic .120  Dandan Shi (Harbin University of Commerce, China) and Xinhao Liu  (Harbin University of Commerce, China)
Comprehensive Evaluation on Emergency Response Capacity of Urban Public Health Emergencies: A Case Study of Zhejiang Province .125  Lina Jia (Zhejiang Gongshang University, China), Jing Zhang (Zhejiang Gongshang University, China), and Yuyu Wei (Zhejiang Gongshang University, China)
Mechanism Analysis and Prevention Mechanism Construction of Occupational-Disease-Type Mass Incidents — Based on the Review of Silicosis Events in X County .130
Age Evolution Characteristics and Causes of Cancer Mortality in China .137.  Qizhong Zhu (Guizhou University of Commerce, China) and Weilan Liu (Guizhou University of Commerce, China)
Data Analysis in Coronavirus Based on Knowledge Graph of Chinese Literature 144
2. Medical Artificial Intelligence and Electronic Health Research and Development Applications
Investigation on Hypertension and its co-Morbidity in China and Research on the Correlation between Psychological Control Source and Anxiety/Depression Status .149
The Development and Problems of Sports Rehabilitation Industry 154. <i>Jianting Liu (Shanghai University of Traditional Chinese Medicine, China)</i>
SIR Infectious Disease Model Based on Age Structure and Constant Migration Rate and Its  Dynamics Properties .158
Analysis on the Development and Application of Human Gene Editing: Take Genetically Modified Babies as Example .166

International Aid May Improve the Poverty in Sub-Saharan Africa: A Quantitative Research Studying the Correlation between Poverty and International Aid .17.0
Prediction of the Initial Development Trend of COVID-19 with Dynamic Infectious Models .17.4 Yuling Zou (Natinal University of Singapore, Singapore)
How COVID-19 Affects Mental Health of Wuhan College Students and It's Countermeasures .180. Xiyu Liu (Wuhan University of Science and Technology, China), Mengjie Li (Wuhan University of Science and Technology, China), and Yanliang Zhang (Wuhan University of Science and Technology, China)
An Empirical Study on the Efficiency of Public Medical and Health Expenditure in Sichuan Province 186
People's Hospital of Jianyang City, China)
Under the Background of Medical Alliances Construction a Simulation Study on the Residents' First Diagnosis Choice Behavior at Basic-Medical Institutions Based on SD Model: Taking Jiangsu Province, China as an Example .190
An Exploration of Infectious Covid-19 and Public Health through Network Science .198
Research on Public Risk Perception of the Public Health Emergency in Remission Period .202  Menghan Jing (Southwest Jiaotong University, China) and Cheng Zhao (Southwest Jiaotong University, China)
Optimization of Mechanical Ventilator Distribution in Response to Pandemics Similar to COVID-19 206
The Strategy of Government and Social Organization Cooperation to Manage the Public Crisis Under the Mode of Full Integration .213
Performance of Different Models of Machine Learning in Predicting the COVID-19 Pandemic .218. Qiuwei Wang (Dalian Maritime University, China)
SICR-Based Insurance Pricing of Hepatitis B Virus in China 227.  Chunyuan Zheng (Sichuan University), Jianing Zhao (Sichuan  University), Guangyan Gan (Sichuan University), and Haoxuan Li (Sichuan University)
Research on Development Strategy of "Internet +Traditional Chinese Medicine" Based on PEST-SWOT Model .232
Thoughts of Human Destiny Community in Global Epidemic .237

Research on Multiple co Governance of Public Health Emergencies Under the Background of Intelligence 243.
Xiaoqian Zhang (Wuhan University of Science and Technology, China) and Tao Huang (Wuhan University of Science and Technology, China)
The Prediction of the Spread of COVID-19 using Regression Models 247.  Zhenyu Li (Nanjing University, China), Junhong Wu (Southeast University, China), and Shentong Yang (Tianjin Nankai High School, China)
Mathematical Statistics of Factors Affecting the Unqualified Quality of Blood Samples in Medical Examination 253
China), Zhaomin Jin (Hangzhou Iron & Steel Group Co., Ltd, China), Di Pan (Zhejiang Provincial People's Hospital, China), Weiming Weng (Hangzhou Iron & Steel Group Co., Ltd, China), Xiuyang Li (Zhejiang University, China), and Hongwei Fan (Hangzhou Iron & Steel Group Co., Ltd, China)
Quantitative Factors and Mathematical Modeling of CoVID-19 Pandemic Under Human Interventions .257
Construction and Implementation Effect of Internet + Home Care Mode for Postoperative Discharged Patients in Department of Hepatobiliary Surgery .265  Ting Dai (Hunan Provincial People's Hospital, China), Honghui Zhang (Hunan Provincial People's Hospital, China), Xiaomao Shi (Hunan Provincial People's Hospital, China), and Pan Li (Xiangnan University, China)
Global Stability Analysis of a Class of SIRS Models with Nonlinear Incidence 269.  Yanli Guo (Air Force Engineering University), Ni Liu (Air Force Engineering University), and Hongying Jiao (Air Force Engineering University)
A Multimodal Diagnosis Predictive Model of Alzheimer's Disease with Few-shot Learning .273  Dehua Chen (Donghua University, China), Li Zhang (Donghua University, China), and Chuang Ma (Donghua University, China)
Design and Development of a Visualization System for COVID-19 Simulation Based on WebGIS 278 Lipeng Jia (Beijing University of Civil Engineering and Architecture, China), Xuedong Zhang (Beijing University of Civil Engineering and Architecture, China), Jianqin Zhang (Beijing University of Civil Engineering and Architecture, China), Zhijie Xu (Beijing University of Civil Engineering and Architecture, China), and Shaocun Deng (Beijing University of Civil Engineering and Architecture, China)
The COVID-19 Pandemic Prediction in the US Based on Machine Learning .283

Impact of Vaccination Strategies For Epidemic Node-Level SVIR Probabilistic Model: Pandemic Simulation on Social Networks Under Various Vaccination Strategies 290  Chun-Lin Kuo (Tsinghua-Berkeley Shenzhen Institute, China), Wai Kin Victor Chan (Tsinghua-Berkeley Shenzhen Institute, China), and Mengxuan Chen (Tsinghua-Berkeley Shenzhen Institute, China)
The Promotion Effect of Artificial Intelligence Guidance System on the Optimization of Stomatological Hospital Appointment Registration in China 297
3. Optimal Development of Biomedicine and Nursing Treatment Technology
Observation on the Effect of Nd: YAG 1064nm Laser Combined with Topical Tranexamic Acid on
Chloasma .302
Current Situation and Countermeasures of Uncontrollable Infection of Severe Acute
Pancreatitis 307.  Jia Lei (Kunming Medical University, China)
Effect of ACA on American Health System: Is Affordable Care Act Worth it? .310. Xiaohan Yu (Beijing Normal University-International Division, China)
The Clinicopathologic Analysis of Autism 316.  Zhonghao Chen (Wenzhou-Kean University, China)
Four Possible Causes of Schizophrenia 320.  Xinmiao Zhang (Pennsylvania State University, USA)
The Influence of COVID-19, Depression, and Hope on Subjective Well-Being in Chinese Adolescents 324
Bidirectional Pathway Between Depression and Inflammatory Bowel Disease 328
Risk Factors and Indicators for COVID-19 Severity: Clinical Severe Cases and their Implications to Prevention and Treatment .333
Analysis on Risk Factors of Women in Alzheimer's Disease .338
Analysis of the Causes, Effects and Treatments of Alcohol Use Disorder 342
Research Progress of Dental Tissue Engineering Technology .347.  Qicheng Huang (Tianjin Medical University, China)
Rumination Effects on Depression in Adolescents .351.  Pengrui Fu (Xi'an Gaoxin No.1 High School, China)

Reconstruction of Lower Lumbar Defects in an Oncologic Patient using the Rotated Latissimus Dorsi Muscular Flap: A Case Report and Literature Review .422
Investigation and Countermeasures of Pre Hospital First Aid Knowledge Training for College Students 427.  Tingting Jiang (Zaozhuang College Hospital, China) and Yan Man (Zaozhuang College Hospital, China)
Effect of Gold Microneedle Radio — Frequency in the Treatment of Striae Gravidarum .432
Study on the Relevance between Dietary Habits and Sports of Children Aged 3 to 6 — A Case Study of Children in Chongqing, China 437
Curative Effect of Clean Intermittent Catheterization Combined with Drinking Water Plan in Patients with Neurogenic Bladder .441
Research on the Influence of TCM Qigong Static Exercise on HRV of College Students .445  Hua Zhang (Jiangxi University of Traditional, China), Zhibing Zhong (Jiangxi University of Traditional Chinese Medicine, China), Xiaoliu Zuo (Suizhou zengdu district traditional Chinese medicine hospital, China), and Xingyu Ding (Jiangxi University of Traditional Chinese Medicine, China)
Causes of Cancellation on the Ophthalmic Ambulatory Surgery at West China Hospital Sichuan University .448
Author Index 455.