

Contents

| | |
|--|-----|
| Preface | v |
| About the Conference | vii |
| Section 1. Biomedical Material and Imaging Technology Application | |
| EEG-Based Epilepsy Prediction: Evaluation Metrics, Data Deficiency and Limitation of Current Methods <i>Bowen Xiong</i> | 3 |
| Optimization of the Extraction Strategy for Polyphenols from <i>Pieris Japonica</i> and Evaluation of Its Antioxidant Activity <i>Mengling Zhang, Xuewen Bao, Xin Huang, Haigang Li, Yanhui Li and Meihua Bao</i> | 11 |
| CNN-Based Image Analysis for EEG Signal Characterization <i>Yanqi Li</i> | 20 |
| Perspective of Neuroimaging-Based on Epilepsy Monitoring Technology <i>Yitong Yuan</i> | 31 |
| Effect of Repeated Application of Flos <i>Daturae</i> on Sedative and Hypnotic in Mice <i>Chang-Lei Li, Xiao-Qing Chen, Hui-Ling Yi and Bao-Miao Ma</i> | 42 |
| Age-Related Subcortical Brain Morphology Changes Following Three Hours of Sleep Deprivation <i>Jie Li</i> | 48 |
| Study on Antioxidant Activity of Spearmint Essential Oil and Pure Dew <i>Li Han, Yan Gao, Yingkai Guo, Huimin Ma and Xuehui Jian</i> | 55 |
| Late-Stage Peptide Modification Via Aspartic Acid as Endogenous Directing Group <i>Mengjie Liao and Bo Yao</i> | 62 |
| Expression and Purification of SMGL-1 <i>Mengya Wang and Kunrong Mei</i> | 68 |
| An Analysis of Honeybee Population Dynamics <i>Yicheng Yang, Mia Lubin, Ziyao Zhou and Kevin Niu</i> | 76 |
| Effect of Vibration and Tilting Mechanical Loading Device on Parthenogenetic Embryos Development of Mice Immature Oocytes <i>Qinli Liu and Huo Bo</i> | 86 |
| Establishment of a Colloidal Gold Immunochromatographic Method for the Detection of Cypermethrin in Tobacco <i>Chunqiong Wang, Dan Chen, Xiaowei Zhang, Shichun Qing, Haiyan Chen, Jieyun Cai, Jie Long, Jianlong Gu, Haowei Sun, Ke Zhang and Yuping Wan</i> | 94 |

| | |
|--|-----|
| Study on CdSe/ZnS Quantum Dot Fluorescence Immunoprobe for Detection of Aflatoxin B ₁ in 5 Traditional Chinese Medicines <i>Kai Zhu, Pengyan Wang and Xinming Qu</i> | 105 |
| Improvement of Oleanolic Acid Production in <i>Saccharomyces Cerevisiae</i> Based on OptKnock Framework <i>Xiaohan Li and Bing Hu</i> | 111 |
| The Purification of Human Carboxypeptidase O <i>Xinjie Zhang</i> | 123 |
| Effect of Grape Seed Procyanidins Combined with Allicin on Lipid Levels in Hyperlipidemic Rats <i>Liu-Qing Sun, Chao-Feng Zhu and Jiang-Qin He</i> | 130 |
| Exploring of Diverse Plant Communities and Adaptation to Drought Conditions Based on Advanced Logistics Model with Variable Growth <i>Yining Guo, Longxi Liang and Wentao Liang</i> | 137 |
| Exploring the Effectiveness of Multi-Objective Training for Organ Substructure Segmentation in Medical Imaging <i>Wenxin Duan, Yingwei Guo, Yingjian Yang, Nanrong Zeng, Shicong Wang, Jiakuan Xu, Rongchang Chen and Yan Kang</i> | 146 |
| Alloprevotella Can be Considered as a Potential Oral Biomarker in Intestinal Metaphase of Gastric Patients <i>Yuting Liu, Huiwen Wang, Haiyang Jiang, Zhumei Sun and Anyang Sun</i> | 155 |
| Development of Colloidal Gold Test Strips for the Detection of Oxamyl Residues in Tobacco <i>Chunqiong Wang, Ke Zhang, Yongzhan Cai, Xiaowei Zhang, Jie Long, Jianlong Gu, Yunhong Bu, Haowei Sun, Dan Li, Yishu Ding, Jieyun Cai and Dan Chen</i> | 168 |
| Development of Colloidal Gold Test Strips for the Detection of Triadimenol Residues in Tobacco <i>Chunqiong Wang, Ke Zhang, Dan Li, Xiaowei Zhang, Jianlong Gu, Jie Long, Yongzhan Cai, Yunhong Bu, Haowei Sun, Jieyun Cai, Yishu Ding and Dan Chen</i> | 179 |
| Spectrophotometric Determination of Cysteine Hydrochloride Content by Ferric Chloride-Potassium Ferricyanide <i>Changqing Tu and Xinrong Wen</i> | 191 |
| Bioinformatic Analysis of the Mechanism of Action of COL3A1 in Pan-Cancer and Design of Specific Inhibitors for Its Conformation <i>Xinyang Cao, Yu Zhang, Fanxiang Jin, Shufang Li, Wenbiao Zhang, Chen Mei and Dan Yin</i> | 199 |
| Research on Pectoral Muscle Segmentation Algorithm of CT Image Based on Deep Learning <i>Ying Wang, Ping Zhou and Xingqun Zhao</i> | 207 |
| Fluorescence in Situ Hybridization Cell Image Segmentation Method <i>Lemin Shi, Xin Feng, Ming Yue and Dianxin Song</i> | 216 |

| | |
|--|-----|
| Screening of Deoxynivalenol Cyclic Heptapeptide Mimotope Antigen <i>Wenhui Ji, Renrong Liu, Shanshan Wu, Hailing Ma, Ziyao Wu, Wenjing Liu and Shumin Hou</i> | 225 |
| Using SimAM and SSD to Detect Prostate Capsule <i>Shixiao Wu, Baizhi Ding and Jiixin Yang</i> | 231 |
| Experimental Design of X-CT Imaging <i>Yuexi Wang</i> | 238 |
| Polysiloxane in the Biomedical Field: Bibliometric and Visual Analysis <i>Ting Chen, Jing Li, Qingjiao He and Bin Huang</i> | 245 |
| Rapid Identification of Three Gram-Negative Bacteria by Surface-Enhanced Raman Spectroscopy <i>Yongbin Lin and Zhiwei Wu</i> | 253 |
| SuperMap-Based Research on the Spread Situation and Visual Monitoring Platform of Major Health Events <i>Xiaowen Li, Chen Shen, Jinlan Zhang and Xiaojuan Wei</i> | 261 |
| Section 2. Cell Biology and Medical Signal Processing | |
| Effect of Mechanical Stimulations on the Cytoskeleton of Mouse Oocytes During Maturation <i>Qinli Liu, Sen Zhao and Huo Bo</i> | 273 |
| Screening and Bioinformatics Analysis of Differential Genes in Autism Spectrum Disorder Based on GEO Database <i>Jinyi Zhu, Haoran Meng and Yan Li</i> | 280 |
| Prediction of CCLE Dataset Based on Integrated SVM Method <i>Zhuorui Yu</i> | 289 |
| Perspective of Signal Processing-Based on Brain-Computer Interfaces Using Machine Learning Methods <i>Ruyue He</i> | 295 |
| A Prognostic Model of Genetic Markers for Triple-Negative Breast Cancer Based on Machine Learning and Bioinformatics Analysis <i>Haoqin Guan, Ying Su, Wenjia Guo, Chen Chen, Xiaodong Xie and Xiaoyi Lv</i> | 303 |
| EEG-Based PD Classification Model Coupled with Machine Learning <i>Zhen Bian</i> | 313 |
| Bio Informatics Analysis of the Relationship Between Mammalian Target of Rapamycin and Colorectal Cancer <i>Lihong Han, Lirong Lin, Jingru Chen and Bin Yan</i> | 322 |
| Oxaliplatin and Checkpoint Inhibitor Induces Immunogenic Cells Death and Promotes Therapeutic Efficacy in the Model of Murine Triple Positive Breast Cancer <i>Haokun Shi</i> | 329 |

| | |
|---|-----|
| Therapeutic Efficacy of Oxaliplatin and Pembrolizumab Combination Treatment for Triple-Negative Breast Cancer <i>Sze Ling Chu</i> | 341 |
| Structural Study of the Exocyst Subunit Human Sec6 <i>Jiatian Guo and Kunrong Mei</i> | 351 |
| Screening, Confirmation and Validation of Mismatch AS F-Primers for Hypertension-Related Genotyping <i>Ping Yang, Wei Lan, Quanlin Su, Chunyan Li, Jie Zheng, Jing Zhang, Yue Hu and Wenjun Lan</i> | 359 |
| Analysis of Inhibitory Behaviour of Ferulic Acid and <i>p</i> -Coumaric Acid on <i>Saccharomyces Cerevisiae</i> Cells <i>Xiaoli Ge, Yuxiang Li, Pucheng Wang and Tongjun Liu</i> | 365 |
| Anti-Inflammatory Mechanism of <i>Ligustrum Lucidum</i> Ait Based on Network Pharmacology and Molecular Docking <i>Cheng'ao Ji</i> | 372 |
| Research on Brain Signals Classification Based on Deep Learning <i>Chenfei Tian</i> | 381 |
| Detection of Antibiotic Resistance and Analysis of Resistance Genes and Virulence Genes of <i>Salmonella</i> Isolated from Human <i>Chengyu Li, Zhaoxu Jiang, Zhenhai Liu, Xiaorui Dong, Shigan Yan and Liping Zhu</i> | 389 |
| Suppression or Inhibition of VEGFs on Splenic Angiosarcoma Cell with Traditional Chinese Medicine Zhi Gan Cao <i>Tianyang Zhao</i> | 396 |
| Application of Virtual Reality Technology in Post-Stroke Depression <i>Xu Sun, Ao Hu, Zhenzhen Tao and Fuqiang Yuan</i> | 404 |
| A Preliminary Study on the Effectiveness of K-Nearest Neighbor Algorithm Based on Local Mean for Classification of Bioinformatics Data <i>Jingrui Yi, Qiang Rao, Qi Zhang, Junbao Zhang, Liya Song and Hao Wu</i> | 410 |
| Exploration on Anti-Depression Mechanism of Baihe Zhimu Decoction Based on Network Pharmacology and Molecular Docking <i>Xianbin Zhang and Caihong Wang</i> | 417 |
| Study on Calibration of Extracorporeal Pacemaker <i>Tingting Ren, Meina Fang, Han Luo, Lingjian Zeng and Cheng Zeng</i> | 428 |
| The Effect of Oxaliplatin on the Immunogenic Cell Death and Cell Apoptosis of Human Merkel Cell Cancerous Tumor <i>Boyang Zhang</i> | 437 |
| Analysis and Prediction of Significant Genes in Gastric Cancer Based on TCGA Database <i>Ruisong Li, Yue Lu, Zhaoyi Yi and Juan An</i> | 445 |

| | |
|--|-----|
| Single Cell Sequencing Analysis for Blood Tissue <i>Sijia Zhu</i> | 455 |
| Network Pharmacology-Based and Molecular Docking-Based Analysis of Cornus Officinalis for the Treatment of Spinal Cord Injury <i>Qiyi Wang, Mingjun Zhou, Jiayi Lu, Xu Tong and Lin Shen</i> | 466 |
| Molecular Mechanism Analysis of Protopine Against Triple Negative Breast Cancer <i>Ting Chen, Heng Jiang, Guang Hu, Florfe M. Acma and Bin Huang</i> | 480 |
| Unraveling the Impact of Cerebellar Stimulation on Attentional Performance: A Behavioral Study <i>Chao Yu, Minjie Tian, Meiliang Liu, Rumei Li, Qixue Li, Zhaoyou Huang, Chuan Liu, Zhuang Yan, Jinping Shi, Zhiwen Zhao, Hui Hu and Kuiying Yin</i> | 487 |
| De novo miRNA-lncRNA Interactions Prediction via K-Square Encoding and Mixed Network <i>Shuanghao Yong, Wei Li, Ling Tong, Dianzheng Sun and Xiao Yang</i> | 496 |
| ARES-Kcr: A New Network Model Utilizing Attention Mechanism and Residual Structure for the Prediction of Lysine Crotonylation Sites <i>Ling Tong, Shuanghao Yong, Wei Li, Xiao Yang and Xing Wang</i> | 505 |
| 4mCFSNet: A Feature Fusion-Based Multi-Scale Representations for Predicting DNA N4-Methylcytosine Sites <i>Wei Li, Ling Tong, Shuanghao Yong, Xin Wang and Xiao Yang</i> | 513 |
| IL-6 Enhances the Viability and Invasion Ability of Prostate Cancer Cells <i>Kai Cheng, Christopher Batbatan and Qingmei Jia</i> | 521 |
| The Portfolio of Evidence for Lab-To-Clinic Innovative Product Bio-Printed Cartilage with Living Cells <i>Yi Zhu</i> | 527 |
| Section 3. Biomechanical Modeling and Drug Analysis | |
| Research Progress on the Relationship Between Sleep Status During Pregnancy and Gestational Diabetes Mellitus <i>Huanjun Chen, Shijiao Yan, Xingyue Song and Chuanzhu Lv</i> | 543 |
| Algorithm for Predicting Respiratory Motion of Liver Tissue Based on Short-Term Respiratory Monitoring <i>Hu Feng, Zhi Yong Zhou and Ya Kang Dai</i> | 549 |
| Application of Noninvasive Brain Stimulation for Sleep Quality Enhancement and Cognitive Improvement <i>Yuran Ma</i> | 556 |
| Study on Targeted Drugs for Non-Small Cell NSCLC with PD-1/PD-L1 Signaling Pathway <i>Xinran Cao</i> | 562 |

| | |
|--|-----|
| Structure-Based Virtual Screening for Novel Inhibitors Targeting KRAS G12C <i>Yiming Ding</i> | 568 |
| Alzheimer's Disease Diagnosis Based on the EEG Analysis <i>Ruihu Huang</i> | 574 |
| The Study of Factors Affecting the Covid-19 Death Rate <i>Yuqi Zhang</i> | 583 |
| Clinical Perspective: EEG-Based Neuromodulation Technique for Epilepsy <i>Zhengqiu Ge</i> | 590 |
| The Application of Organoids in the Research of Skeletal Diseases: Current Status and Prospects <i>Jianjun Wu, Zhijie Yang, BinBin Yang and Hongxing Huang</i> | 597 |
| Protective Effect of Sea Buckthorn (<i>Hippophae Rhamnoides</i>) Extract on Liver Injury Induced by High-Fat Diet in Mice <i>Si Sun, Bingqing Li, Shuang Peng and Lian He</i> | 605 |
| Research on Flow Traceability Technology of Medical Electric Gastric Lavage Machine <i>Shuqiong Li, Xin Jin, Guanyu Quan, Fenghua Dong and Xuhui Liao</i> | 611 |
| A Mendelian Randomization-Based Causal Investigation on Bacterial Infection-Related Genes and Neurodegenerative Diseases <i>Gaolin Liu, Xinheng Lyu and Virginia Wang</i> | 619 |
| Methods for Analyzing Unknown Health Risk Based on Nature Language Process (NLP) <i>Jianying Liu and Tao Jiang</i> | 633 |
| Decomposition Prediction Model Based on BP Neural Network Algorithm and ARMA Model <i>Shan Guo</i> | 640 |
| Applications of Artificial Intelligence to Diagnosis of Neurodegenerative Diseases <i>Tiange Feng</i> | 648 |
| Research on Symptomatic Treatment Decision Support System Based on Natural Language Process (NLP) for Medication Guidance <i>Jianying Liu and Tao Jiang</i> | 656 |
| Study on the Prediction Model of Wound Infection After Spinal Fusion and Internal Fixation Based on Logistic Regression <i>Chunling Wang and Cuicui Miao</i> | 662 |
| The Mechanism of Core Chinese Medicine Combination in Treating Salivation <i>Yunli Wang and Yang Zhang</i> | 669 |
| Construction and Validation of a CRISPR/dCpf1-Based Transcriptional Regulatory System in <i>Saccharomyces Cerevisiae</i> <i>Qing Feng and Jun Li</i> | 680 |

| | |
|---|-----|
| Colon Disease Classification Method Based on Deep Learning <i>Zhihe Zhao, Zhifeng Gao, Kun Zhang, Lei Lun, Weichao Xu, Hongxin Wu and Baozhang Liu</i> | 689 |
| Using Traditional Chinese Medicine to Alleviate Chronic Obstructive Pulmonary Disease <i>Yan Zhang, Lin Zhao, Qiulin Yue, Le Su, Kunlun Li, Chen Zhao, Baojun Li and Song Zhang</i> | 696 |
| Development and Mechanical Analysis of Human Liver Model During Impact <i>Tianya Du, Jiqing Chen, Dongri Li, Xinghua Liu and Yansong Hu</i> | 705 |
| Antioxidant Capacity of Eugenol and Its Effect on Intestinal Flora Under in Vitro Simulated Conditions <i>Jinshan Dai</i> | 715 |
| Electroacupuncture at “Baihui, Yintang and Shuigou” Acupoints Improves Post-Stroke Cognitive Impairment in Mice <i>Jing Zhang, Yuran Gui, Changlong Leng, Youwei Li, Rong Zhou, Wei Liu and Xiji Shu</i> | 723 |
| Establishment of a Mathematical Model for Parkinson’s Disease Based on Complex Neural Networks and Design of Deep Brain Electrical Stimulation Treatment Plans <i>Haiyi Sun, Chenxinxiao Lv, Xinyi Sun and Ran Guo</i> | 733 |
| A Functionalized Covalent Organic Frameworks with Triazine and Triazole Motifs <i>Pengpeng Gao and Qing Han</i> | 743 |
| Retrosynthetic Analysis of the Synthetic Pathway for Antineocyclocitrinol A <i>Sihan Chen</i> | 749 |
| A BIGRU-Based Stacked Attention Network for Biomedical Named Entity Recognition with Chinese EMRs <i>Jie-qing Chen, Zhi-chao Zhu, Feng Zhang, Ke Zeng, Hui-zhen Jiang and Zhen-ning Cheng</i> | 757 |
| Effects of Steaming Treatment on the Effective Components and Efficacy in Vitro of <i>Ginseng</i> Flowers <i>Yu Fu, Kexin Zhang, Junhao Yao, Xinxi Zhang, Yantong Yang, Yanbai Chen, Jiaye Wang, Meiling Fan, Guanhao Li and Fushun Cui</i> | 768 |
| In Vitro Biological Activity and Primary Structure of Polysaccharide Extracted from Flower of <i>Panax Ginseng</i> C.A. Meyer <i>Kexin Zhang, Yashu Gong, Yu Fu, Junhao Yao, Xinyu Tian, Yuge Hao, Qing Jin, Guanhao Li, Xiangguo Li and Fushun Cui</i> | 777 |
| Subject Index | 785 |
| Author Index | 789 |