

2022 International Conference on Engineering Education and Information Technology (EEIT 2022)

**Nanjing, China
6-8 May 2022**



**IEEE Catalog Number: CFP22CO7-POD
ISBN: 978-1-6654-8843-3**

**Copyright © 2022 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:	CFP22CO7-POD
ISBN (Print-On-Demand):	978-1-6654-8843-3
ISBN (Online):	978-1-6654-8842-6

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

CURRAN ASSOCIATES INC.
proceedings
.com

2022 2nd International Conference on Engineering Education and Information Technology (EIT) **EIT 2022**

Table of Contents

Preface	ix
Organizing Committee	x
Reviewers	xii

Innovative Teaching Methods and System of Engineering Education

Implementation Strategies of Undergraduate GP for Mechanical Engineering Major based on PBL	1
<i>Yanqing Wang (Taiyuan University of Technology, China), Xiuzhi Wang (Taiyuan University of Technology, China), Yupeng Xin (Taiyuan University of Technology, China), Junying Zhao (Luoyang Polytechnic, China), Jicheng Bai (Harbin Institute of Technology, China), and Shengqiang Yang (Taiyuan University of Technology, China)</i>	
Research on Project-Guided Teaching Contents and Method in Engineering Training	6
<i>Xiuli Hu (Harbin Institute of Technology, China), Zhigang Cai (Harbin Institute of Technology, China), Jianwei Song (Harbin Institute of Technology, China), Peilian Feng (Harbin Institute of Technology, China), Nan Yang (Harbin Institute of Technology, China), and Xudong Pan (Harbin Institute of Technology, China)</i>	
Project-Based Learning of Professional Courses in Department of Electrical Engineering	10
<i>Wanling Deng (Department of Electronic Engineering, Jinan University, China), Zhi Luo (Department of Electronic Engineering, Jinan University, China), Weijie Ye (Department of Electronic Engineering, Jinan University, China), and Junkai Huang (Department of Electronic Engineering, Jinan University, China)</i>	
Innovation Practice Evaluation System for Civil Engineering Major with BIM Technology	14
<i>Liangli Xiao (Wuhan university of science and technology, China), Zhao Yang (Wuhan University of Science and Technology, China), Shuang Peng (Wuhan University of Science and Technology, China), and Huachen Liu (Wuhan University of Science and Technology, China)</i>	
Problems Analysis and Countermeasure Suggestions for Project-Based Industry-University-Research Collaborative Innovation	18
<i>Wei Bao (Jilin University of Architecture and Technology, China), Zhihao Li (Wayou Jilin Education Technology Co., Ltd., China), and Ruiyan Li (Jilin Jiaheng Geological Environment Surveying and Mapping Co., Ltd., China)</i>	

Design and Development of Reconfigurable Desktop Type Turn-Milling Compound Teaching Machine Tool	23
<i>Ruilin Gao (Beijing Institute of Technology, China), Xin Jin (Beijing Institute of Technology, China), Zhongxin Li (Beijing Institute of Technology, China), Juan Hao (Beijing Institute of Technology, China), Jicheng Bai (Harbin Institute of Technology, China), and Chaojiang Li (Beijing Institute of Technology, China)</i>	
Construction of Non-Traditional Machining Curriculum System for Training Innovative Talents	27
<i>Jicheng Bai (Harbin Institute of Technology, China), Zimu Zhou (Harbin Institute of Technology, China), Zhengkai Li (Shandong University of Technology, China), Xiaodong Yang (Harbin Institute of Technology, China), and Dongbo Wei (Harbin Institute of Technology, China)</i>	
Linking Engineering and Natural Sciences in a "Nano-Science" Student Laboratory in Germany. 32	
<i>Tim Göbel (University of Kassel, Germany) and David-Samuel Di Fuccia (University of Kassel, Germany)</i>	
Study on Progressive Teaching System of Practice base for Engineering Education	37
<i>Wanjiang Han (Beijing University of Posts and Telecommunication, China), Zhuoyan Han (Beijing University of Posts and Telecommunication, China), Yifan Tian (Beijing University of Posts and Telecommunication, China), Jincui Yang (Beijing University of Posts and Telecommunication, China), Pengfei Sun (Beijing University of Posts and Telecommunication, China), and Jinpeng Chen (Beijing University of Posts and Telecommunication, China)</i>	

Curriculum Reform and Quality Assurance of Engineering Education

Reform and Exploration of Deliberative Practical Teaching Model of Non-Traditional Machining	41
<i>Xiaodong Yang (Harbin Institute of Technology, China), Dongbo Wei (Harbin Institute of Technology, China), Chen Liu (Harbin Institute of Technology, China), Jicheng Bai (Harbin Institute of Technology, China), and Yongfeng Guo (Harbin Institute of Technology, China)</i>	
Teaching Reform and Practice of Strengthening Engineering Education in Mechanical Engineering Specialty	45
<i>Hongrui Ao (Harbin Institute of Technology, China), Hui Yan (Harbin Institute of Technology, China), Hongsheng Zhang (Harbin Institute of Technology, China), and Jin Zhang (Harbin Institute of Technology, China)</i>	
Research and Practice of Curriculum Group Reform with Outcome Based Education	49
<i>Peipei Zhang (University of Electronic Science and Technology of China, China)</i>	
Research on the Quality Assurance of Engineering Education for New Engineering	54
<i>Hui Yan (Harbin Institute of Technology, China), Hongri Ao (Harbin Institute of Technology, China), and Zhaobo Chen (Harbin Institute of Technology, China)</i>	
Research on Case Method in Engineering Cognition and Practice	58
<i>Xiuqin Han (Harbin Institute of Technology, China), Jun Bao (Harbin Institute of Technology, China), Yan Lyu (Harbin Institute of Technology, China), Xiaohui Xing (Harbin Institute of Technology, China), and Chen Gao (Harbin Institute of Technology, China)</i>	

Engineering Education Informatization and Talent Cultivation

Cultivation of Innovative Talents with Information Characteristics for Engineering Education Orientation	62
<i>Meilan Ye (Nanjing University of Posts & Telecommunications, China), Lijuan Sun (Nanjing University of Posts & Telecommunications, China), and Jianhua Shen (Nanjing University of Posts & Telecommunications, China)</i>	
Blended Teaching Mode of the Course of Mechanical Engineering Materials and Forming Technology Fundamentals Using Rain Classroom	66
<i>Jun Bao (Harbin Institute of Technology, China), Xiuqin Han (Harbin Institute of Technology, China), and Hongliang Yang (Harbin Institute of Technology, China)</i>	
The Multi-Layer Grey Relational Analysis between the Training Factors and the Employment Factors of the Engineering Subjects College Students	71
<i>Xiaolin Cao (State key laboratory of Automotive Simulation and Control, Jilin University, China), Qin Liang (State key laboratory of Automotive Simulation and Control, Jilin University, China), Changchun Fang (Jilin University, China), Yuduo Yan (State key laboratory of Automotive Simulation and Control, Jilin University, China), Dongsheng Li (College of Materials Science and Engineering, Jilin University, China), Ying Huang (College of Mechanical Science Engineering, Jilin University, China), and Shuangwei Wang (College of Physics, Northeast Normal University, China)</i>	
Curriculum Reform of Electronic Technology Training for Students' Autonomous Learning Ability	76
<i>Jinbo Li (Harbin Institute of Technology, China), Xudong Pan (Harbin Institute of Technology, China), Xiaohui Xing (Harbin Institute of Technology, China), Chen Gao (Harbin Institute of Technology, China), and Xuelin Chen (Harbin Institute of Technology, China)</i>	
Demands Investigation of Talent Training in the Railway Field	80
<i>Hong Xiao (Beijing Jiaotong University, China), Yang Wang (Beijing Jiaotong University, China), Shuwei Fang (Beijing Subway Operation Co.Ltd, China), Fei Hu (China Advisors Overseas Consulting Co. Ltd, China), Xu hao Cui (Beijing Jiaotong University, China), and Xiaoyu Wang (Beijing Jiaotong University, China)</i>	
A Self-Guided Mold Assembly System Based on Deep Learning for Engineering Training	84
<i>Xudong Pan (School of Mechatronics Engineering, Harbin Institute of Technology, China), Hong Huo (School of Mechatronics Engineering, Harbin Institute of Technology, China), Loyin Cai (School of Mechatronics Engineering, Harbin Institute of Technology, China), Jianfeng Lv (School of Mechatronics Engineering, Harbin Institute of Technology, China), Qianghui Han (School of Mechatronics Engineering, Harbin Institute of Technology, China), and Yuan Pan (School of Mechatronics Engineering, Harbin Institute of Technology, China)</i>	

Communication and Information Technology Application

Channel Estimation for Reconfigurable Intelligent Surface-Assisted Multiple Antennas Communication Systems	88
<i>Pingping Xu (The National Mobile Communications Research Laboratory, Southeast University, China), Zhichao Zhu (The National Mobile Communications Research Laboratory, Southeast University, China), Hongyun Chu (Xi'an University of Posts and Telecommunications, China), and Maoqi Li (The National Mobile Communications Research Laboratory, Southeast University, China)</i>	
Research on the Intelligent Bidding Information Fit Model for Large Enterprises	93
<i>Jian-hua Lu (State Grid Electric Power Research Institute, China), Shou-zhi Li (State Grid Electric Power Research Institute, China), Jia-he Xu (State Grid Electric Power Research Institute, China), Zu-bao Sheng (State Grid Electric Power Research Institute, China), and Qi-ming Zhang (State Grid Electric Power Research Institute, China)</i>	
Field Strength Prediction of High Altitude Drop Mountain Area based on Deep Learning	98
<i>Min Zhou (Army Engineering University of PLA, China), Yifan Xiao (Army Engineering University of PLA, China), Bingcheng Li (Army Engineering University of PLA, China), Jialin Li (Army Engineering University of PLA, China), Wei Shao (Army Engineering University of PLA, China), Yang Liu (Army Engineering University of PLA, China), and Xiaoqin Yang (Army Engineering University of PLA, China)</i>	
Author Index	107