



**IEEE The 17th International Conference on Computer
Science & Education**

(ICCSE 2022)

August 18 – 21.

Ningbo, China

Final Program & Book of Abstracts



Organized by National Research Council of Computer
Education in Colleges & Universities, China

Hosted by NingboTech University

**Technical
Sponsorship** IEEE Education Society

ICCSE 2022

**IEEE The 17th International Conference
on Computer Science and Education**

Final Program & Book of Abstracts

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Welcome to ICCSE

On behalf of the IEEE ICCSE 2022 organizing committee, I am honored and delighted to welcome you to the 17th International Conference on Computer Science and Education (ICCSE 2022). ICCSE is a series of annual conference, which began in 2006 in Xiamen, China. The Conference provides an international forum for presenting the most recent advances in the fields of Computer Science, Education, and related areas of Engineering and Advanced Technologies. Also, the Conference facilitates and promotes information exchange among participants from academia and industry.

Affected by the epidemic situation, the 17th International Conference on Computer Science & Education (ICCSE 2022) will be held online and offline in NingboTech University in Zhejiang, China, from August 18-21, 2022. The conference is organized by the China Research Council of Computer Education in Colleges & Universities (CRC-CE), hosted by NingboTech University with the technical sponsorship of IEEE Education Society. The proceedings of ICCSE 2022 (indexed by EI) will be published by IEEE and be included in IEEE Xplore digital library.

Topics of this year's conference will be focused on Fast-Evolving Digital Literacy and Skills as well as the applications in education practices and digital areas. ICCSE 2022 will bring together professors, experts, professionals and researchers from universities, research institutes and related industries to share new research results, ideas and novel perspectives on a wide range of Computer Science, especially AI, education, data science and engineering by addressing frontier technical and business issues essential to the applications of data science in both higher education and advancing people's life.

Our technical program is rich and varied with three keynote **speeches**:

- (1) AI and UAS Technologies for Infrastructure Inspection and Information Management, from Professor Ben M. Chen, The Chinese University of Hong Kong, China
- (2) Subdivision-based Mesh Convolution Networks, from Professor Shimin Hu, Tsinghua University, China
- (3) Recent Advances on Intelligent Control for Mechatronic Systems, from Professor Shihua Li, Southeast University, China

The success of our conference depends on the many people who have worked with us in planning and organizing the technical program and supporting social arrangements all over the world. In particular, we thank program chairs for their wise advices and suggestions on organizing conference technical program; we thank the conference organizing committee members who have all worked extremely hard for the details and activities of this conference. We are looking forward to meeting you!

Supporters

ICCSE 2022 is Organized by

The China Research Council of Computer Education in Colleges & Universities (CRC-CE)

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General Information

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Associate Prof. Jingyue Li, Norwegian University of Science and Technology

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Keynote Speech I

AI and UAS Technologies for Infrastructure Inspection and Information Management

Professor Ben M. Chen

Department of Mechanical and Automation Engineering

The Chinese University of Hong Kong, China

Abstract

In this talk, we aim to present a fully autonomous and fully functional infrastructure inspection and information management system with advanced AI and unmanned aerial systems (UAS) technologies. The system includes sophisticated unmanned aerial hardware platform and software systems for automatic flight control and task and motion planning, artificial intelligent algorithms and software platform for image and infrared data processing, i.e., crack, spalling, delamination and other defect detections, and building information modeling (BIM) and management system integrated with detailed geographical information systems (GIS). Compared with the manual inspection, the system that we have developed has the advantages of being more economical, safer, flexible and efficient. It can also be adopted for other industrial applications.

Speaker Biography



Ben M. Chen received his B.Sc. degree in mathematics and computer science from Xiamen University, China, in 1983, M.Sc. in electrical engineering from Gonzaga University, USA, in 1988, and Ph.D. in electrical and computer engineering from Washington State University, USA, in 1991. He is currently a Professor of Mechanical and Automation Engineering at the Chinese University of Hong Kong (CUHK). He was a Provost's Chair Professor in the Department of Electrical and Computer Engineering at the National University of Singapore, before joining CUHK in 2018. He was an Assistant Professor in the Department of Electrical Engineering at the State University of New York at Stony Brook, USA, in 1992 – 1993. His current research interests are in unmanned systems and their applications.

Prof. Chen is a Fellow of IEEE and Fellow of Academy of Engineering, Singapore. He has authored/co-authored hundreds of journal and conference articles, and a dozen research monographs in control theory and

applications, unmanned systems and financial market modeling. He had served on the editorial boards of a dozen international journals including Automatica and IEEE Transactions on Automatic Control. He currently serves as an Editor-in-Chief of Unmanned Systems. Prof. Chen has received a number of research awards. His research team has actively participated in international UAV competitions and won many championships in the contests.

Details can be found at <http://www.mae.cuhk.edu.hk/~bmchen/main.html>

Keynote Speech II

Subdivision-based Mesh Convolution Networks

Professor Shimin Hu

Department of Computer Science and Technology

Tsinghua University, China

Abstract

Convolutional neural networks (CNNs) have made great breakthroughs in 2D computer vision. However, their irregular structure makes it hard to harness the potential of CNNs directly on meshes. A subdivision surface provides a hierarchical multi-resolution structure, in which each face in a closed 2-manifold triangle mesh is exactly adjacent to three faces. Motivated by these two observations, this paper presents SubdivNet, an innovative and versatile CNN framework for 3D triangle meshes with Loop subdivision sequence connectivity. Making an analogy between mesh faces and pixels in a 2D image allows us to present a mesh convolution operator to aggregate local features from nearby faces. By exploiting face neighborhoods, this convolution can support standard 2D convolutional network concepts, e.g. variable kernel size, stride, and dilation. Based on the multi-resolution hierarchy, we make use of pooling layers which uniformly merge four faces into one and an upsampling method which splits one face into four. Thereby, many popular 2D CNN architectures can be easily adapted to process 3D meshes. Meshes with arbitrary connectivity can be remeshed to have Loop subdivision sequence connectivity via self-parameterization, making SubdivNet a general approach. Extensive evaluation and various applications demonstrate SubdivNet's effectiveness and efficiency.

Speaker Biography



Prof. Shi-Min Hu is currently a professor in the department of Computer Science and Technology, Tsinghua University, Beijing. He received the PhD degree from Zhejiang University in 1996. His research interests include Computer Graphics, intelligent processing of visual media, Deep learning framework and system software. He has published more than 100 papers in journals and refereed conference. He is Editor-in-Chief of Computational Visual media, and on editorial board of several journals, including Computer Aided Design, Computer & Graphics. He is Chair of Asiagraphics, and vice president of China Computer Federation.

Details can be found at <http://cg.cs.tsinghua.edu.cn/shimin.htm>

Keynote Speech III

Recent advances on intelligent control for mechatronic systems

Professor Shihua Li

School of Automation

Southeast University, China

Abstract

For mechatronic systems, nonlinearities (frictions, backlash, saturation, etc.), complex internal dynamics, time-varying parameters, noise, external disturbances and complex work tasks make control design a very challenging work. In this talk we will discuss on various advanced modeling, analysis and intelligent control techniques for mechatronic control systems. There are also development requirements for intelligent functions of mechatronic systems, such as parameter self-adjustment and adaptation, sensor less control, vibration suppression, etc. Some new research developments and results on this topic will be introduced. Considering the characteristics of mechatronic control system, several kinds of composite control design schemes based on disturbance estimation and compensation are presented with experimental or application verification results.

Speaker Biography



Shihua Li was born in Pingxiang, China, in 1975. He earned his B.Eng., M.Sc. and Ph.D. degrees in control science and engineering from Southeast University, Nanjing, China in 1995, 1998 and 2001, respectively. Since 2001, he has been with the School of Automation, Southeast University, where he is currently a chair Professor and the Director of the Mechatronic Systems Control Laboratory. He visited UC Berkeley from 2006.9-2007.9, RMIT University 2011.3-2011.6, University of Minnesota at Twin Cities 2012.4-2012.10, University of Hong Kong 2014.6-2014.8 and University of Western Sydney 2017.7-2017.8.

He is a fellow of IEEE and IET, the Chairman of the IEEE Industrial Electronics Society (IES) Nanjing Chapter. He serves as members of the Technical Committees on System Identification and Adaptive Control, Nonlinear Systems and Control and Variable Structure and Sliding Mode Control of the IEEE CSS and members of the Technical Committees on Electrical Machines, and Motion Control of the IEEE Industrial Electronics Society. He is a member of the Technical Committee on Control

Theory of Chinese Association of Automation. He serves as associate editors of IEEE Transactions on Industrial Electronics, International Journal of Robust and Nonlinear Control, Advanced Control for Applications, etc.

His main research interests lie in modeling, analysis, and nonlinear control theory (nonsmooth control, disturbance rejection control, adaptive control, etc.) with applications to mechatronic systems, intelligent transportation systems and others. He has published over 200 journal papers and two books. He is one of the Clarivate Analytics (originally Thomson Reuters) Highly Cited Researchers (Engineering) all over the world from 2017 to 2020, one of the Most Cited Chinese Researchers from Elsevier (Control and system engineering), from 2015 to 2020. He is a winner of best paper in the IET Control Theory & Applications 2017, a winner of annual ICI prize for best paper in the Transactions of the Institute of Measurement 2016 and a winner of outstanding paper in 2019 SAMCON conference. He is a winner of the 6th Nagamori Award from Nagamori Foundation in 2020.

Details can be found at <https://automation.seu.edu.cn/lsh/list.htm>

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Invited Sessions

Session 1: "Belt and Road" "International Chinese + Vocational Education"

Sub-Forum

High quality construction of "Belt and Road" Vocational education System driven by computer technology

Session Chair:

Tongtao Zheng, Xiamen Institute of Software Technology

Abstract:

Based on the common appeal of realizing industrialization to promote economic and social development, countries along the "Belt and Road" actually need a large number of vocational and technical talents. After more than 40 years of development, with the help of the Belt and Road Initiative, China's vocational education has been introduced to the rest of the world and benefit the world with Chinese technology, Chinese solutions and Chinese wisdom. Faced with the impact of COVID-19 and anti-globalization, large-scale and high-quality training of professional and technical personnel has become a major issue that countries along the Belt and Road must solve. On behalf of the new scientific and technological revolution, computer information technology has become the driving force for the transformation of talent training mode. With the globalization of education and technology, how to build a vocational education system with Chinese characteristics is the key to breaking through the bottleneck of China's foreign direct investment and serving the high-quality development of the "Belt and Road". In view of this, first of all, it is necessary to take big data as the driving force to clarify the talent demand characteristics, quality connotation and industry distribution of countries along the "Belt and Road", and to improve the talent training mechanism of the "Belt and Road" in a demand-oriented way. Secondly, it discusses the reform and innovation of vocational education under the background of information technology, and studies how to apply computer science and technology to promote the development of "Chinese plus Vocational Education". Finally, it is necessary to study the learning characteristics and learning paths of language learners under the background of AI and meta-universe and so on. With technology as the driving force, a compound talent training platform will be accurately built to meet the needs of internationalization, and ultimately jointly serve the construction of a community with a shared future for mankind.

Key words:

Belt and Road Initiative; Computer technology; Vocational education; Talent training.

Main topics:

- Research on the nationalization of talent demand for the "Belt and Road" in the perspective of big data
- Reform and innovation of online vocational and technical talent training mode in the post-epidemic era
- Research on the Construction of Vocational Education System of "Belt and Road" with Chinese Characteristics
- Research on the "Belt and Road" Vocational Education Evaluation System and Mechanism Construction
- Research on the construction of "Chinese + Vocational Education" teaching resources in the new era
- Metaverse and International Chinese Education---Language Learning in the Virtual World

- " Belt and Road " database construction of talent demand and training
- Research on industrial high-quality training of Chinese talents in the "Belt and Road"

Short Bio of Chair



Tongtao Zheng

Prof. Tongtao Zheng, renowned linguistics and computer science expert, Ph.D doctoral supervisor, president of Xiamen Institute of Software Technology.

Session 2: XR Technologies in Education

Session Chair:

Carsten Lecon, Aalen University, Germany

Abstract:

Immersive Learning is possible by Augmented and Virtual Reality. Full immersion is possible by so called head mounted displays, for example the HTC Vive or the Oculus Rift. Nowadays, these are less expensive, so that many users can use this technique. Furthermore, Augmented Reality (AR) and Mixed Reality (MR) applications become more and more important in industrial application – and also in learning environments.

In addition, virtual 3D Learning Environments are not only used for the visualization of complex learning matters, but get increasing importance in learning environments (currently, accelerated by the Corona pandemic). Students for example act as avatars in artificially generated worlds, in which they learn, develop, and present simultaneously.

Topics are included but not limited to:

- AR and VR learning settings for education
- Teaching VR/ AR/ MR techniques in education
- Didactic and pedagogical aspects when designing VR/ AR/ MR applications
- Evaluation of AR/ VR / MR applications
- Virtual 3D Environments for collaborative learning
- Special topics are for example: Use cases, challenges, evaluation
- Kinetosis in VR environments

Short Bio of Chair



Carsten Lecon

- Prof. Dr. Carsten Lecon
- Study of computer science (Technical University Braunschweig, Germany)
- Software Quality Assurance (Siemens AG, Braunschweig)
- Database systems, Media archives (University Luebeck, Germany)
- Virtual University of Applied Sciences (FH Luebeck, Germany)
- Since 04/2004 Professor for media computer science (Aalen University for Applied Sciences, Germany)
- Teaching: Foundations of digital media, VR/AR technologies, audiovisual media, game programming
- Research: E-/VR-Learning, kinetosis in VR environment, live motion capture

Session3: Computer Assisted Language Education

Chairs:

Session Chair:

Jie Hu, NingboTech University, huj@zju.edu.cn

Session Co-Chairs:

Zheng Ruan, NingboTech University, wyrz@nbt.edu.cn

Xianxian Luo, NingboTech University, luoxianxian1992@126.com

Abstract:

Computer Assisted Language Education embraces a wide range of information and communications technology applications and approaches to teaching and learning languages, as used in a virtual learning environment and Web-based distance learning. It also extends to the use of corpora and concordancers, interactive whiteboards, computer-mediated communication (CMC), language learning in virtual worlds, and mobile-assisted language learning (MALL).

This session is intended to provide a forum for colleagues in language teaching to share their experiences and discuss the recent advances in the following fields to promote the use of technology for facilitating language acquisition, language teaching and assessment.

This invited session will collect papers of the following subjects, but not limited to:

- Collaborative and cooperative education
- Smart learning and education
- AI applications in education practice
- Tools and systems for life-long learning
- Education and learning practice
- Massive learning online course
- Curricula and courseware design

- Innovation and reform in education based on new IT

Short Bio of Chairs



Jie Hu

Prof. Jie Hu, Ph.D., working at the School of International Studies, Zhejiang University and the head at the School of International Studies, NingboTech University, China. She has been focusing on English language education for more than 10 years after her Ph.D. graduation from the University of Warwick, U.K. Her research interests include ICT-based English language education, second language acquisition, educational data mining and learning analysis. She has hosted a couple of National Social Science research projects and has published the selected research papers on Computers & Education, Computer Assisted Language Learning, Research in Science Education, Higher Education Research & Development, Reading and Writing: An Interdisciplinary Journal. She also served as the editor of EI research journal.

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Zheng Ruan

Zheng Ruan is a lecturer in the School of International Studies, NingboTech University, China. She received her master degree in Applied Linguistics and English Language Teaching from University of Nottingham Ningbo China. She developed her research interests in multimodal discourse analysis, corpus linguistics and English language education. She participated in the International Scholar Program of TESOL as a visiting scholar in Nazareth College of Rochester, USA from 2017-2018.

Email: wyrz@nbt.edu.cn



Xianxian Luo

Dr. Xianxian Luo is a lecturer in the School of International Studies, NingboTech University, China. She received PhD in English Literature from Beijing Foreign Studies University, China. As a graduate research trainee, she visited McGill University, Canada from 2017-2018. Her research interests include 18th Century English Novel, narrative discourse analysis, and English language education.

Email: luoxianxian1992@126.com

Session 4: Virtual Experiment and Online teaching

Chairs:

Session Chair:

Fengxia Li, School of Computer Science and Technology, Beijing Institute of Technology, lfx_lfx@bit.edu.cn

Session Co-Chairs:

Jingfeng Xue, School of Computer Science and Technology, Beijing Institute of Technology, xuejf@bit.edu.cn

Yue Yu, School of Computer Science and Technology, Beijing Institute of Technology, yuyue@bit.edu.cn

Abstract:

MOOC (Massive Open Online Courses) /SPOC (Small Private Online Courses) gets many new points and research achievements for online teaching in recent years. These developments bring the challenges for the online experiment. Virtual simulation technologies which includes VR/AR and computer simulation promote online teaching resource construction. The promotion could improve the quality of the online courses. This invited session is intended to provide a forum for colleagues to share their experiences and new research achievements in online experiment construction and the online courses improvement.

Topics are included but not limited to:

- Virtual Simulation Technology for Online Experiments
- Virtual experiment for online teaching
- Online teaching resource construction
- Mixed Teaching Mode based on MOOC/SPOC
- Analysis of Online Learning Behavior
- Intelligent Tutoring Systems for MOOC/SPOC
- Online Teaching Environment and Supporting Technology

Short Bio of Chairs



Fengxia Li

Fengxia Li is a professor in School of Computer Science and Technology at Beijing Institute of Technology. She is the Beijing Famous teacher, the chief of the National Virtual Simulation Experiment Teaching Center. She is in charge of College Computer MOOC and C Programming MOOC with more than 1,800,000 students. Her research interest is computer simulation and computer education. She received many awards including the National Teaching

Achievement Award of China, Beijing Teaching Achievement Award, etc.



Jingfeng Xue

Dr. Jingfeng Xue is a professor in School of Computer Science and Technology at Beijing Institute of Technology. He received a PhD in computer science and technology from Beijing Institute of Technology in 2003. He is a committee member of Higher Education Guidance Committee of Ministry of Education China. His research interest is computer network and software engineering.



Yue Yu

Dr. Yue Yu is an associate professor in Beijing Institute of Technology. She received an MSc degree in automatic control from Beihang University, Beijing, China, in 2010 and a PhD from Ecole centrale de Lille, Lille, France, in 2013. Her fields of interests are virtual reality, computer simulation, and computer education. She is in charge of the National Natural Science Foundation of China. She received many awards including the National Teaching Achievement Award of China, Beijing Teaching Achievement Award, etc.

Session 5: Mathematical Model and Artificial Intelligence for Bio-signal

Session Chair:

Hiroki TAKADA, University of Fukui, Japan. takada@u-fukui.ac.jp

Abstract:

In today's world, where digital images and videos are flooding our homes, academically examining the safety of viewing them is necessary. In this section, the new development of bio-signal and bio-signal processing are introduced and utilized in this field and the surroundings. Mathematical models have been regarded as fundamental technique for the bio-signal. In connection with 5G/beyond 5G technology and networks, bio-signal and their utilization have been attracting attention. The application of artificial intelligence, which has made remarkable progress in recent years, to this field will also be discussed.

This invited session will collect papers of the following subjects, but not limited to:

- Machine Learning/AI
- Computer-Human Interact
- Control and Communication
- Deep Learning
- Mechatronics and Robotics
- Visualization of Big Data
- Techniques, Models, and Algorithms

Short Bio of Chair



Hiroki TAKADA

Prof. Hiroki TAKADA, is a tenured Professor in the Department of Human and Artificial Intelligent Systems, the Graduate School of Engineering, University of Fukui, Japan. He is also the Co-Director of the Nonlinear Science Lab. His research is centered on the nonlinear analysis of time sequences. In his research, mathematical models have been obtained from the data sequences in Economics, Meteorology, and Erectrophysiology based on the stochastic process theory. He also received the Organization Contribution Award from the International Conference of Computer Science and Education (ICCSE) in 2020. Prof. Takada also serves as an editor in

Environmental Health and Preventive Medicine and an editor-in-chief of *Forma*. He is a member of IEEE, Physical Society of Japan, and other organizations.

Session 6: E-Society and Digital Literacy

Chairs:

Session Chair:

Binyue Cui, Hebei University of Economics & Business, binyuec@heuet.edu.cn

Co-Chairs:

Wei Zhou, Beijing Jiaotong University, wzhou@bjtu.edu.cn

Yanting Tong, Wuhan University of Technology

Abstract:

Information and Communication Technologies (ICT) evoked great changes in people's living environments. Digital Literacy becomes basic capability for individuals to live and work. E-Society involves in the areas from e-Government, e-Business, e-Learning, e-Health, e-Culture to other applications that achieve common interests and goals.

E-society drives production and life more effectively and conveniently than ever. It drives changes in enterprises' business models, business ecosystems, and provides customers with personalized services via application of technologies, such as Big Data, AI, Block chain, Digital Twin, Metaverse etc. Smart city and E-Government, e-Commerce simplify the way people work and live; The implementation of ICT based systems collect, store, access, manage and disseminate the environmental data and information; People enjoy remote life-long learning and roaming in online museums or virtual heritages at any time anywhere; New information technologies facilitate the data management and remote diagnoses in health care fields. Meanwhile, Digital Literacy is more than technological know-how, it includes a wide variety of social, ethical and commercial practices, learning, leisure and daily life, and should be the basic capability of citizens in e-Society.

This session will be focused on e-Society and Digital Literacy. We welcome contributions of the technical as well as the non-technical aspects of these topics.

This invited session will collect papers of the following subjects, but not limited to:

- Smart Cities
- e-Government / e-Governance
- e-Business / e-Commerce
- e- Environment
- e-Culture and e-Health
- Digital Literacy and relevant practices

Short Bio of Chairs



Binyue Cui

Dr. Binyue Cui is an Associate Professor, Dept. of Information Management, School of Management Science and Engineering, Hebei University of Economics and Business. She graduated from School of Information Science, Nagoya University, Japan, and received her Ph.D degree (information Science) in 2012. As a post-doc researcher, she worked at Nagoya University in Japan from 2012-2013. She has published over 40 academic papers in journals and international conference proceedings and served as editor, reviewer of several academic journals. She presided and participated many research projects. Her research interests lie mainly on Data Science and the applications in Enterprise Digital Transformation, Education, e-Culture, etc.



Wei Zhou

Dr. Wei Zhou, Senior Researcher of Computer and Information Technology, Beijing Jiaotong University. She received the B.Eng. degree from Hebei University of Science and Technology, the M.Eng. degree from Beijing University of Technology, and the Ph.D. degree from Nagoya University (Japan). As visiting scholar, she visited Lawrence Berkeley National Laboratory from 2018-2019.

Her main research interests include Data Science and System Engineer, Education Technology, Information Services. She has published many papers of international conference, journals, and served on some editorial boards.



Yanting Tong

Dr. Yanting Tong, is an Associate Professor, Dept. Visual Communication Design, School of Art and Design, Wuhan University of Technology. Her digital methods, contemporary exploration to the illustration of Chinese traditional festival etc.

She Presided and participated three key research projects of Hubei provincial social science foundation; one young scholars supporting project of National Social Science Foundation. She also presided three independent innovation projects of Wuhan University of Technology, and published more than ten academic papers, obtained four Design Patents. She received the Second Prize of Hubei Province University Teaching Achievement Awards (ranked second). As supervising teacher, she instructed students to take part in many domestic competitions of professional design, and her teams won many awards.

Session 7: AI-enhanced machinery prognosis and health management

Chairs:

Session Chair:

Jun Zhu, Northwestern Polytechnical University, j.zhu@nwpu.edu.cn

Session co-Chairs:

Chenggeng Huang, Sun Yat-Sen University, huangchg5@mail.sysu.edu.cn

Min Xia, Lancaster University, UK. m.xia3@lancaster.ac.uk

Abstract:

Nowadays, the rapid development of modern industry makes machinery more complicated, automatic and integrated. The implementation of prognosis and health management (PHM) is becoming a key issue for keeping machines working safely. Although AI intelligence becomes a powerful tool for solving this problem, how to effectively use these advanced AI techniques while considering the practical monitoring data characteristics still remains a challenge. This session is intended to provide a forum for colleagues in data-driven PHM areas to share their experiences and new research achievements.

Topics are included but not limited to:

- Deep learning methods for complex machinery fault diagnosis and prognosis
- Cross-domain transfer learning for robust condition monitoring
- Improved learning methods with limited labeled data and massive unlabeled data
- Multiple homogeneous or heterogeneous sensor fusion techniques
- Interpretable machine learning models
- Learning methods combined with physical knowledge
- Real-time condition monitoring techniques
- Digital twin-based condition monitoring
- Federate learning-based fault diagnosis and prognosis methods

Short Bio of Chairs



Jun Zhu

Jun Zhu, Associate Professor at Department of Civil Aviation, Northwestern Polytechnical University, supervisor of Master students. He obtained PhD degree in industrial engineering from National University of Singapore, 2020. His research interests include remaining useful life prediction, fault diagnosis and intelligent maintenance of major mechanical equipment. He has published 16 journal papers. He was a guest editor of SCI journal Shock and Vibration. His current google citations are 509 with one ESI highly cited paper (221 citations). He is a reviewer of MSSP, IEEE TIE, IEEE TII, MST, and so on.



Chenggeng Huang

Chenggeng Huang received the B.S. degree in information display and photoelectric technology and the Ph.D. degree in mechanical engineering from the University of Electronic

Science and Technology of China, Chengdu, China, in 2013 and 2019. He is currently a postdoctoral researcher with the School of Intelligent Systems Engineering, Sun Yat-Sen University, Guangzhou, China. His research interests include industrial big data, machinery prognostics and health management, and industrial Internet-of-Things. He has held several projects sponsored by National Natural Science Foundation of China, China Postdoctoral Science Foundation, and Fundamental Research Funds for the Central Universities, etc.



Min Xia

Dr. Min Xia is currently a Lecturer in Advanced Manufacturing at the Department of Engineering at Lancaster University. His research interests include intelligent machine condition monitoring, advanced manufacturing process monitoring and optimization, smart sensing, and smart manufacturing. He has led numerous research projects as PI or Co-I funded by Horizon 2020, Innovate UK, NSERC, Mitacs, etc., with total funding of more than £ 1.1m. Dr. Xia has published more than 30 papers in top journals in mechatronics and industrial informatics. He is seating on the editorial board of many peer-review journals including IEEE Transactions on Instrumentation and Measurement, IET Intelligent Collaborative Manufacturing, and Mechatronic Systems and Control.

Session 8: Computer Science Education in the area of Sustainability (CSES)

Chairs:

Session Chair:

Orges Cico, Norwegian University of Science and Technology, orges.cico@gmail.com

Session co-Chair:

Birgit Rognebakke Krogstie, Norwegian University of Science and Technology, birgit.r.krogstie@ntnu.no

Abstract:

According to the 1987 Brundtland Report, sustainable development is that which “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Computer science education, meanwhile, is the science and art of teaching and learning computer science, computing, and computational thinking. Computer science education in sustainability can therefore be understood to encompass educational approaches that seek to develop computer science students and curricula with the values of, the motivation to learn about, and the drive to take action toward sustainable development.

Nowadays, sustainability-related challenges affect almost every aspect of society and engage a substantial proportion of the global population. Information technology plays an essential role in sustainability, being both part of the problem and part of the solution, but what, precisely, is the role of computer science in responding to and shaping society’s needs, and how well does it carry out that role? We can argue that computer science research and practice reshape and otherwise affect sustainable living conditions. Several practical issues, such

as the impact of computer science activity and the professional responsibility of computer scientists toward society, therefore need careful ethical reflection early on in education programs.

Improving education about sustainability could have a positive impact on both the general and discipline-specific competencies needed to work on sustainability challenges, equipping computer science education candidates to work on real-life problems tackling sustainability development goals, often through multidisciplinary collaborations. However, the successful integration of sustainability into computer science education requires research on existing computer science courses in order to gather empirical evidence about the effectiveness of different approaches.

Our session aims to provide a venue for computer science education in sustainability and a forum for researchers and practitioners to share their experiences and novel research achievements.

Topics include, but are not limited to, the following:

- Computer science education for sustainable development / sustainability
- Project-based courses in computer science focusing on sustainable development
- Multi- and interdisciplinary computer science courses for sustainability
- Social, technical, environmental, and economic sustainability in computer science education
- Sustainability and digital transformation
- The use of sustainability-related teaching cases in computer science education
- Theoretical perspectives on computer science education for sustainability

Short Bio of Chairs



Orges Cico

Orges Cico holds a Bachelor and MSc in Computer Engineering from Politecnico di Torino, Italy. He is currently a Ph.D. Candidate at the Norwegian University of Science and Technology. His research topic is in Empirical Software Engineering, more precisely in Lean Software Startups and Software Engineering Education. He has published over ten peer-reviewed papers in high-quality international conferences such as ICSE, ICSOB, EASE, EDUCON, and FIE. Previously he was a Full-Time Lecturer at the Canadian Institute of Technology, Tirana, Albania, and the Director of the Metropolitan Incubator Center (NGO part of the University Metropolitan Tirana, Albania). He has had extensive experience in both industry and academic settings in the last ten years. He has participated in several project development dedicated to cloud, mobile, and IoT systems, taught courses such as Advanced Software Engineering, Operating System Design, and Experts in Teamwork, and served as an invited lecturer in Customer-Driven Project and Digital Entrepreneurship courses.



Birgit Rognebakke Krogstie

Birgit Rognebakke Krogstie is Associate Professor in the Department of Computer Science at NTNU (Norwegian University of Science and Technology). She holds a Master's degree in Education and a PhD in Computer Science. Her main areas of research and teaching are reflective learning, technology enhanced learning, computer-supported cooperative work, user centered design, and higher computing education. Krogstie is an experienced lecturer and supervisor on all levels in higher computing education. She has been part of securing and working on international EU projects, including FP7 ICT MIRROR (2010-2013),

addressing technology-supported reflective learning in the workplace, in which Krogstie lead a major work package. She was also part of a team acquiring Norwegian national funding for the Excited Centre of Excellent IT Education (<https://www.ntnu.edu/excited>), for which she is currently director. The Excited centre aims to bring Norway to the forefront of IT Education and contribute to IT education for a digital and sustainable future. Krogstie is an active reviewer and conference committee member nationally and internationally. She was chair of the Norwegian ICT Conference on Research and Education in 2021.

Session 9: Teaching and evaluation of engineering science in College and University during the period of high quality development

Chairs:

Session Chair:

Prof. Huan Zhao, Hunan University (hzhao@hnu.edu.cn)

Session co-Chairs:

Prof. Jiaqiong Jiang, Hunan University (jiangjiaqiong@hnu.edu.cn)

Prof. Juan Luo, Hunan University (juanluo@hnu.edu.cn)

Abstract:

It is the common theme of higher education in the world to construct high-quality higher education system rapidly and promote the high-quality development of higher education. In the whole higher education system, engineering education leads innovation and plays a very important role. This session is intended to provide a forum for colleagues from the academic and industry to exchange experience and achievements related to engineering teaching and evaluation. Topics are included but not limited to:

- Exploration and practice of high-quality engineering teaching system construction;
- reform of engineering teaching means, tools and models;
- engineering curriculum construction and assessment;
- students learning outcomes evaluation.

Short Bio of Chairs



Huan Zhao

Huan Zhao, Ph.D, Professor, Ph.D supervisor, College of Computer Science and Electronic Engineering; Deputy division director of Academic Affairs Office, Hunan University. She is visiting scholar at the University of California, San Diego, the member of the Computer Basic Teaching Steering Committee of the Ministry of Education, and the member of the Steering Committee of the Education and Training of Industrial and Information Talents.

Her research interests include speech information processing, Machine Learning.

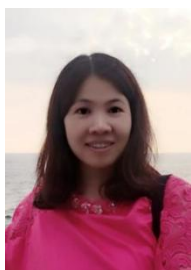
HP: <http://csee.hnu.edu.cn/people/zhaohuan>



Jiaqiong Jiang

Jiaqiong Jiang, Ph.D in Education, Professor, Ph.D supervisor, vice dean of Educational Science Research Institute of Hunan University, Editor-in-chief of University Education Science. She is the member of the Institutional Research Branch of the China Association of Higher Education, the member of the Higher Education Professional Council of the China Association of Higher Education, the member of the Comparative Education Branch of the Chinese Society of Education, an expert in Education Supervision and Evaluation in Hunan Province, and a member of the Teaching Committee of Hunan University.

HP: <http://edu.hnu.edu.cn/info/1021/1253.htm>



Juan Luo

Juan Luo, Ph.D, Professor, Ph.D supervisor, Vice dean, College of Computer science and Electronic Engineering. She graduated from National University of Defense Technology with a bachelor's degree and got master degree and Ph.D from Wuhan University . She used to work in the Fiberhome Networks company of Wuhan Academy of Posts and Technology, and is a visiting scholar at the University of California, Irvine. She was selected as a new century outstanding talent by the Ministry of Education, and won the Hunan Province Outstanding Youth Fund, the young backbone teachers of Hunan Province.

Her current research interests include IoT, cloud computing and artificial intelligence.

HP: <http://csee.hnu.edu.cn/people/luojuan>

Session 10: Computer Augmented Design and Innovation

Chairs:

Session Chair:

Prof. Shijian Luo, Zhejiang University, sjluo@zju.edu.cn

Session co-Chairs:

Dr. Cheng Yao, Zhejiang University, yaoch@zju.edu.cn

Dr. Xinkai Wang, NingboTech University, xinkai.wang@nbt.edu.cn

Abstract:

Computer technology brings potentials and opportunities for generation, imagination, and education of design. The emerging ideas and experiences in each aspect of Computer Augmented Design and Innovation have gained prominence from young and brilliant researchers, designers, and talented student communities. For promoting the academic discussion of Fast-Evolving Digital Literacy and Skills, the ICCSE conference will be hold on August 18 to 21, 2022. This session is intended to promote diverse and dynamic life and healthy environment by bringing together different disciplines working within designs to discuss current challenges and solutions.

Topics are included but not limited to:

- Intelligent Generative Design
- Product in Innovation Design
- Data-Driven Design Practices
- Augmented Reality and Industrial Design Process
- Computer Applications in Design
- Innovative Design Theories and Methodologies
- Healthy and Innovative Environment Design
- Design and Communication in Higher Education
- Innovative Design Education and Supporting Technology

Short Bio of Chairs



Shijian Luo

Pro. Dr. Shijian Luo is a professor and PhD supervisor at Department of Industrial Design, College of Computer Science and Technology, Zhejiang University, Dean of International Design School of Zhejiang University, Ningbo, and Dean of the School of Design, NingboTech University. Dr. LUO is a recipient of Young Scholar award of Ministry of Education's High-level Talent Program.



Cheng Yao

Dr. Cheng Yao is an Associate Professor and PhD supervisor of Zhejiang University. Dr. YAO is currently the Executive Dean of International School of Design, Zhejiang University, Ningbo, and Head of Department of Information Product Design, College of Software Technology, Zhejiang University. He is also the Deputy Director of National Institute of Eco-Industrial Design and Deputy Director of Computer-Aided Product Innovation Design Engineering Center, Ministry of Education, China.



Xinkai Wang

Dr. Xinkai Wang is an Associate Professor at Department of Architecture and Urban Planning, NingboTech University. He has a PhD in planning from University of Liverpool (UK). Dr. Wang is currently the Associate Head in the Department of Intelligent Habitat Environment Design (DIHED), School of Design, NingboTech University.

Session 11: Digital Technologies and Transformation in Education

Chairs:

Session chair:

Liang Cai, NingboTech University, PRC, byroncai@sina.com

Session co-Chair:

Xin Zhao, University of Sheffield, UK, xin.zhao@sheffield.ac.uk

Abstract:

Digital Technologies provides Education institutions worldwide with unrivalled talents for addressing the multifaceted challenges in the post-pandemic era, including the growing demand of teaching administration, learning environment and changing expectations from students, staff and faculty. With access to Information and Communication Technologies, and Social Media platforms, it is desirable to witness how digital technologies help the education organization achieve its broader mission through transformation in education. The purpose of this session is to bring together scholars and practitioners to share research findings, practices and achievements on digital technologies, teaching and learning approaches, as well as pedagogical issues and concerns in response to transformation in education. Topics are included but not limited to:

- Distant learning in a post-pandemic context.
- Gamification research and education.
- Practice for digital education transformation.
- Learner autonomy and digital practices
- Teachers' Professional Development on Digital and Media Literacy.
- Digital education in cross-cultural communication
- Bring digital education to rural areas

Short Bio of Chairs



Liang Cai

Liang Cai is Professor at School of International Studies, NingboTech University, where he teaches Intercultural Communication, Theory and practice of Translation for English majors, and has served as Deputy Dean of the School from 2014 till now. He got his Med in TESOL from Sydney University in 2005, and his Doctoral degree from Shanghai International Studies University in 2013. He was a visiting scholar at University of Wisconsin, Madison, USA from Aug. 2013 to Aug. 2014. He finished his post-doc research on Western Economics in Zhejiang University in 2017. His main academic interest lies in Intercultural Communication, Entrepreneurship and Service-learning, focusing on integrating language teaching into community service.



Xin Zhao

Dr Xin ZHAO (Skye) is a lecturer at the Information School of the University of Sheffield and a senior fellow of the Higher Education Academy. She achieved her PhD and MA degrees at the University of Bath. Her areas of interests include internationalisation, digital pedagogy, and cross-cultural communication. She also works as an educational consultant, who delivers

staff training courses at national and international conferences and staff development weeks at Linnaeus University, the University of Zadar, and Central China Normal University.

Session 12: Research on Project Practice Teaching and Project Application Development

Chairs:

Session chair:

Gang Cen, Zhejiang University of Science & Technology, gcen@163.com

Session co-Chairs:

Mingwei Wu, Zhejiang University of Science & Technology, mingweiwu@ieee.org

Yuefeng Cen, Zhejiang University of Science & Technology, cyf@zust.edu.cn

Abstract:

Project practice teaching is a typical student-centered teaching mode in which students actively participate in the whole process of the project.

There are many new points and research achievements in each aspect of project practice teaching these years. For promoting the development of project practice teaching, the ICCSE conference is held on August 19 to 21, 2018. This session is intended to provide a forum for colleagues in project practice teaching areas to share their experiences and new research achievements. Topics are included but not limited to:

- Project practice teaching
- Project application development
- Educational software engineering
- Educational information science and technology

Short Bio of Chairs



Gang Cen

Gang Cen is a professor of Zhejiang University of Science & Technology. He is an excellent teacher of Zhejiang Province and an excellent teacher of computer basic education of National Research Association of Computer Basic Education in Higher Education, China. His research interests include educational information science and technology, educational software engineering, and information technology for physics teaching.



Mingwei Wu

Mingwei Wu is a professor at Zhejiang University of Science & Technology. Her research interests include communication theory and artificial intelligence. She is a Technical Program Committee Member for communications conferences including the IEEE ICC, the IEEE VTC, the IEEE Globecom, and the IEEE ICC. She received the Best Paper Award from the IEEE ICC2011, Kyoto, Japan.



Yuefeng Cen

Yuefeng Cen is a lecturer of Zhejiang University of Science & Technology. His current research interests include hybrid teaching, big data and artificial intelligence.

Session 13: Data Mining in Social Science

Session Chair:

Yang Weng, Sichuan University, wengyang@scu.edu.cn

Abstract:

The characteristics of large scale, rich data types, diverse structures and interrelatedness of data in social science have raised new research topics for researchers in the fields of data management and data mining. This session aims to study some key technologies of social science data management and mining, mainly including data model, organizational index, retrieval and data mining, etc., in order to realize the efficient management of complex data in this type of system, and to mine the knowledge contained in the data.

Short Bio of Chair

Yang Weng



Yang Weng received the B.S. and Ph.D. degrees from the Department of Mathematics, Sichuan University. Since 2006, he has been with the College of Mathematics, Sichuan University, where he is currently an Associate Professor. He was a Postdoctoral Fellow with the Nanyang Technological University, Singapore, from August 2008 to July 2010. His current research interests include statistic machine learning and nonparametric Bayesian inference.

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General Conference Information

Information about Conference Venue

InterContinental Ningbo is located in the heart of National Hi-tech development Industrial Zone and about a 5-minute drive from Ningbo's government administrative offices, International Financial Center, International Conference and Exhibition Center. A quick 30 minutes drive to Ningbo Lishe International Airport or train station.

Address: No. 777 Xinhui Road, National Hi-tech Industrial Development Zone, Ningbo 315048, P.R. China

Telephone number: +86 (0)574 8907 7777



Location Map

Access to Conference Venue

Tip 1: High-speed Train to the Hotel

Ningbo Station is 17 kilometers away from the hotel and 30 minutes by taxi.

Tip 2: the Airport to the Hotel

Ningbo Lishe International Airport is 25 kilometers away from the hotel and 30 minutes by taxi.

Tip 3: Self-driving to the hotel

In Hangzhou direction, it is suggested to get off the expressway from Ningbo East Toll Station. It takes about 13 minutes to reach the hotel.

In the Shanghai direction, it is recommended to get off the expressway from the Ningbo North Toll Station. It takes about 40 minutes to reach the hotel.

About Ningbo

Ningbo, also known as Yong, is located halfway down the coastline of the Chinese mainland and to the south of the Yangtze River Delta. It is bordered by the natural bulwark of the Zhoushan Archipelago to the east, the city of Shaoxing to the west, the city of Shanghai to the north across the Hangzhou Bay, and the city of Taizhou and Sanmen Bay to the south.

The city's history can be traced back to the Hemudu Culture that originated 7,000 years ago. In the Xia and Shang Dynasties about 4,000 years ago, Ningbo was known as Yin. Later, in the Spring and Autumn Period (770-476 BC), it became part of the State of Yue. In the Qin Dynasty (221-206 BC), it encompassed Yin, Mao and Gouzhang, three areas under the Kuaiji Shire. In the Tang Dynasty (618-907 AD), it was named Mingzhou. In 821 AD, the local authority moved towards the junction of three local rivers and built city walls, marking the establishment of today's city. In 1381 AD, the city acquired its current name of Ningbo, or, literally, Calm Waves.

There are six districts under Ningbo's jurisdiction: Haishu, Jiangbei, Zhenhai, Beilun, Yinzhou and Fenghua; two county-level cities: Yuyao and Cixi; and two counties: Ninghai and Xiangshan. The city covers 9,816km² on land (including 3,730km² of urban area) and 8,355.8km² at sea. As of the end of 2019, the city had a population of 8.5 million.

Located in the subtropical monsoon region, Ningbo has a mild, humid climate. Within the city, the weather varies from place to place due to differences in landscape and environment. The average temperature is around 16.4°C, with highs of 28°C in July and lows of 4.7°C in January.

In 2019 Ningbo's GDP stood at 1.1985 trillion yuan, surpassing the trillion-yuan mark. Its economy in 2019 grew by 6.8% year-on-year and was the 12th-largest in China, moving forward three places compared to the year before. Per capita GDP of 2019 was 143,157 yuan (or \$20,752, based on average yearly currency exchange rates). Fiscal revenue in 2019 was 278.49 billion yuan, of which general budgetary fiscal revenue accounted for 146.85 billion yuan, up by 6.4% year-on-year.

Program at a Glance of ICCSE 2022

(Aug 18-20, 2022)

18/Aug Afternoon:

Time	Room&Program
Beijing Time (GMT+8)	Hotel lobby
14:00-19:00	Sign in Online meeting System Test Play ICCSE's Promo Video

Meeting Number:820-138-356

Program:opening/closing ceremony&keynote speech



19/Aug Morning:

Time	Room&Program	Online conference time
Beijing Time (GMT+8)	Mingzhou Ballroom 1 and 2	Online conference time
08:00-08:30	Play ICCSE's Promo Video	
08:30-09:00	Opening Ceremony	Tencent Meeting Software
09:00-09:50	Keynote Speech I <i>AI and UAS Technologies for Infrastructure Inspection and Information Management</i> Prof. Ben M. Chen The Chinese University of Hong Kong, China	Tencent Meeting Software
09:50-10:10	Rest	
10:10-11:00	Keynote Speech II <i>Subdivision-based Mesh Convolution Networks</i> Prof. Shimin Hu Tsinghua University, China	Tencent Meeting Software
11:00-11:50	Keynote Speech III <i>Recent advances on intelligent control for mechatronic systems</i> Prof. Shihua Li Southeast University, China	Tencent Meeting Software

1.FrD1:278-288-797

2.FrE1:144-654-743

3.Password: 2022



19/Aug Afternoon&Evening:

Time	Room&Program				
Beijing Time (GMT+8)	ROOM1: Jiangnan Meeting Room	ROOM2: Yuanshi Meeting Room	ROOM3: Club Lounge Meeting Room	ROOM4: Xinhui Meeting Room	Tencent Meeting Software
14:00-16:00	FrA1 Session for Best Paper Candidates	FrB1 Parallel Discussion	FrC1 Parallel Discussion	Editorial Board Meeting of the Journal of Computer Technology and Education	FrD1, FrE1 Parallel Discussion
16:00-18:00				DCLC Expert Committee Meeting	
18:00-19:00	Rest				
19:00-20:00	Best Paper Award The Introduction of ICCSE2023				

1.SaD1:610-168-602

2.SaE1:236-195-329

3.Password: 2022



20/Aug Morning:

Time	Room&Program				
Beijing Time (GMT+8)	ROOM1: Jiangnan Meeting Room	ROOM2: Yuanshi Meeting Room	ROOM3: Club Lounge Meeting Room	ROOM4: Xinhui Meeting Room	Tencent Meeting Software
08:00-10:00				Annual meeting of FACE	
10:00-12:00	SaA1 Parallel Discussion	SaB1 Invited Session	SaC1 Invited Session		SaD1, SaE1 Parallel Discussion

1.SaD2:479-627-625

2.SaE2:456-833-553

3.Password: 2022



20/Aug Afternoon:

Time	Room&Program				
Beijing Time (GMT+8)	ROOM1: Jiangnan Meeting Room	ROOM2: Yuanshi Meeting Room	ROOM3: Club Lounge Meeting Room	ROOM4: Xinhui Meeting Room	Tencent Meeting Software
14:00-16:00	SaA2 Parallel Discussion	SaB2 Parallel Discussion	SaC2 Invited Session		SaD2, SaE2 Parallel Discussion
16:00-16:30	Closing Ceremony				Closing Ceremony

Best Paper Award

IEEE The 17th International Conference on Computer Science and Education will be held in Ningbo. This year, we received a total of 685 papers, and 298 were accepted. From the accepted papers, we selected 8 papers for the best paper finalist. These eight papers are from two research fields, namely computer science and computer education. Three papers of the eight papers entering the finalist will be awarded the Best Paper Award, and the rest will be awarded the Best Paper Runner-up Award.

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Introduction of Presentations, ICCSE 2022

(Oral & Poster)

ICCSE aims to provide an open and effective platform to exchange the ideas for CS and Education field. Generally, all accepted papers should be presented in one of the two methods: a. Oral Presentation, b. Poster Presentation.

Oral Presentation:

1. Session Number: Session for Best Paper Candidates: FrA1; Invited Sessions: SaB1, SaC1, SaC2; Parallel discussion offline: FrB1, FrC1, SaA1, SaA2, SaB2; Parallel discussion online: FrD1, FrE1, SaD1, SaE1, SaD2, SaE2.
2. Oral Presentation Time: 15 minutes, including discussion.
3. (Please check your schedule in technical program)
4. Each speaker is required to meet his/her session chairs in the corresponding session rooms 10 minutes before the session starts and copy the PPT/PDF file to the computer.
5. Each session room is equipped with a projector and a laptop (with Microsoft Windows, Microsoft Power-Point, and PDF reader). Please make sure that your files are compatible and readable with our operation system by using commonly used fonts and symbols.

Poster Presentation:

1. Session Number: PoS1, PoS2, PoS3, PoS4

If the participant cannot make presentation online/onsite, he or she could prepare a poster for academic communication during the conference. Posters are required to be condensed and attractive. The format pls. refer to the next page "**Poster Orientation and Size**".

2. Academic posters can be viewed by the Website of ICCSE2022 during the conference.

Poster Orientation and Size

A typical academic poster should have a two, three or four-column layout, with variations.

- Poster in landscape format

include a header with three or four columns depend on the demands.

- Poster in portrait format

Include a header with two columns.

Poster should be submitted by instructions below:

- Pdf document with the name: Paper ID + paper title. pdf
- The pdf document size should be less than 5M
- Send poster to: ieec.icse@gmail.com

Examples

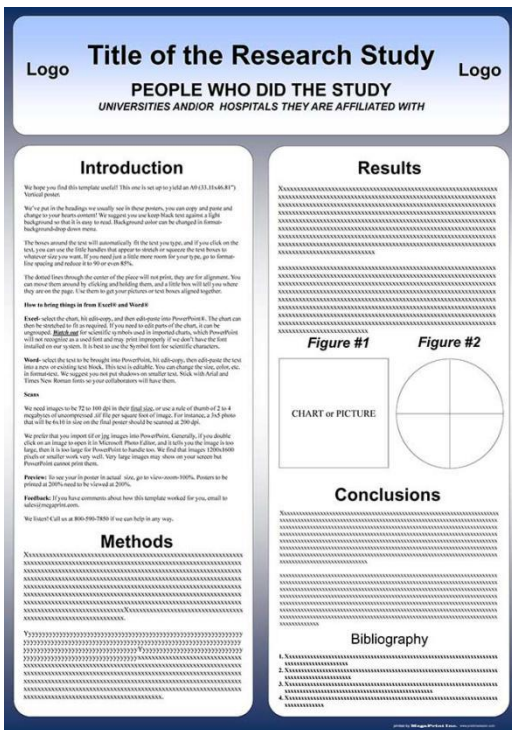


Fig.1 Poster in portrait format

- poster in portrait format: 36" wide x 48" high (91.44 x 121.92 cm) (Fig.1)
- poster in landscape format: 48" wide x 36" high (121.92 x 91.44 cm) (Fig.2)
- the size can be scaled down if necessary

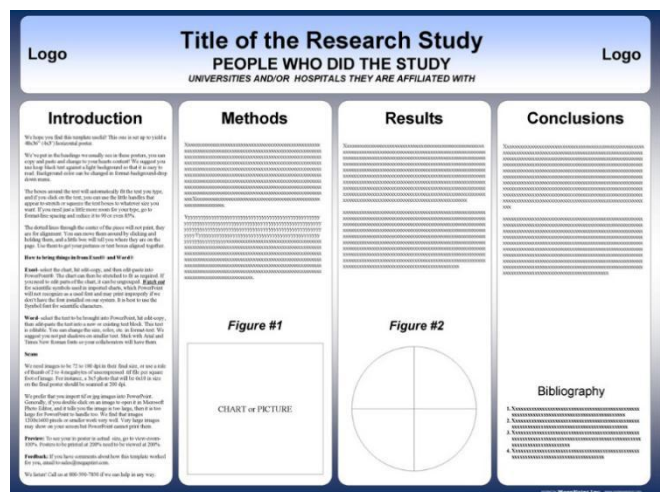


Fig.2 Poster in Landscape format

PowerPoint Tips: Page Setup

1. Open PowerPoint and choose a 'blank' slide.
2. On the navigation bar, bring the "Design" ribbon to the forward. (Fig.3)

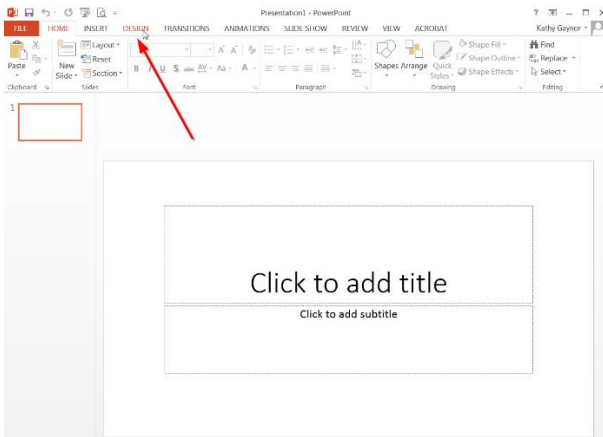


Fig.3

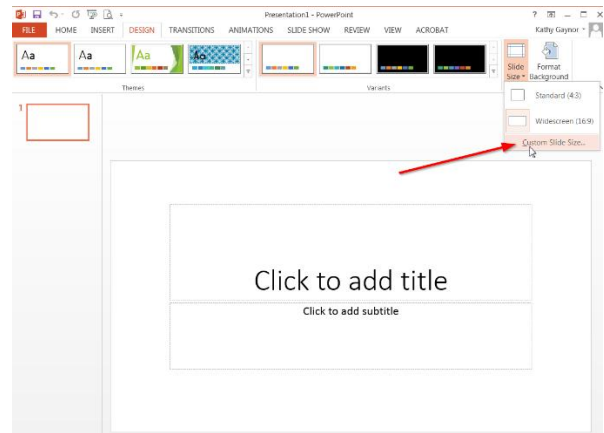


Fig.4

3. Choose "Slide Size" and select "Custom Slide Size". (Fig.4)
4. In the Slide Size dialogue window, enter in the size of the poster: eg. 48" wide and 36" high. (Fig. 5)
5. Begin the design process and add content to your poster.

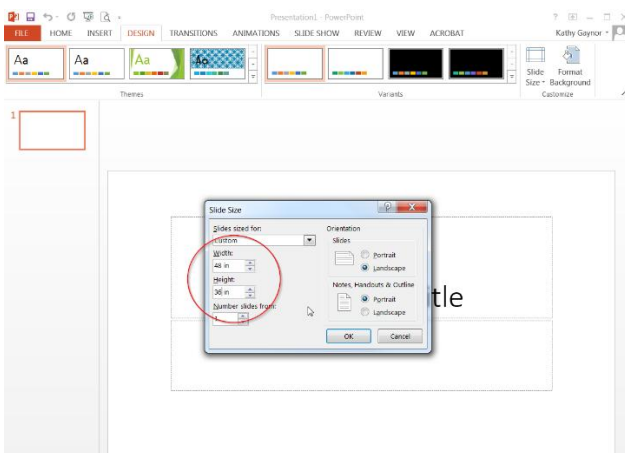


Fig.5

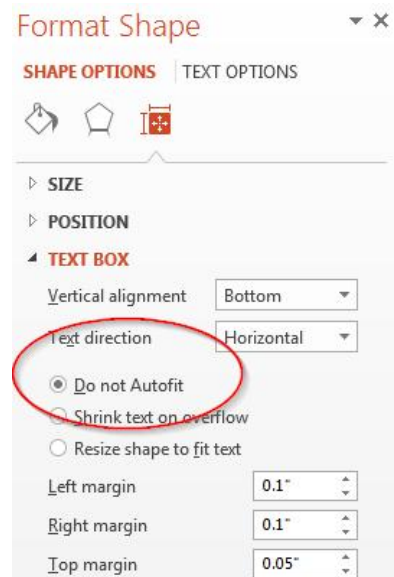


Fig.6

* How to prevent text boxes from auto-sizing

When adding text boxes to your slide, entering text can change the shape of the box. To fix this: Right click (or Ctrl+click) on the text box, choose "Format Shape", "Text Options", "Text Box", and select "Do not Autofit". (Fig.6)

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Session Chairs Index

Session Title	Session#	Chair	Chair's Affiliation	Country	Time
Session for Best Paper Candidates	FrA1	Yang Weng	Sichuan University	China	Aug.19
Educational Technology I	FrB1	Jing Li	Guangzhou University	China	Aug.19
Computer Science and Data Science I	FrC1	Xinkai Wang	NingboTech University	China	Aug.19
Computer Science and Data Science II	FrD1	Jun Zhu	Northwestern Polytechnical University	China	Aug.19
Educational Technology II	FrE1	Yonghui Huang	Tokyo University	Japan	Aug.19
Educational Technology III	SaA1	Wei Zhou	Beijing Jiaotong University	China	Aug.20
Invited Session: Research on Project Practice Teaching and Project Application Development	SaB1	Gang Cen	Zhejiang University of Science & Technology	China	Aug.20
Invited Session: Computer Assisted Language Education	SaC1	Xianxian Luo	NingboTech University	China	Aug.20
Computer Science and Data Science III	SaD1	Hiroki Takada	University of Fukui	Japan	Aug.20
Educational Technology IV	SaE1	Tongtao Zheng	Xiamen Institute of Software Technology	China	Aug.20
E-Society/ Smart Society	SaA2	Huan Zhao	Hunan University	China	Aug.20
Educational Technology V	SaB2	Juan Luo	Hunan University	China	Aug.20
Invited Session: Digital Technologies and Transformation in Education	SaC2	Liang Cai	NingboTech University	China	Aug.20
Computer Science and Data Science IV	SaD2	Carsten Lecon	Aalen University	Germany	Aug.20
Educational Technology VI	SaE2	Mohamed Rahouti	Fordham University	USA	Aug.20
Computer Science	PoS1				
Data Science	PoS2				
Education Technology	PoS3				
Invited Session	PoS4				

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