2021
IHIET
International

5th International Conference on
Human Interaction and Emerging Technologies

Final Program

August 27-29, 2021
Virtual Conference

WWW.IHIET.ORG

Opening Plenary Session and Keynote Address

Keynote Address

Friday, August 27, 2021 - 13:30-15:00 (EDT)

Title:
Critical Steps for Data Analytics and Artificial Intelligence

Speaker:
Dr. Ben Amaba, Chief Technology Officer,
IBM Data Analytics and Artificial Intelligence, USA

Dr. Ben Amaba is IBM's Chief Innovation Officer for the Industrial Sector – North America for the IBM Watson and Cloud Division. He is responsible for industrial manufacturing, infrastructure and logistics solutions. Amaba's focus and interest is in artificial intelligence, blockchain, robotic process automation (RPA), software engineering, data analytics, Internet of Things (IoT) and cloud technology.

Conference ACCESS

ACCESS TO THE VIRTUAL CONFERENCE SCIENTIFIC AND TECHNICAL PROGRAM WILL BE AVAILABLE THROUGH THE IHIET 2021 SUBMISSION SYSTEM.

DETAILED ACCESS FOR ALL SESSIONS WILL BE SENT TO REGISTERED PARTICIPANTS BY EMAIL.

VIRTUAL CONFERENCE PROGRAM SCHEDULE IS LISTED IN EASTERN DAYLIGHT TIME (EDT) - NEW YORK TIMEZONE

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Conference Tracks

Acronym	Track
IHIET 1	Human-centered Design
IHIET 2	Computation and Intelligent Design
IHIET 3	Augmented, Virtual and Mixed Reality Simulation
IHIET 4	Wearable Technologies, Social and Affective Computing
IHIET 5	Human–computer Interaction
IHIET 6	Applications of Technologies in Medicine, Biomechanics, Sports and Healthcare
IHIET 7	Human-Technology and Future of Work
IHIET 8	Emerging Technologies and Business Applications
IHIET 9	Aspects of Sports and Exercise Sciences
IHIET 10	Application of Emerging Technologies

Conference at a Glance

Saturday, August 28

#	Title	Virtual Room	Track
	Session Time: 9:00 - 10:30 (EDT)		
1	Human-centered Design I	Paris	IHIET 1
2	Artificial Intelligence and Computing I	Nice	IHIET 2
3	Augmented, Virtual and Mixed Reality Simulation I	Cannes	IHIET 3
	10:30 - 11:00 (EDT) • Sessions Break		
	Session Time: 11:00 -12:30 (EDT)		
4	Wearable Technologies, Social and Affective Computing I	Paris	IHIET 4
5	Human–computer Interaction I	Nice	IHIET 5
6	Healthcare and Medical Applications I	Cannes	IHIET 6
	12:30 - 13:30 (EDT) • Sessions Break		
	Session Time: 13:30 -15:00 (EDT)		
7	Human-Technology and Future of Work I	Paris	IHIET 7
8	Emerging Technologies and Applications I	Nice	IHIET 8
9	Human-centered Design II	Cannes	IHIET 1
	15:00 - 15:30 (EDT) • Sessions Break		
	Session Time: 15:30 -17:00 (EDT)		
11	Human–computer Interaction II	Paris	IHIET 5
12	Emerging Technologies and Applications II	Nice	IHIET 8
13	Human-centered Design III	Cannes	IHIET 1

Sunday, August 29

#	Title	Virtual Room	Track
	Session Time: 9:00 - 10:30 (EDT)		
14	Human–computer Interaction III	Paris	IHIET 5
15	Emerging Technologies and Applications III	Nice	IHIET 8
16	Human–computer Interaction IV	Cannes	IHIET 5
	10:30 - 11:00 (EDT) • Sessions Break		
	Session Time: 11:00 -12:30 (EDT)		
17	Emerging Technologies and Applications IV	Paris	IHIET 8
18	Emerging Technologies and Applications V	Nice	IHIET 8
19	Healthcare and Medical Applications II	Cannes	IHIET 6
	12:30 - 13:30 (EDT) • Sessions Break		
	Session Time: 13:30 -15:00 (EDT)		
20	Human-centered Design IV	Paris	IHIET 1
21	Human-centered Design V	Nice	IHIET 1
22	Augmented, Virtual and Mixed Reality Simulation II	Cannes	IHIET 3
	15:00 - 15:30 (EDT) • Sessions Break		
	Session Time: 15:30 -17:00 (EDT)		
23	Healthcare and Medical Applications III	Paris	IHIET 6
24	Human-Technology and Future of Work II	Nice	IHIET 7
25	Emerging Technologies and Applications VI	Cannes	IHIET 8

1	**IHIET 1: Human-centered Design I** Session Chair(s): Ann-Christin Hensch and Jelena Bleja, Germany

9:00 - 10:30 (EDT) - PARIS

The effects of eHMI failures on elderly participants' assessment of automated vehicle communication signals
> Ann-Christin Hensch, Isabel Kreißig, Matthias Beggiato, Josef F. Krems, Germany

Development of a Holistic Care Platform - a User-Centered Approach
> Jelena Bleja, Tim Krüger, Uwe Großmann, Germany

Physiological Based Adaptive Automation Triggers in Varying Traffic Density
> Shi Yin Tan, Chun Hsien Chen, Sun Woh Lye, Singapore

The Face of Trust: Using Action Units (AUs) to Measure Trust in Automation
> Soon Kiat Jonathan Chua, Sun Woh Lye, Hong Xu, Singapore

Adopting User-Centered Design to Identify Assessment Metrics for Adaptive Video Games for Education
> Yavor Dankov, Albena Antonova, Boyan Bontchev, Bulgaria

Data Collection using Virtual Reality: Contributions of Human-Centered Design for research practices
> Camila Ghisleni, Ana Berger, Manuela Oliveira, Handiara Oliveira, Cassiano Tressoldi, Monica Negri, Brazil

2	**IHIET 2: Artificial Intelligence and Computing I** Session Chair(s): Eusébio Conceição, Portugal and Haissam El-Aawar, Lebanon

9:00 - 10:30 (EDT) - NICE

Design and Study of Energy and Comfort in an Office Space Using a Coupling of Human and CFD Numerical Software
> Eusébio Conceição, Maria Inês Conceição, João Gomes, Maria Manuela Lúcio, Mendes Vasco, André Ramos, Hazim Awbi, Portugal

Detecting a coronavirus through breathing using 3D modeling and Artificial Intelligence
> Haissam El-Aawar, Lebanon

Benchmarking Neural Networks Activation Functions on Cancer Detection
> Miguel Angel Quiroz Martinez, Josue Ricardo Borja Vernaza, Daniel Humberto Plua Moran, Maikel Yelandi Leyva Vazquez, Ecuador

A Framework for Modeling Critical Success Factors in the Selection of Machine Learning Algorithms for Breast Cancer Recognition
> Miguel Angel Quiroz Martinez, Eddy Raul Montenegro Marin, Galo Enrique Valverde Landivar, Maikel Yelandi Leyva Vazquez, Ecuador

Framework Model for Machine Learning Comparison and Selection of Software Defects Prediction Using VIKOR
> Miguel Angel Quiroz Martinez, Sulay Stephanie Camatón Paguay, Byron Alcívar Martínez Tayupanda, Luis Andy Briones Peñafiel, Ecuador

Design of a HVAC system based on confluents jets applied in office spaces
> Eusébio Conceição, João Gomes, Vasco Correia, Maria Inês Conceição, Maria Manuela Lúcio, André Ramos, Hazim Awbi, Portugal

3	**IHIET 3: Augmented, Virtual and Mixed Reality Simulation I** Session Chair(s): Elisabeth Broneder, Austria and Andreas Papageorgiou, Switzerland

9:00 - 10:30 (EDT) - CANNES	**TACTILE - A Mixed Reality-based system for cognitive and physical training** Elisabeth Broneder, Christoph Weiß, Julian Thöndel, Emanuel Sandner, Stephanie Puck, Monika Puck, Gustavo Fernandez Dominguez, Miroslav Sili, Austria **Testing UX performance and reception by combining emulated Android GUI with Virtual Reality prototyping** Andreas Papageorgiou, Dominik Sommerhalder, Marc Besson, Oliver Christ, Switzerland **Influence of input devices on VR sickness: effect of subtle stimulation of the sense of balance on the sensory discrepancy** Alessio Travaglini, Andreas Papageorgiou, Esther Brand, Oliver Christ, Switzerland **Adaptation of a Gaze-Aware Security Surveillance Support Tool for Augmented Reality** Alexandre Marois, Jonathan Roy-Noël, Daniel Lafond, Alexandre Williot, Eric Harvey, Bruno Martin, Sebastien Tremblay, Canada **Learning in immersive virtual reality: how does the 4E Cognition approach fit in virtual didactic settings?** Oliver Christ, Michel Sambasivam, Anna Lena Roos, Carmen Zahn, Switzerland **Human Factors Evaluation of shared Real and Virtual Environments** Angelo Compierchio, Phillip Tretten, Sweden **Methodology for the Development of Computer Applications with Augmented Reality in the Tourism Sector** Monica Gomez Rios, Juan Javier Trujillo Villegas, Miguel Angel Quiroz Martinez, Maikel Yelandi Leyva Vazquez, Ecuador **Modeling and analysis of critical success factors in the implementation of the virtual world of Second Life for teaching using fuzzy cognitive maps** Monica Gomez Rios, Kevin Daniel Andrade Loor, Luis Carlos Basantes Villa, Maikel Yelandi Leyva Vazquez, Ecuador

10:30 - 11:00 (EDT) • Sessions Break

4	**IHIET 4: Wearable Technologies, Social and Affective Computing I** Session Chair(s): Mizuki Horii, Japan and Oksana Isaeva, Russia

11:00 -12:30 (EDT) - PARIS	**EEffective Selection Method of Microphones for Conversation Assistance in Noisy Environment** Mizuki Horii, Rin Hirakawa, Hideaki Kawano, Yoshihisa Nakatoh, Japan **Determination of the stress state of a person by the method of pupillography** Oksana Isaeva, Yuri Boronenko, Maria Soboleva, Vladimir Zelensky, Russia **Examination of balance adjustment method between voice and BGM in TV viewing** Takanori Kono, Rin Hirakawa, Hideaki Kawano, Yoshihisa Nakatoh, Japan **Low-cost portable system to support people with visual disabilities** Juan Diego Pardo Rodriguez, Alexander Ceron, Colombia **Research Progress in 3D Modeling of Female Breast** Yiran Gu, Li Pan, Tong Yao, Weilin Zu, Hong Sun, Junru Wang, Jun Wang, China

5	**IIHIET 5: Human–computer Interaction I** Session Chair(s): Nirmalya Thakur, USA and Tom Gross, Germany

11:00 -12:30 (EDT) – NICE	A Multimodal Approach for Early Detection of Cognitive Impairment from Tweets
	    Nirmalya Thakur, Chia Y. Han, United States
	A Formal Model of Availability to Reduce Cross-Domain Interruptions
	    Tom Gross, Anna-Lena Mueller, Germany
	Progressive Intensity of Human-Technology Teaming
	    Toni Waefler, Switzerland
	Cultural difference of simplified facial expressions for humanoids
	    Meina Tawaki, Keiko Yamamoto, Ichi Kanaya, Japan
	I think it's quite subtle, so it doesn't disturb me”: Employee Perceptions of Levels, Points and Badges in Corporate Training
	    Adam Palmquist, Izabella Jedel, Sweden
	Escape Rooms: A formula for injecting interaction in Chemistry classes
	    Luis Aimacaña-Espinosa, Marcos Chacón Castro, Janio Jadán-Guerrero, Ecuador
	Information Dissemination of COVID-19 by Ministry Of Health in Indonesia
	    Dika Pratama, Achmad Nurmandi, Isnaini Muallidin, Danang Kurniawan, Salahudin Salahudin, Indonesia
	Strengthening mathematical skills with m-learning
	    Hugo Arias-Flores, Flor Sinchiguano, Janio Jadán-Guerrero, Ecuador

6	**IHIET 6: Healthcare and Medical Applications I** Session Chair(s): Marco Roccetti, Italy and Cinzia Amici, Italy

11:00 -12:30 (EDT) - CANNES	The Influence of Atmospheric Particulate on the Second Wave of COVID-19 Pandemic in Emilia-Romagna (Italy): Some Empirical Findings
	    Marco Roccetti, Kathleen Anne Velasco, Luca Casini, Italy
	Preliminary Comparison of Assessment Methods for the Trunk Flexion-Extension Movement in the Lumbar Vertebrae Instability Patient
	    Cinzia Amici, Barbara Piovanelli, Federica Ragni, Riccardo Buraschi, Stefano Negrini, Italy
	Influence of technology and quality management on nurses working on hemodialysis
	    Saturnina Martins, Pedro Luiz de Oliveira Costa Neto, Brazil
	Mathematical model for assessing a single autonomic nervous system index in express diagnostics of thyroid function
	    Irina Kurnikova, Ramchandra Sargar, Marina Aleksandrova, Natalia Zabrodina, Artyom Yurovsky, Victor Kniga, Russia
	Machine Learning Algorithm Selection for a Clinical Decision Support System Based on a Multicriteria Method
	    Galo Enrique Valverde Landivar, Jonathan Andrés España Arambulo, Miguel Angel Quiroz Martinez, Maikel Yelandi Leyva Vazquez, Ecuador
	Effects of 3D-Printed Changeable Midsole Design in Functional Footwear
	    Ling Cheung, Roger K. P. NG, Jim T. C. Luk, Rainbow C. S. Lee, Hong Kong SAR China

12:30 - 13:30 (EDT) • Sessions Break

7	**IHIET 7: Human-Technology and Future of Work I** Session Chair(s): Lee Ostrom, USA and Afnan Zafar, Finland
13:30 -15:00 (EDT) - PARIS	**Training New Advanced Nuclear Reactor Operators** Lee Ostrom, United States **Survival of fittest: Open innovation and product development linkages** Afnan Zafar, Finland **Proactive Competence Management for Employees: A Bottom-up Process Model for Developing Target Competence Profiles Based on the Employee's Tasks** Maximilian Cedzich, Roland Jochem, Germany **Latency in cyber-physical systems: The role of visual feedback delays on manual skill learning** Annika Dix, Jens R. Helmert, Sebastian Pannasch, Germany **Design in Forest Fire Environments: Numerical Tree and Fireman Thermal Response Nearby Forest Fire Environments** Eusébio Conceição, João Gomes, Maria Manuela Lúcio, Rafael Rapouso, Domingos Viegas, Teresa Viegas, Portugal **Movement Coordination: Let's Take a Step Forward to Make Our Life Enjoyable** Shuichi Fukuda, Japan **Design of a HVAC system based on confluents jets applied in office spaces** Eusébio Conceição, João Gomes, Vasco Correia, Maria Inês Conceição, Maria Manuela Lúcio, André Ramos, Hazim Awbi, Portugal **Building a Virtual Simulation Teaching and Learning Platform towards Creative Thinking for Beijing Shahe Education Park** Jinge Huang, Lin Gan, Ming Jiang, Qi Zhang, Guanshi Zhu, Siyuan Hu, Wei Liu, China Training New Advanced Nuclear Reactor Operators

8	**IHIET 8: Emerging Technologies and Applications I** Session Chair(s): Bolesław Telesiński, Poland and Yvonne Schmid, Germany
13:30 -15:00 (EDT) - NICE	**Between 3D models and 3D printers. Human- and AI-based methods used in Additive Manufacturing suitability evaluations.** Bolesław Telesiński, Poland **Digital Transformation Affecting Human Resource Activities: A Mixed-Methods Approach** Yvonne Schmid, Frederik Pscherer, Germany **A Human-Human Interaction-driven Framework to Address Societal Issues** Nirmalya Thakur, Chia Y. Han, United States **Google Trends to Investigate the Degree of Global Interest Related to Indoor Location Detection** Nirmalya Thakur, Chia Y. Han, United States **Education in a Swipe: A User-Experience framework for designing Social Networks stories for Engineering Education** Donovan Esqueda-Merino, Oliver Gómez, Diego Mondragón, Luis Enrique Villagómez, Héctor Morano Okuno, Mexico **Clustering Of Drivers' State Before Takeover Situations Based On Physiological Features Using Unsupervised Machine Learning** Emmanuel de Salis, Quentin Meteier, Colin Pelletier, Marine Capallera, Leonardo Angelini, Andreas Sonderegger, Omar Abou Khaled, Elena Mugellini, Marino Widmer, Stefano Carrino, Switzerland **Can the InterPlanetary File System become An Alternative to Centralized Architectures?** Diogo Oliveira, Mohamed Rahouti, Adrian Jaesim, Nazli Siasi, United States **Can artificial intelligence be held responsible?** Vaclav Jirovsky, Vaclav Jirovsky Jn, Czech Republic

9	**IHIET 1: Human-centered Design II** Session Chair(s): Vivienne Jia Zhong, Switzerland and Zainuddin Zakaria, Singapore

13:30 -15:00 (EDT) - CANNES

May I Show You the Route? Developing a Service Robot Application in a Library Using Design Science Research
> Giordano Sabbioni, Vivienne Jia Zhong, Janine Jäger, Theresa Schmiedel, Switzerland

Unearthing Air Traffic Control Officer Strategies from Simulated Air Traffic Data
> Zainuddin Zakaria, Sun Woh Lye, Singapore

Adaptive Fashion: Knitwear Project for People with Special Needs
> Giovanni Maria Conti, Miriana Leccia, Italy

Communication needs among business building stakeholders
> Marja Liinasuo, Susanna Aromaa, Finland

The Contribution of Online Platforms to Alternative Socialization Opportunities of Architecture Students
> Pınar Şahin, Serengul Secmen, Salih Ceylan, Melek Elif Somer, Turkey

Reduction of Electrotactile Perception Threshold using Background Thermal Stimulation
> Rahul Kumar Ray, Manivannan Muniyandi, India

15:00 - 15:30 (EDT) • Sessions Break

11	**IHIET 5: Human–computer Interaction II** Session Chair(s): Guermantes Lailari, USA and Daniel Rocha, Portugal

13:30 -15:00 (EDT) - PARIS

Human and Machine Trust Considerations, Concerns and Constraints for Lethal Autonomous Weapon Systems (LAWS)
> Guermantes Lailari, United States

Understand the importance of garments' identification and combination to blind people
> Daniel Rocha, Vítor Carvalho, Filomena Soares, Eva Oliveira, Celina Leão, Portugal

International Employees' Perceptions and UX Design Utilization in Online Learning Development
> Marja Ahola, Afnan Zafar, Jari Porras, Mirva Hyypiä, Finland

Iteration of children with attention deficit disorder, impulsivity and hyperactivity, cognitive behavioral therapy, and artificial intelligence
> Luis Serpa-Andrade, Roberto Garcia'Velez, Graciela Serpa-Andrade, Ecuador

Pros and Cons of Vaccine Program in Indonesia (Social Media Analysis on Twitter)
> Iyomi Hasti, Isnaini Muallidin, Danang Kurniawan, Achmad Nurmandi, Salahudin Salahudin, Indonesia

Cyber risks in maritime industry – case study of Croatian seafarers
> Mira Pavlinović, Maja Račić, Ivan Karin, Croatia

Creative Packaging Design for Products
> Carlos Marcelo Borja-Galeas, Hugo Arias-Flores, Janio Jadán-Guerrero, Ecuador

Playful environment as an aid to the treatment of ADHD in times of pandemic
> Luis Serpa-Andrade, Roberto Garcia'Velez, Graciela Serpa-Andrade, Ecuador

12	**IHIET 8: Emerging Technologies and Applications II** Session Chair(s): Vaishnavi Upadrasta, Germany and Sharoon Cevallos, Peru

13:30 -15:00 (EDT) - NICE

Who are the stakeholders of drone use? Roles, benefits, risks perceptions, and solutions
> Vaishnavi Upadrasta, Julia Hamdan, Rodney Leitner, Harald Kolrep, Germany

Smart controller for solar thermal systems
> Simeon Tsvetanov, Tasos Papapostolu, Stefan Dimitrov, Ivailo Andonov, Bulgaria

Production Management Model based on Lean Manufacturing and SLP to increase efficiency in the tapestry manufacturing process in Lima Manufacturing SMEs
> Carlos Raymundo, Geraldine Anchayhua, Sharoon Cevallos, Juan Peñafiel, Peru

Model for optimization of spaces through the redistribution of warehouse and application of Lean Logistics to reduce service times within an air cargo company
> Carlos Raymundo, Pablo Ayala-Villarreal, Jozimar Horna-Ponce, Jhonatan Cabel–Pozo, Peru

Calculation of the probability of landslides caused by precipitation applying the Janbu and MonteCarlo method in skarn-type mineral deposits
> Carlos Raymundo, Carlos Castañeda, Koseth Dibucho, Luis Arauzo, Peru

Human-machine cooperation and optimizing strategies for cyberspace OSINT analysis
> Jianfeng chen, Ling Zhang, Xian Luo, Chunhui Hu, China

Ways of Improving Management System for a Tourism Industry Development
> Alina Yakymchuk, Oleksandr Halachenko, Inna Irtyshcheva, Mariana Popyk, Viktoriya Bondarenko, Liliya Kondratska, Kostiantyn Pavlov, Olena Pavlova, Tymur Evgenovych, Yanina Barybina, Iryna Hryhoruk, Nazariy Popadynets, Ukraine

13	**IHIET 1: Human-centered Design III** Session Chair(s): Svetlana Bodrunova, Russia and Xinran Chen, China

13:30 -15:00 (EDT) - CANNES

Website aesthetics and functional user states as factors of web usability
> Alexander V. Yakunin, Svetlana S. Bodrunova, Russia

GemForest: A User-Friendly Generative Design System for Customization in Jewelry Industry
> Xinran Chen, Jian Shi, China

What can linguistic do to technology design?
> Pertti Saariluoma, Finland

Participatory Visual Process Analysis of Manual Assembly Processes to identify User Requirements for Digital Assistance Systems
> Bastian Pokorni, Carmen Constantinescu, Germany

Active Ageing and Public Space. A sustainable model for the promotion of urban health
> Cristiana Cellucci, Michele Di Sivo, Italy

User-Centered Design – Evolution of an interdisciplinary process approach utilizing empirical research methods
> Diana Fotler, René Germann, Barbara Groebe, Werner Engeln, Sven Matthiesen, Germany

The Effect OR Non-Effect of Virtual versus Non-Virtual Backgrounds in Digital Environments
> Ole Goethe, Hanne Sørum, Norway

The Effect or Non-Effect of Virtual versus Non-Virtual Backgrounds in Digital Learning
> Ole Goethe, Hanne Sørum, Jannicke Johansen, Norway
> Accessibility of buildings of historical and cultural interest

Laís Soares Pereira Simon, Alexandre Amorim dos Reis, Milton José Cinelli, Brazil

14	**IHIET 5: Human–computer Interaction III** Session Chair(s): Neli Velinova, Bulgaria and Dinda Salsa Bela, Indonesia

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<tr><td rowspan="2">9:00 - 10:30 (EDT) - PARIS</td><td>

Social Challenges To Communication In Digital Environment
>   Neli Velinova, Bulgaria

Effectiveness of Disaster Mitigation Information By National Disaster Relief Agency (Badan Nasional Penanggulangan Bencana) in Indonesia
>   Dinda Rosanti Salsa Bela, Isnaini Muallidin, Danang Kurniawan,
>   Achmad Nurmandi, Salahudin Salahudin, Indonesia

Technology for Governance: Comparison of Disaster Information Mitigation of COVID-19 in Jakarta and West Java
>   Rendi Eko Budi Setiawan, Achmad Nurmandi, Isnaini Muallidin,
>   Danang Kurniawan, Salahudin Salahudin, Indonesia

Social Media as a Tool for Social Protest Movement Related to Alcohol Investments in Indonesia
>   Irfandi Pratama, Achmad Nurmandi, Isnaini Muallidin, Danang Kurniawan,
>   Salahudin Salahudin, Indonesia

Reducing Online Sellers' Opportunistic Behavior: Designing Information Consistency and Information Relevancy
>   Chunping Jiang, Fan Zhou, China

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15	**IHIET 8: Emerging Technologies and Applications III** Session Chair(s): Alexander Gerashchenko, Russia and Nadezhda Miteva, Bulgaria

<table>
<tr><td rowspan="2">9:00 - 10:30 (EDT) - NICE</td><td>

Modern WebQuest Models: Applications in Education
>   Tatiana Shaposhnikova, Alexander Gerashchenko, Alena Egorova,
>   Marina Romanova, Teona Tedoradze, Kirill Popko, Russia

COVID-19 pandemic as an impetus for development of 5G networks in Bulgaria
>   Nadezhda Miteva, Bulgaria

Lean manufacturing model for production management under design thinking approach to increase productivity of musical instrument SMEs
>   Carlos Raymundo, Jorge Jimenez-Montejo, Diego Llachua-Cereceda,
>   Cynthia Elias-Giordano, Peru

Production Management Method based on Agile Approach and Lean Manufacturing Tools to Increase Production Levels in Peruvian Metalworking MSMEs
>   Carlos Raymundo, David Portugal-Picon, Manuel Villavicencio-Arriola,
>   Mercedes Cano, Peru

Cost of sale reduction in a company within the restaurant industry using a procurement model based on supply chain management and lean philosophy
>   Mercedes Cano, Luiggi Gutierrez-Yllu, Guido Figueroa-Pomareda, Peru

Lean Green Production Management Model under a Circular Economy Approach for Reducing Variable Costs at a Small Plastics Business
>   Carlos Raymundo, Roberth Diaz, Marcelo Gambetta, Jose Rojas, Peru

Compressive stress analysis in an underground mining geomechanical model with long holes for stability in advance work through uniaxial compression tests
>   Carlos Raymundo, Miguel Torres-Candia, Edgar Alayo-Leon,
>   Vidal Aramburu-Rojas, Peru

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16	**IHIET 5: Human–computer Interaction IV** Session Chair(s): Selcen Ozturkcan, Sweden and Trapsi Hariyadi, Indonesia

9:00 - 10:30 (EDT) - CANNES

Conceptualizing Opportunities and Challenges Relevant to the Inclusion of Humanoid Service Robots in the Context of COVID-19
> Selcen Ozturkcan, Ezgi Merdin-Uygur, Sweden

Implementation SIREKAP Application Based Election in Improving the Integrity of Election Administrators and Increasing Public Trust
> Trapsi Haryadi, Achmad Nurmandi, Isnaini Muallidin, Danang Kurniawan, Salahudin Salahudin, Indonesia

The Effectiveness of Social Resilience in Indonesia
> Inggi Miya Febty, Achmad Nurmandi, Isnaini Muallidin, Danang Kurniawan, Salahudin Salahudin, Indonesia

Economic Recovery for Tourism Sector Data Mining from Social Media
> Cahyadi Kurniawan, Achmad Nurmandi, Danang Kurniawan, Isnaini Muallidin, Salahudin Salahudin, Indonesia

SHEEN: Set of Heuristics to evaluate mobile applications that Interact with External Equipment
> Pedro Reis, Anabela Gomes, César Páris, Portugal

10:30 - 11:00 (EDT) • Sessions Break

17	**IHIET 8: Emerging Technologies and Applications IV** Session Chair(s): Simeon Tsvetanov, Teodor Boyadzhiev, Stela Dimitrova, Bulgaria and Petr Svoboda, Czech Republic

11:00 - 12:30 (EDT) - PARIS

Comparison of Auto-Encoder Training Algorithms
> Simeon Tsvetanov, Teodor Boyadzhiev, Stela Dimitrova, Bulgaria

Educational Program for the Development of Digital Competencies of Teachers of Social Sciences in Secondary Vocational Education
> Petr Svoboda, Czech Republic

Using distributed neural network for adding intelligences to conveyor systems
> Simeon Tsvetanov, Ivailo Andonov, Teodor Boyadzhiev, Bulgaria

BPM model of design management under a Design Thinking approach to implement new products in textile SMEs
> Carlos Raymundo, Sebastian Diaz-Cavero, Jean Cano-Salazar, Peru

Geostatistical method used in quarry-type exploitation based on Gaussian simulation to reduce the uncertainty of hydrogeological values in surface mining in Peru
> Carlos Raymundo, Rafael Serrano-Rojas, Diego Muñoz-Orosco, Guillermo Diaz-Huaina, Peru

Predictive model influenced by external factors to reduce uncertainty in the budget forecast of a gold mining company
> Carlos Raymundo, Cesar Pillpe-Garcia, Guillermo Diaz-Huaina, Peru

Production planning and control model to increase on-time deliveries through Demand-Driven MRP and PDCA in a Make-to-Order environment of non-primary manufacturing industry
> Carlos Raymundo, Daeli Franco-Quispe, Diana Yauri-Tito, Jhonatan Cabel, Peru

18	**IHIET 8: Emerging Technologies and Applications V** Session Chair(s): Maria Ramirez, Peru and Eduardo Chavez, Peru

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<td rowspan="7" style="writing-mode: vertical-lr;">11:00 -12:30 (EDT) - NICE</td>
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Production management model evaluating the operator's posture-base measurement and redesigning the work area to improve labor productivity in a manufacturing SME

Carlos Raymundo, Katherine Chacara-Barrera, Maria Ramirez-Arias, Jhonatan Cabel, Peru

Lean manufacturing model of production management make to order based on QRM to reduce order delivery times in metal-mechanical SMEs

Carlos Raymundo, Diego Huayllasco-Martinez, Eduardo Chavez-Ccencho, Juan Carlos-Peñafiel, Peru

Lean maintenance management model, based on TPM and 5S to increase the availability of machines in the plastics industry

Carlos Raymundo, Gabriel Ferrua-Breña, Fiorella Rivas-Marcatoma, Peru

Maintenance service management model based on vehicle routing problem and study of times to reduce lead time in an ATM maintenance company

Carlos Raymundo, Johann Chonate-Segura, Lincoln Ramirez-Vega, Juan Peñafiel, Peru

Resource Management Model to reduce maintenance service times in SMEs in Lima-Peru

Carlos Raymundo, Katherine Pinedo-Rodriguez, Luis Trujillo-Carrasco, Jhonatan Cabel, Peru

Integrated Lean Model under the Theory of Constraints approach that allows increased production in cement companies in Lima, Peru

Carlos Raymundo, Nicolle Pardo-Figueroa-Sialer, Esteban Morales-Massa, Jhonatan Cabel, Peru

Inventory optimization model applying the FIFO method and the PHVA methodology to improve the stock levels of olive products in SMEs of the agro-industrial sector in Peru

Carlos Raymundo, Rosysella Izaguirre-Malasquez, Jhonatan Cabel, Lucia Muñoz-Gonzales, Peru

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19	**Healthcare and Medical Applications II** Session Chair(s):Tihomir Dovramadjiev, Bulgaria and Markus Ahola, Finland

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<td rowspan="5" style="writing-mode: vertical-lr;">11:00 -12:30 (EDT) - CANNES</td>
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Healthcare System Sustainability by Application of Advanced Technologies in Telemedicine and eHealth

Rusko Filchev, Diana Pavlova, Rozalina Dimova, Tihomir Dovramadjiev, Bulgaria

Scaling The Magnetic Resonance Imaging Through Design Research

Markus Ahola, Severi Uusitalo, Lauri Palva, Raimo Sepponen, Finland

Social Distancing Experiment Based on UWB Monitoring System

Lenin Jimenez, Gustavo Fraidenraich, Eduardo Rodrigues De Lima, Brazil

Tools for occupational diseases control in the artisan figures of marzipan

Ana Alvarez Sanchez, Alexis Suarez Del Villar Labastida, Ney Sebastian Villamarin Torres, Ecuador

Comparing the Efficacy of a Video and Virtual Reality Intervention to Mitigate Surgical Pain and Anxiety

Vishnunarayan Girishan Prabhu, Laura Stanley, Robert Morgan, Brayton Shirley, United States

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12:30 - 13:30 (EDT) • Sessions Break

20	**Human-centered Design IV** Session Chair(s): Claire Anne Blackett, Norway and Soojin Oh, South Korea

13:30 -15:00 (EDT) - PARIS

Effects of Signal Latency on Human Performance in Teleoperations
 Claire Blackett, Alexandra Fernandes, Thomas Thoresen, Espen Teigen, Norway

The Impacts of Covid-19 Quarantine On Online Exam Cheating: Test of Covid-19 Theoretical Framework
 Yousif Abdelrahim, Saudi Arabia

Public Facilities of Urban Commercial Pedestrian Street Based on POE
 Yan wang, Yan MeiQiu, China

Application of Augmented Reality Technology for Age-friendly Travel
 Wang Luyao, Wu Tong, China

Hofstede's Cultural Dimensions Theory: Can Researchers Add More Cultural Dimensions?
 Yousif Abdelrahim, Saudi Arabia

Analysis of fashion value and emotions in digital environment based on analysis of famous Korean fashion YouTube review data
 Soojin Oh, Ken Nah, South Korea

21	**IHIET 1: Human-centered Design V** Session Chair(s): Manuela Kunz, Canada and Divya Mehrish, USA

13:30 -15:00 (EDT) - NICE

Towards a better manufacturing environment: vision-based ergonomic risk assessment
 Manuela Kunz, Pengcheng Xi, Michel Picard, Chang Shu, Daniel Vera, Peter Hopkinson, Canada

The World's First 'Pop-Up' Urban Airport: A User-Centred Design Approach to Understanding the Customer Journey
 Katarzyna Zdanowicz, Paul Herriotts, William Payre, Dean Mangurenje, Stewart Birrell, United Kingdom

Mapping Risks and Requirements for Truck Platooning: A Human-Centred Approach
 Anabela Simoes, Sara Ferreira, António Lobo, Liliana Cunha, Carlos Rodrigues, Pedro Tavares, António Couto, Catarina Neto, Portugal

The pandemic effect on e-commerce
 Carolina Marianna Bozzi Faya, Marco Neves, Claudia Mont´Alvão, Portugal

Digital Model Construction of Sports Technology from an Animated Perspective: Taking Basketball Techniques as an Example
 Antong Zhang, Sunnan Li, Wei Liu, China

Are you anxious? It's all about tolerance of ambiguity - The influence of different tolerance of ambiguity on second language learners
 Beixuan Huang, Shen Zhituan, Yunke Geng, Yancong Zhu, Wei Liu, China

22	**IHIET 3: Augmented, Virtual and Mixed Reality Simulation II** Session Chair(s): Carsten Wittenberg, Germany and Benedict Bauer, Germany

13:30 -15:00 (EDT) - CANNES

Human-Robot-Interaction via AR: First Steps of building a human-robot interface on a Microsoft HoloLens
> Nicolas Schloer, Benedict Bauer, Carsten Wittenberg, Germany

Human-machine interaction: Controlling of a factory with an augmented reality device
> Carl Bareis, Florian Uhl, Michael Zeyer, Benedict Bauer, Carsten Wittenberg, Germany

Machine Learning and Digital Twin for Production Line Simulation: A Real Use Case
> Damiano Oriti, Paolo Brizzi, Giorgio Giacalone, Federico Manuri, Andrea Sanna, Orlando Tovar Ordoñez, Italy

Electricity Consumption Forecasting in Iraq With Artificial Neural Network
> Marwan Ashour, Omar Alshari, Iraq

Digital Filters: A New Way to E-Wear Jewelry
> Livia Tenuta, Alba Cappellieri, Susanna Testa, Beatrice Rossato, Italy

The Effects of Sound Interference on Soldiers Cognitive Performance, Workload Assessment and Emotional Responses
> Kari Kallinen, Joona Gylden, Finland

A selfish chatbot still does not win in the ultimatum game
> Benjamin Beaunay, Baptiste Jacquet, Jean Baratgin, France

Interface Design for Offline Learning
> Antero Gandra, Portugal

15:00 - 15:30 (EDT) • Sessions Break

23	**IHIET 6: Healthcare and Medical Applications III** Session Chair(s): Irina Leher, Germany and Sotiris Avgousti, Cyprus

13:30 -15:00 (EDT) - PARIS

Patient-specific Modelling for Preoperative Estimation of Hip Mechanics for Improved Planning of Total Hip Endoprosthesis using Multibody Simulations
> Irina Leher, Christopher Fleischmann, David Scherb, Marius Kollerer, Jörg Miehling, Sandro Wartzack, Stefan Sesselmann, Germany

Application of the Human Thermo-Physiology in the Assessment of Comfort Conditions in Hybrid Buildings
> Eusébio Conceição, João Gomes, André Ramos, Hazim Awbi, Portugal

Social Inclusion in an Aging World: Envisioning Elderly-Friendly Digital Interfaces
> Di Zhu, Yuchen Jing, Jiayi Wu, Bowen Zhang, Liuyi Zhao, Dahua Wang, Li Qiao, Wei Liu, Takumi Ohashi, Abdullah Al Mahmud, Jan Auernhammer, China

Computer technologies in the assessment of rehabilitation potential and rehabilitation forecast
> Irina Kurnikova, Tatiana Nikishova, Tatiana Meleshkevich, Galina Slonimskaya, Pavel Popov, Russia

24	**IHIET 7: Human-Technology and Future of Work II** Session Chair(s): Celina Leao, Portugal and Grecia Morales, Peru

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Downstream Applications: How is Safety Targeted?
>   Susana Costa, Celina Leão, Portugal

System of Human Management Processes to Improve the Predictors of Staff Turnover in SMEs Dedicated to the Service Sector
>   Fernando Sotelo, Grecia Morales, Kaduo Uchida, Jose Rojas, Peru

Youth policy: From Educational Subject to Scientific and Practical Developments
>   Nataliia Koliada, Oksana Kravchenko, Larysa Berezivska, Oleksii Sysoiev, Oksana Herasymenko, Oksana Shevchuk, Ukraine

Youth work in a higher education institution: formation and prospects of development
>   Nataliia Levchenko, Nataliia Koliada, Victoria Isachenko, Liliia Morhai, Nataliia Polishchuk, Ukraine

Evaluation on the comprehensibility of China's safety prohibition signs based on Ergonomics principles
>   Rui Li, Yi Wan, China

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25	**IHIET 8: Emerging Technologies and Applications VI** Session Chair(s): Florian Hofbauer, Austria and Martin Zagar, Croatia

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<tr><td rowspan="1">13:30 -15:00 (EDT) - CANNES</td><td>

Towards Requirements related to future CCAM Services for Road Usage Optimization
>   Florian Hofbauer, Manuel Walch, Wolfgang Schildorfer, Matthias Neubauer, Austria

Application of blockchain technology for educational platform
>   Matija Sipek, Martin Zagar, Nikola Draskovic, Branko Mihaljevic, Croatia

Information and Probability Models of Students' Independent Work in Modern Educational Technology
>   Alexander Gerashchenko, Marina Romanova, Valery Shaposhnikov, Teona Tedoradze, Tatiana Shabanova, Russia

Design of a Water Control System Installed in the Tree Trunk in Forest Fire Environment
>   Eusébio Conceição, João Gomes, Maria Manuela Lúcio, Rafael Rapouso, Domingos Viegas, Teresa Viegas, Portugal

Innovation Model for the Technological Package of a Remote Monitoring and Diagnosis System for COVID-19 Rehabilitation Patients
>   Gianpierre Zapata, Peru

DDMRP methodology in the agro-industrial sector
>   Aracelli Macassi, Peru

Supply Planning Model to reduce overstock in a retail by applying Model Q and Demand Forecasting
>   Aracelli Macassi, Peru

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Posters will be displayed Thursday, April 29, 2021 and Friday, April 30, 2021.
Virtual Conference program schedule is listed in Eastern Daylight Time (EDT) - New York Timezone

SATURDAY, AUGUST 28, 2021
Session Time: 10:30 - 12:30 (EDT)

A1. **Social Robots, Are They Emotional?**
Mauricio Iza, Spain

A2. **Differential Non-Autonomous Representation of the Integrative Activity of a Neural Population by a Bilinear Second-Order Model With Delay**
Aleksey Daneev, Vyacheslav Rusanov, Anatoliy Lakeev, Pavel Plesnyov, Russia

A3. **Autonomous Language Learning with Augmented Reality – an Individual Case Study**
Benny Platte, Anett Platte, Rico Thomanek, Christian Roschke, Marc Ritter, Frank Zimmer, Matthias Baumgart, Germany

A4. **Human-Technology Interaction: The Cognitive Hack in Automatic Speech Recognition Devices**
Hajer Albalawi, United States

A5. **Admission Points Score to Predict Undergraduate performance: Comparing Quantity Surveying vs Real Estate**
Danie Hoffman, Vita Wilkens, South Africa

A6. **Robotic systems on the frontline against the pandemic**
Sotiris Avgousti, Eftychios G. Christoforou, Panicos Masouras, Andreas S. Panayides, Cyprus

A7. **Competitiveness for data and information security: New teleworking law in Mexico**
Rodolfo Martinez Gutierrez, Angel Ernesto Jimenez-Bernardino, Maria Esther Ibarra Estrada, Mexico

SATURDAY, AUGUST 28, 2021
Session Time: 10:30 - 12:30 (EDT)

B1. **Environmental and Ergonomic Considerations for Augmented Reality User Experiences in Vehicle Diagnostics Tools**
Sundar Krishnamurthy, India

B2. **Volume Control Methods to Reduce Audible Discomfort for Watching Videos**
Hiiro Takahashi, Rin Hirakawa, Hideaki Kawano, Yoshihisa Nakatoh, Japan

B3. **Speaker identification method using bone conduction and throat microphones**
Takeshi Hashiguchi, Rin Hirakawa, Hideaki Kawano, Yoshihisa Nakatoh, Japan

B4. **Posture Determination of Wheelchair Caregivers Using Acceleration and Gyro Sensors**
Shohei Masuzaki, Rin Hirakawa, Hideaki Kawano, Kenichi Nakashi, Yoshihisa Nakatoh, Japan

B5. **Analysis of Secondary Education Services during the COVID-19 Pandemic: A Content Analysis**
Cici Sundari, Achmad Nurmandi, Isnaini Muallidin, Danang Kurniawan, Salahudin Salahudin, Indonesia

B6. **Motor imagery training improves reaction time in mouse aiming task**
Lev Yakovlev, Ivan Kuznetsov, Nikolay Syrov, Alexander Kaplan, Russia

B7. **The relative importance of social cues in immersive mediated communication**
Alexander Toet, Navya N. Sharan, Tina Mioch, Omar Niamut, Jan B. F. Van Erp, Netherlands

B8. **Observatory for the Development of 2030 Goals and the Circular Economy in Baja California**
Rodolfo Martinez Gutierrez, Maria Esther Ibarra Estrada, Carmen Esther Carey Raygoza, Carlos Hurtado Sanchez, Beatriz Chavez Ceja, Mexico
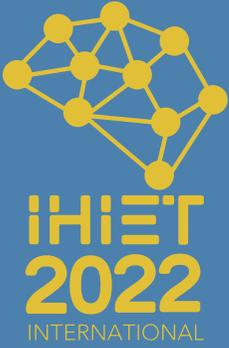
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SUNDAY, AUGUST 29, 2021
Session Time: 10:30 - 12:30 (EDT)

A1. **Mastication Detection Method by Chin Movement Using Image Processing**
     Ryo Harada, Rin Hirakawa, Hideaki Kawano, Kenichi Nakashi, Yoshihisa Nakatoh, Japan

A2. **Occupational psychosocial risks identification and assessment in the Czech republic**
     Vladimira Lipsova, Karolina Mrazova, Kate ina Bátrlová, Jana Zonova, Radek Brabec, Czech Republic

A3. **Research approach for predicting motion patterns due to disruptive design changes on power tools**
     Michael Uhl, René Germann, Johannes Sänger, Martin Fleischer, Christina Harbauer, Klaus Bengler, Sven Matthiesen, Germany

A4. **Impact of Weather and Pollution on COPD-Related Hospitalizations, Readmissions, and Emergency Visits by Integrating Claims and Environmental Data to Build Human-Centered Decision Tools**
     Divya Mehrish, Laurent Hasson, Jakob Bjorner, J. Sairamesh, Rudy Banerjee, Monica Sharma, United States

A5. **Observatory for the Integration of Engineering in the Economic Development Ecosystem of the Baja California Peninsula**
     Rodolfo Martinez Gutierrez, Maria Esther Ibarra Estrada, Carlos Hurtado Sanchez, Carmen Esther Carey Raygoza, Beatriz Chavez Ceja, Mexico

A6. **Observatory of labor, professional and research competencies of the economic sectors in Baja California**
     Rodolfo Martinez Gutierrez, Maria Esther Ibarra Estrada, Carmen Esther Carey Raygoza, Carlos Hurtado Sanchez, Beatriz Chavez Ceja, Mexico

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