CALL FOR PAPERS – IEEE ICCI*CC 2020

Sept. 26-28, 2020, Tsinghua University, Beijing, China

19th IEEE International Conference on Cognitive Informatics & Cognitive Computing

http://www.ucalgary.ca/icci_cc/iccicc-20 and TU site (TBA)

Paper submission: https://easychair.org/conferences/?conf=ieeeiccicc20

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THEME

Cognitive Informatics, Cognitive & Autonomous Systems, and Cognitive Robotics & Machine Learning

Cognitive Informatics (CI) is a transdisciplinary field that studies the internal information processing mechanisms of the brain, the underlying abstract intelligence (αI) theories and denotational mathematics, and their engineering applications in cognitive computing, computational intelligence, and cognitive systems. **Cognitive Computing (CC)** is a cutting-edge paradigm of intelligent computing methodologies and systems based on cognitive informatics, which implements computational intelligence by autonomous inferences and perceptions mimicking the mechanisms of the brain. CI and CC not only synergize theories of modern information science, computer science, communication theories, AI, cybernetics, computational intelligence, cognitive science, intelligence science, neuropsychology, brain science, systems science, software science, knowledge science, cognitive robots, cognitive linguistics, and life science, but also promote novel applications in cognitive computers, cognitive communications, computational intelligence, cognitive robots, cognitive systems, and the AI, IT, and software industries.

The IEEE ICCI*CC series is a flagship conference of its field sponsored by IEEE CS, CIS, and SMC. Following the first 18 successful conferences on Cognitive Informatics and Cognitive Computing (ICCI'02 through ICCI*CC'19), *the 19th IEEE Int'l Conference on Cognitive Informatics and Cognitive Computing* (ICCI*CC'20) focuses on the theme of *Cognitive Informatics, Cognitive & Autonomous Systems, and Cognitive Robotics & Machine Learning*. ICCICC'20 welcomes researchers, practitioners, and graduate students to join the international initiative on cognitive informatics and cognitive computing toward the investigation of cognitive mechanisms and processes of human information processing, and the development of the next generation of cognitive computers and cognitive communication systems.

SCOPE

Original papers are invited from multidisciplinary, interdisciplinary and transdisciplinary perspectives on subject areas including, but not limited to, the following:

Cognitive Informatics	Cognitive Computing	Computational Intelligence	Brain Informatics	Symbiotic Science & Art
• Informatics models of the brain	• Cognitive computers	• Cognitive computers	• Brain-inspired systems	• Foundations of symbiotic systems
• Cognitive processes of the brain	• Cognitive robotics	• Cognitive systems	• Neuroinformatics	• Technology and society
• The cognitive foundation of big data	• Autonomous Computing	• Cognitive man-machine communication	• Neurological foundations of the brain	• Symbiotic autonomous systems (SAS)
• Machine consciousness	• Knowledge processors	• Cognitive Internet	• Computational brain science	• Mind, thinking, and rationality
• Neuroscience foundations of information processing	• Cognitive semantics of big data	• World-Wide Wisdoms (WWW+)	• Software simulations of the brain	• Value judgement in decision making
• Denotational mathematics (DM)	• Cognitive machine learning	• Mathematical engineering for AI	• Brain-system interfaces	• Social implications of AI
• Cognitive knowledge bases	• Knowledge manipulations	• Cognitive vehicle systems	• Neurocomputing	• Human-machine cooperation
• Autonomous machine learning	• Pattern recognition	• Semantic computing	• eBrain models	• Creativity and wisdom
• Neural models of memory	• Cognitive agent technologies	• Distributed intelligence	• DNA and genome cognition	• Emotion and affective computing
• Internal information processing	• Cognitive inferences	• Mathematical models of AI	• Computational neurology	• Roles of AI in social organization
• Cognitive sensors and networks	• Computing with words (CWW)	• Cognitive signal processing	• Brain image processing	• Computational intelligence in art
• Cognitive linguistics	• Cognitive decision theories	• Cognitive image processing	• Bioinformatics	• Transdisciplinary cognition
• Abstract intelligence (αI)	• Concept & semantic algebras	• Artificial neural nets	• System models of the brain	•Science and art symbiosis
• Cognitive information theory	• Fuzzy/rough sets/logic	• Genetic computing	• Cognitive process models	• Education for sciences vs. arts
• Cognitive information fusion	• Affective computing	• MATLAB models of AI	• Neurocircuit theories	• Concrete and abstract sciences

PAPER SUBMISSION

An electronic copy of papers in PDF format in English should be submitted via https://easychair.org/conferences/?conf=ieeeiccicc20 by June 30, 2020. Full papers should be around 5-8 pages in length in IEEE double column format as posted in the website. Short papers (4-5 pages) that report industrial experience, case studies, work in progress, or graduate students' research may also be considered. The proceedings of ICCI*CC'20 will be published by IEEE CS Press and indexed by EI, Xplore, and DBLP. Selected papers will be published in special issues in *IEEE Transactions and recommended journal*.

IMPORTANT DATE

Full paper submission due:	**June 30, 2020**
Notification of acceptance:	**July 31, 2020**
Camera-ready paper due:	**Aug. 15, 2020**
Conference presentation:	**Sept. 26-28, 2020**