

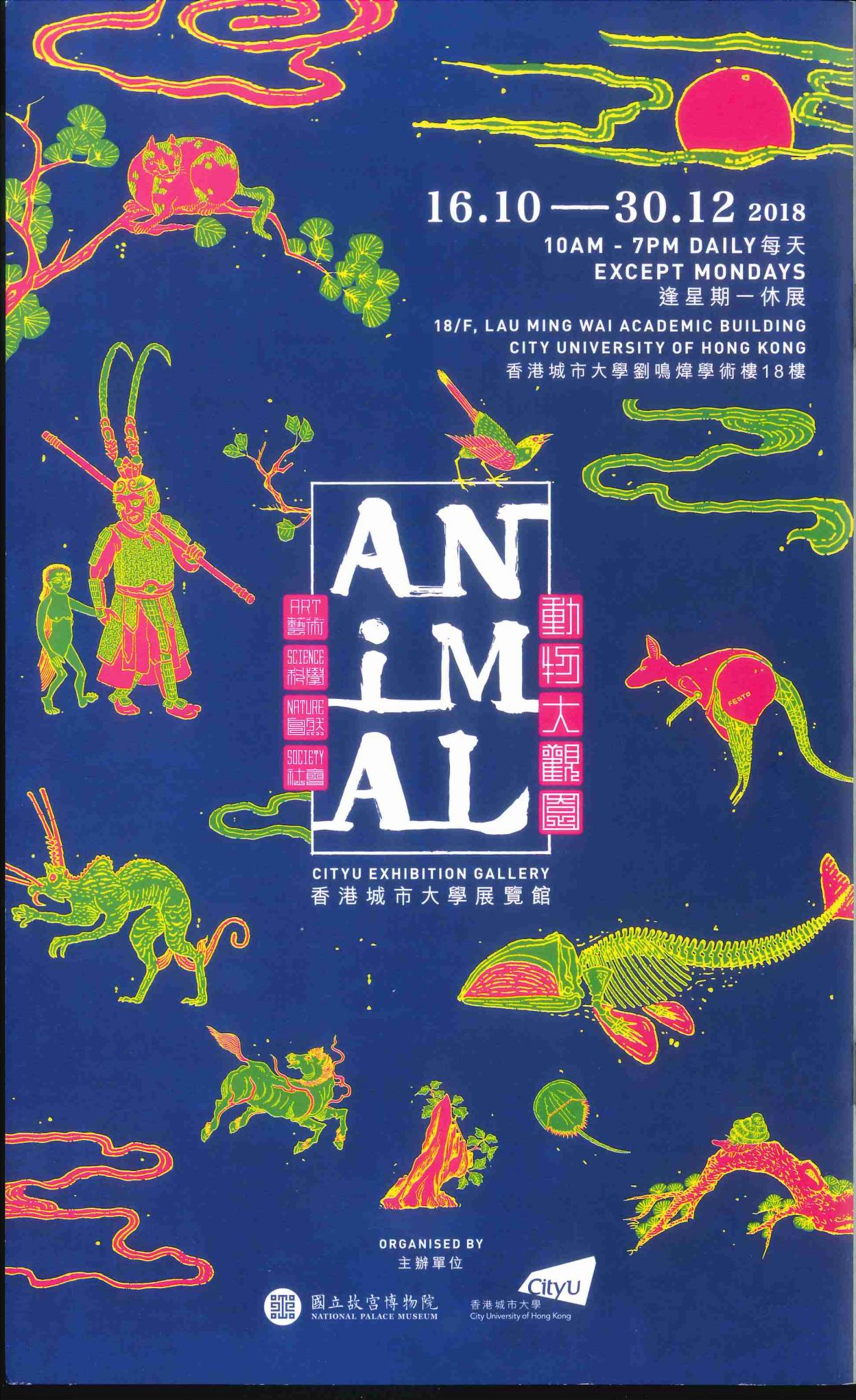
ART MACHINES
ART MACHINES
ART MACHINES

PROGRAMME

INTERNATIONAL
SYMPOSIUM ON
COMPUTATIONAL
MEDIA ART 藝術儀

CONFERENCE
SCHEDULE





16.10 — 30.12 2018

10AM - 7PM DAILY 每天
EXCEPT MONDAYS
逢星期一休展

18/F, LAU MING WAI ACADEMIC BUILDING
CITY UNIVERSITY OF HONG KONG
香港城市大學劉鳴焯學術樓18樓

AN iM AL

ART 藝術
SCIENCE 科學
NATURE 自然
SOCIETY 社會

動物大觀園

CITYU EXHIBITION GALLERY
香港城市大學展覽館

ORGANISED BY
主辦單位



PROGRAMME

ART MACHINES ART MACHINES ART MACHINES

INTERNATIONAL
SYMPOSIUM ON
COMPUTATIONAL
MEDIA ART 藝術儀



@John Golings

About the School of Creative Media

The region's first such institution, the School of Creative Media, was founded to nurture a new generation of interdisciplinary artists and creative media professionals, and to develop new ideas and technologies for the creative industries in Hong Kong, Mainland China and abroad. Now, after two decades of growth and development, we continue to espouse and advance these aims as the clear leader in our field. Our students are trained across a range of disciplines spanning photography, animation, film, interactive media, gaming, installation art and digital media. We bridge the boundaries between art and technology, and between traditional and new media. Our internationally recruited faculty members are amongst the foremost artists and researchers in the field. Our graduates have consistently demonstrated high employability, with over 90% of those who graduated now working as independent artists and professionals in the creative industries, film, television, advertising, publishing and media production. Many have won prestigious international and local awards for creative and technical innovation.

Message from the Provost



It is my great pleasure to welcome you all to City University of Hong Kong for this conference on Computational Media Art. Here at CityU we pride ourselves on our science and technology in which we are a leading university not only in the region but within the world (QS ranking 56). We have outstanding Engineering and Computer Science programs, we are very proud of our new Jockey Club College of Veterinary Medicine and Life Sciences, and we are in the process of creating a major new School of Data Science (the first in the region). In this context, we are also proud of the leadership given in creative technologies and media art by our outstanding School of Creative Media which has just celebrated its 20th Anniversary. Machine Learning is transforming the field of computation and big data, so it is of no surprise to me that it is also poised to transform the creation of media art, and I congratulate Dean Richard William Allen on his initiative in organizing this conference. It remains for me to wish you an enjoyable stay in Hong Kong and I hope your conference is both a stimulating and successful one.

Prof. Alex Jen

Provost
Chair Professor of Chemistry and Material Science
City University of Hong Kong





Message from the Provost

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Prof. Alex Jen
Provost
Chair Professor of Chemistry and Material Science
City University of Hong Kong

Message from Conference Director

I wish you all a very warm welcome to Art Machines: International Conference on Computational Media Art (ISCMA). This conference is organized around the core theme of Machine Learning and Art, which seems both important and timely, in the context of a broader open call. In keeping with the nature of the School of Creative Media, it combines papers by scholars and artists, which are freely mixed together in the open call panels. It is accompanied by a major exhibition, Algorithmic Art: Shuffling Space and Time, curated by Dr. Linda Lai, and it features a student-led salon. I am delighted to welcome our guest speakers who are contributing either as plenary panelists to our core theme or as keynotes addressing broader topics, and I thank all those who responded to the open call. I hope you find the conference and exhibitions an engaging and enriching experience and enjoy your stay in Hong Kong.

The organization of this conference was a team effort. Nine members of the conference organizing committee divided different responsibilities between them according to areas of interest and expertise: Dr. Linda Lai directed the exhibition Algorithmic Art; Dr. Hector Rodriguez and Dr. Tomas Lorenzo came up with the conference theme and organized the Machine Learning and Art plenary sessions. Dr. Harald Kraemer and Mr. Tobias Klein reviewed the artistic abstracts. Dr. Olli Tapio Leino and Dr. Damien Charrieras reviewed the scholarly abstracts. Prof. Maurice Benayoun assisted with the organization of the student salon. Dr. Miu Ling Lam helped secure financial support and the participation of plenary panelists from Hong Kong. I want to thank them all for making this conference possible. Thanks, too, to Mariana Perez-Bobadilla and Ashley Wong for organizing the student salon, and special thanks to Dr. Leino for his wise counsel and support throughout the process.

Art Machines and its accompanying exhibition, Algorithmic Art, would not have been possible without the generous support of a number of key organizations: The Innovation and Technology Fund, Hong Kong; The Leisure and Cultural Services Department (LSCD), Hong Kong; The U.S Consulate General in Hong Kong & Macau; The Croucher Foundation; and The Cultural and Sports Committee, City University of Hong Kong. My special thanks to Dr. Louis Ng, Deputy Director, LCSD, Prof. Alex Jen, Provost, CityU, and Prof. Horace Ip, Vice President, CityU. A big thank you to Fion Ng who helped us to raise money and co-ordinate Algorithmic Art, and to Malina Siu. From day one, Malina took charge of the whole process, and together with our team of Fion and Jae Cheung Oi Lun, put in a lot of hard work to ensure that this conference would be a success.

Prof. Richard William Allen
Conference Director, *Art Machines: ISCMA 2019*
Dean, School of Creative Media
Chair Professor of Film and Media Art
City University of Hong Kong

Prof. Chang Shi-kuo's Lecture & Seminar

28 Dec 2018
6.00pm - 9.30pm

LECTURE
**Black Swan and White Elephant:
Science Fiction and Visual
Languages in the Age of Big Data**

SPEAKER
Prof. Chang Shi-kuo
(Professor in Visual Languages
and Software Engineering)
Conducted in English

There is a lot of hype about Big Data. Prof. Chang will examine the "black swan theory" and the phenomenon of the white elephant to better understand what Data Mining and other techniques can and cannot do. In such an analysis, the unique role of science fiction arts, including novels, movies and visual arts, will be more distinct. Prof. Chang will use many examples to illustrate sci-fi as the means to explore an alternate universe and plausible realities in a holistic way. This talk is meant to provoke you and stimulate discussion. Comments and critiques after Prof. Chang's lecture are welcome.

SEMINAR
Visions of Alternate Futures

SPEAKERS
Prof. Chang Shi-kuo (Chair),
Mr. Ng Kam Yuen,
Mr. Cheung Chi Sing,
Mr. Hou Lei
Conducted in Mandarin

In this seminar chaired by Prof. Chang Shi-kuo, there will be a discussion on the adaptation of sci-fi to movies and television dramas with the three guests, director Mr. Ng Kam Yuen, script writer Mr. Cheung Chi Sing and Mr. Hou Lei. The visions and imagination of alternative futures represented in sci-fi, movies and television will be further explored throughout the discussion.

**KWANG HWA INFORMATION
AND CULTURE CENTRE**

Suite 4907, 49/F Central Plaza,
18 Harbour Road, Wan Chai, Hong Kong

Registration is required



Algorithmic Art: Shuffling Space and Time

27 Dec 2018 to
10 Jan 2019 DAILY
10.00am - 9.00pm

This exhibition is designed to stage an intense dialogue between art and technology that showcases 16 artists from 5 countries whose understanding and mastery of technology is central to their creative process. In Algorithmic Art: Shuffling Space and Time we aspire to bring machine work and computational thinking into the domain of common knowledge. Instead of focusing upon perceptual experience alone, we want to "open the black box" to reveal what is not seen. The assumption behind the exhibition is that what makes media art interesting are the processes of mediation, that is, the machine processes that lie between the maker's deliberation and what we perceive and experience. Knowledge of these processes enhance our understanding of machine-made art. Algorithmic Art also stages a dialogue with history, situating contemporary practice within what is now a long tradition of electronic art in Asia.

Highlights of the exhibition include:

- Toshio Iwai's early work, *Time Stratum II* (1985), marking an earlier phase of electronic art in Asia.
- Art Machines created by local artists in tribute to the renowned Chinese sci-fi novel, *Nebula Suite*, written by Chang Shi-kuo, University of Pittsburgh's Professor in Computer Science, also regarded as father of sci-fi in Taiwan.
- Yunchul Kim's *Triaxial Pillars II* (2017), a fluid kinetic installation exploring the artistic potential of integrating metamaterials (photonic crystals) and magneto-hydrodynamics.

HONG KONG CITY HALL
EXHIBITION HALL, 1/F LOW BLOCK
5 Edinburgh Place, Central, Hong Kong



8:00-9:00 Registration L1 LOBBY

9:00-10:00 Welcome Address & Opening Lecture
M3017 | L3

10:00-12:30 Machine Learning and Art Panel 1
M3017 | L3
Session Chair: Hector Rodriguez

12:30-13:45 Lunch M9001 | L9

13:45-15:45 M3090 Shun Hing Lecture Theatre | L3
Session 1: Robotic Art
Session Chair: Tobias Klein

Paper Session

Das Fremde Robot Installation
Michael Spranger and Stephane Noel
"I'm evolving into a box." The Paradoxical Condition in AI
Wei-Yu Chen
Up-Close Experiences with Robots
Louis-Philippe Demers
Artistic Intelligence
Ray Luo

15:45-16:00 Coffee Break L1 LOBBY

16:00-17:00 M3090 Shun Hing Lecture Theatre | L3
Session 3: Brain Computer Interfaces
Session Chair: Tomas Laurenzo

Paper Session

AIBO – Artificially Intelligent Brain Opera – An Artistic Work-in-Progress Rapid Prototype
Ellen Pearlman
Atom, Bit, Coin, Transactional Art Between Sublimation and Reification
Maurice Benayoun and Tobias Klein

17:00-18:45 Keynote Lecture 1: Robotics Symposium
M3017 | L3
Session Chair: Richard William Allen

18:45-20:00 Conference Reception M1060 | L1

by Richard William Allen, Dean of School of Creative Media and Conference Director

The Neural Aesthetic
Gene Kogan
The Artistic Potential of Computer Vision
Anna Ridler
Intelligent Machines that Learn: What Do They Know? Do They Know Things? Let's Find Out!
Memo Akten

M6094 Future Cinema Studio | L6
Session 2: Photography and Computation
Session Chair: Warren Leung

Are Photographers Superfluous?
The Autonomous Camera
Elke Reinhuber
Computational Photography
Yeon-Kyoung Lim
Facial (Re)Cognition: Windows and Mirrors, and Screens
Megan Olinger
2.5D Computational Image Stippling
Kin-Ming Wong

M6094 Future Cinema Studio | L6
Session 4: Computational Art in Urban Space
Session Chair: Ashley Wong

Repopulating the City: Introducing Urban Electronic Wildlife
Guillaume Slizewicz and Greg Nijs
Art of Our Times: A Temporal Position to Art and Change
Tanya Toft Ag

The Human-Centered Design of Robotics for Social Impact
Ayanna Howard
Trans-species Symbiogenesis
Ken Rinaldo

8:00-9:00 Registration L1 LOBBY

9:00-11:30 Machine Learning and Art Panel 2
M3017 | L3
Session Chair: Lam Miu Ling

11:30-11:45 Coffee Break L1 LOBBY

11:45-12:45 M3090 Shun Hing Lecture Theatre | L3
Session 5: Computational Media and Performance
Session Chair: Maurice Benayoun

Paper Session

The Dancer in the Machine
Simon Biggs, Sue Hawksley, Samya Bagchi and Mark McDonnell
Machine Learning for Performative Spaces
Alex Davies, Brad Miller and Boris Bagattini

12:45-14:00 Lunch M9001 | L9

14:00-15:45 Machine Learning and Art Panel 3:
M3017 | L3
Session Chair: Hector Rodriguez

15:45-16:00 Coffee Break L1 LOBBY

16:00-18:00 M3090 Shun Hing Lecture Theatre | L3
Session 7: Machine Learning and Text Generation
Session Chair: Daniel Howe

Paper Session

The (un)predictability of Text-Based Processing in Machine Learning Art
Winnie Soon
Generation of a Multi-pictorial Script
Haytham Nawar
MAC Check
Scott Fitzgerald
Unrolling the Learning Curve: Aesthetics of Adaptive Behaviors with Deep Recurrent Nets for Text Generation
Sofian Audry

18:00-18:15 Break

18:15-19:45 Keynote Lecture 2
M3017 | L3
Session Chair: Richard William Allen

20:30-23:00 Conference Party
STUDIO 9

Data, Visual Storytelling, and Explainable Artificial Intelligence
Huamin Qu
How Machines can be More Creative than Humans
De Kai
Image and Video Stylization with Deep Neural Networks
Jing Liao

M6094 Future Cinema Studio | L6
Session 6: Coding for Artists Creative Pedagogy
Session Chair: Linda Lai

Introducing Machine Learning in the Creative Communities: A Case Study Workshop
Matteo Loglio and Serena Cangiano
Aesthetic Coding: Exploring Computational Culture Beyond Creative Coding
Winnie Soon and Shelly Knotts

Art and Influence: Learning in Augmented Worlds
Ernest Edmonds
Advances in Creative AI and Computer-assisted Creativity
Philippe Pasquier

M6094 Future Cinema Studio | L6
Session 8: Game and Playable Media
Session Chair: Olli Tapio Leino

Audiovisual Experiments with Evolutionary Games, and the Evolution of a Work-in-progress
Stefano Kalonaris
"Hypomnesia", Game of Memory
Wanqi Li and Jian Guan
The Struggle Between Text and Reader Control in Chinese Calligraphy Machines
Yue-Jin Ho
Playing with the Sound
Wing On Tse

Aesthetic Value in the Network Era
Dominic McIver Lopes

9/F, Union Industrial Building,
48 Wong Chuk Hang Road, Wong Chuk Hang |
Cash Bar, Shuttle Bus departs CMC at 20:00.

4 January FRI

5 January SAT

8:00-9:00 Registration L1 LOBBY

9:00-11:30 Machine Learning and Art Panel 4
M3017 | L3
Session Chair: Tomas Laurenzo

11:30-11:45 Coffee Break L1 LOBBY

11:45-12:45 M3090 Shun Hing Lecture Theatre | L3
Session 09: Sound Art
Session Chair: Ken Ueno

Paper Session

Artificial Digitality
Kuldeep Gohel
"Opinions" – Body Movements and Sound
Yanbin Song

12:45-14:00 Lunch M9001 | L9

14:00-16:00 M3017 | L3
Session 11: Engaging and Contesting
Machine Recognition
Session Chair: Maurice Benayoun

Paper Session

The Janus-Face of Facial Recognition Software
Romi Mikulinsky
Adversarial Ornament Attack
Michal Jurgielewicz
The Viewer Under Surveillance from the
Interactive Artwork
Raivo Kelomees
How Machines See the World:
Understanding Image Labelling
Carloalberto Treccani

16:00-16:15 Coffee Break L1 LOBBY

16:15-17:45 M3090 Shun Hing Lecture Theatre | L3
Session 13: Critical Data Visualization
Session Chair: Scott Hessels

Paper Session

Specimens of the Globe: Generative Sculpture
in the Age of Anthropocene
Gyung Jin Shin
Visualizing Algorithms: Mistakes, Bias,
Interpretability
Catherine Griffiths

17:45-18:00 Break

18:00-19:30 Keynote Lecture 3
M3017 | L3
Session Chair: Richard William Allen

Automating the Mosaic: Machine Learning in
Dataveillance Practices
Jennifer Gradecki
Hactivism in the age of Automated
Decision-Making
Derek Curry
Borderline Speculation
Theresa Reimann-Dubbers

M6094 Future Cinema Studio | L6
Session 10: Digital Animation
Session Chair: Tamas Waliczky

Parallax Relax: Expanded Stereoscopy
Max Hattler
Multimedia Art: The Synthesis of Machine-
generated Poetry and Virtual Landscapes
Suzana Ilić and Martina Jole Moro

M6094 Future Cinema Studio | L6
Session 12: Immersive Media
Session Chair: Yu Ka Ho, Albert

Storytelling for Virtual Reality Film: Structure,
Genre, Immersive and Interactive Narrative
Ka Lok Sobel Chan
The 360° Video *Secret Detours* as Case Study to
Convey Experiences through Immersive Media
and the Method of Presentation
Elke Reinhuber, Benjamin Seide and Ross Williams
The Present Tense of Virtual Space
Andrew Burrell
VR and AI: The Interface for Human and
Non-Human Agents
Lukasz Mirocha

M6094 Future Cinema Studio | L6
Session 14: Computation and Curation
Session Chair: Harald Kraemer

How does a Machine Judge Photos?
Wasim Ahmad
The Electronic Curator or How to Ride
Your CycleGAN
Eyal Gruss and Eran Hadas
Lying Sophia and Mocking Alexa –
An Exhibition on AI and Art
Iris Xinru Long

E-CO ART? When Electronic and Ecological
Arts Meet
Katja Kwastek

8:00-9:00 Registration L1 LOBBY

9:00-11:00 M3017 | L3
Session 15: Machine Learning and Bioart
Session Chair: Mariana Perez-Bobadilla

Paper Session

Distributed Cognition in Ecological / Digital Art
Scott Rettberg
Microbial Sonorities
Carlos Castellanos
Bacterial Mechanisms: Material Speculation
on Posthuman Cognition
Mariana Perez Bobadilla
The Demiurge, or a Manifestation of Carbo-
Silico Evolution
Jaden Hastings

11:00-11:15 Coffee Break L1 LOBBY

11:15-12:45 M3090 Shun Hing Lecture Theatre | L3
Session 17: Critical Practices
Session Chair: Damien Charrieras

Paper Session

Art Chasing Liability: Digital Sharecropping
and Conscientious Law-Breaking
Monica Lee Steinberg
Speculation and Acceleration:
Financialization, Art & The Blockchain
Ashley Wong
import <execute> [as <command>]
Korsten and De Jong

12:45-14:00 Lunch M9001 | L9

14:00-16:00 M3017 | L3
Session 19: Machine Learning and
Artistic Agency
Session Chair: Linda Lai

Paper Session

Artificial Intelligence, Artists, and Art:
Attitudes Toward Artwork Produced by
Humans vs. Artificial Intelligence
Joo-Wha Hong and Nathaniel Curran
Art and Automation: The Role of the Artist in
an Automated Future
Leonardo Arriagada
CG-Art: Demystifying the Anthropocentric Bias
of Artistic Creativity
Leonardo Arriagada
Do Machines Produce Art? No. (A Systems-
Theoretic Answer)
Michael Straeubig

16:00-16:15 Coffee Break L1 LOBBY

16:15-18:00 Conference Round Up

19:00-20:30 Tour of Algorithmic Art:
Shuffling Space and Time Exhibition

M6094 Future Cinema Studio | L6
Session 16: Algorithmic Abstractions
Session Chair: Max Hattler

SHAPES of the Future: When Art Machines
Pass the Turing Test
Terry Trickett
Ornament and Transformation - the Digital
Painting of Robert Lettner at the Interface of
Analogue and Algorithmic Art
Harald Kraemer
Membrane or How to Produce Algorithmic Fiction
Ursula Damm and Peter Serocka

M6094 Future Cinema Studio | L6
Session 18: Identity and Representation
Session Chair: Louisa Wei

Anonymous Conjecture
Fangqing He
Volumetric Black
Triton Mobley
Constellation - Call Your
Personalized Constellation
Nan Zhao

M6094 Future Cinema Studio | L6
Session 20: Digital Cinema,
Expanded Cinema
Session Chair: Richard William Allen

Penelope
Alejandro Albornoz, Roderick Coover and
Scott Rettberg
The Fresnel Video Lens
Steve Boyer
A Pixel-Free Display Using Squid's Chromatophores
Juppo Yokokawa, Haruki Muta, Ryo Adachi,
Hiroshi Ito and Kazuhiro Jo
The Time Machine: a Multiscreen Generative
Video Artwork
Daniel Buzzo

M6094 Future Cinema Studio | L6
Session Chair: Conference Committee

Low Block, Hong Kong City Hall,
5 Edinburgh Place, Central
Shuttle Bus departs CMC at 18:15.

6 January SUN

7 January MON

Dr. Ayanna Howard
School Chair-Academic
Linda J. and Mark C. Smith
Chair Professor
College of Computing
Georgia Institute of
Technology

The Human-Centered Design of Robotics for Social Impact



The Robots are coming! The Robots are coming! The Robots are already... Here. Recently, there has been a lot of discussion about the potential of robots and artificial intelligence (AI) to destroy the human race if we are not watchful. Whatever your opinion on this, the fact remains that robots have already become a part of our society and, in some cases, an integral part. No longer is a robot chauffer, i.e. an autonomous robot car that can drive an individual to work, a whimsical thought of a science-fiction movie director. No longer is a robot suit, i.e. a robot exoskeleton that can assist a paraplegic to walk, a fantasy story of a writer. While it is important to be vigilant about the inclusion of new technology in society, the doom-and-gloom messages about robots and AI ignore the ways that intelligent robots are beneficial, life-saving, machines for assisting us in our everyday lives. Telepresence robots are transforming health care delivery from newborn care to stroke treatment. Wearable robotic exoskeletons are helping paralyzed patients stand up and walk in the home environment. And a host of startup companies are working on the next generation of therapy robots for children. This talk will discuss the domain of robots for real-world applications, with a focus on their human-centered design. I will give an overview of how these technologies can address real-life needs for improving our quality of life now and in the future.

Prof. Ken Rinaldo
Department of Art
The Ohio State University



Trans-Species Symbiogenesis

The junctures where the machine, animal, plant, bacteria, and humans meet are where our futures exist. Three decades of creating interactive robotic art have taught me that living systems provide the ultimate models of what technology can become. Communication is at heart of my work along with a desire to break down and reveal behavior, processes, and patterns inherent in natural and now semi-living species. My work exposes the underlying beauty inherent in this intercommunication of all specie (organic and machinic) at all scales. As anaerobic bacteria have receded to our stomachs 2.5 billion years ago, now symbiotically intertwined with our survival, so we too are receding into a comfortable embryonic sac, enveloped by our technologies. A new species, neither human nor machine is emerging and we are becoming, and have become symbiont. Still, technology presents social and environmental challenges and evolves more quickly than biologically intertwined natural living systems can coevolve. This talk offers observations and solutions, on where we are heading, with technologies that at times seem more parasitic than symbiotic.

Prof. Katja Kwastek
Professor of Modern and
Contemporary Art History
Department of Art & Culture,
History and Antiquity
Vrije Universiteit Amsterdam

E-CO ART? When Electronic and Ecological Arts Meet



At first sight, the conjunction of ecological and electronic arts might evoke, at maximum, "the chance meeting on a dissecting-table of a sewing-machine and an umbrella!". However, if one digs deeper, the interrelations are striking. This lecture will explore these (contemporary, but also historic) interrelations along three lines of thought: the shared fascination of both ecological and electronic arts with processual action (a systematic series of events directed towards an end), the increasing impact of digital technologies on our concepts of the environment, and the biased attitude of both electronic and ecological arts towards questions of applicability versus artistic autonomy.

Prof. Dominic McIver Lopes
Department of Philosophy
University of British Columbia



Aesthetic Value in the Network Era

Traditional understandings of aesthetic value are inadequate: they fail to model how aesthetic values are embedded in social practices. In consequence, they also misunderstand the role of communication about aesthetic value. This talk argues that new information technologies open up new modes of communication that have a profound effect on our aesthetic practices.

Mr. Gene Kogan
Artist and Programmer



The Neural Aesthetic

The talk explores the use of artificial intelligence for new media art. Recent advances in machine learning have made it possible to generate realistic images, sounds, and texts from models built on top of real-world data, inspiring a surge of creative works. This talk will review the field's state-of-the-art, present a selection of art projects and interactive installations from the past year, and speculate on future directions as the science and art rapidly converge. Finally, a selection of educational resources will be presented for the curious people who'd like to experiment with the technology themselves.



Ms. Anna Ridler
Artist and Researcher

The Artistic Potential of Computer Vision

Research has looked at whether artificial intelligence, and more particularly machine learning, can create art. However, the focus of this work has been to consider and judge the result as "art" through the impact of visual parameters on a viewer (i.e. "does this look like art?"). This ignores a vital consideration of an artist when producing a piece, which is the impact of the materials that the artist uses. Ms. Ridler will explore what machine learning can add or take away from a piece and particularly examine the importance of datasets as a medium. Much of the focus around the critical reception in the press and academia around creative AI has been focused on the model output; however, it is also important to regard datasets and dataset creations as separate works, or parallel works that speak to the generated piece, and treat and critique them as such.

Mr. Memo Akten
Artist and Researcher

Intelligent Machines that Learn: What Do They Know? Do They Know Things? Let's Find Out!

As machines become 'smarter', more autonomous and ubiquitous, how does this impact human creativity, and the role of the artist? This talk will cover some of my own meanderings in this area, particularly within the context of the recent developments in machine learning. It will discuss my explorations in real-time, interactive computational systems to augment artistic, creative expression, and semi-autonomous systems for human-machine collaborative co-creation, as well as my reflections on how we make sense of the world, projecting meaning onto noise.



De Kai
Professor
Department of Computer Science and Engineering
Hong Kong University of Science and Technology
Musician

How Machines Can Be More Creative Than Humans

Despite rapidly increasing generative use of artificial intelligence by artists, it remains commonly thought that creativity is the province of humans rather than machines. But what is creativity? For Boden creativity arises from processes of combination, exploration, and transformation. Without these processes, there can also be no intelligence — whether human or artificial. Human intelligence emerged from our linguistic abilities which are based on our musical abilities. While Sapir and Wharf observed that "language structures thought", it is also true that "language structures creativity." Our work in artificial creativity demonstrates how Boden's fundamental building blocks of creativity underly language interpretation and translation. The same machine learning systems we pioneered for automatic translation thus also learn creative improvisation for hip hop, flamenco, and blues. So is the idea that creativity will remain the province of humans just a comforting myth we sooth ourselves with in the face of the impending robotic disruption?



Prof. Huamin Qu
Department of Computer Science and Engineering
Hong Kong University of Science and Technology

Data, Visual Storytelling, and Explainable Artificial Intelligence

We live in the era of big data. Data is everywhere and decision-makings become more and more data-driven. With tremendous amounts of data, massive computational power, and advances in machine learning algorithms especially deep learning, AI has become very powerful and makes decisions for us everyday. However, since data is complex and the algorithms are so advanced, decision making by AI is more like a black box. People do not understand why AI makes certain decisions. This becomes a critical issue especially in healthcare, security, and finance areas. Explainable Artificial Intelligence (XAI) tries to make AI systems and their actions more understandable and transparent to humans. Data visualization, which turns data into visual forms, plays an important role in XAI. In this talk, I will briefly introduce data visualization and then use examples to illustrate how data visualization can visually tell stories in complex data and make contributions to XAI.



Dr. Jing Liao
Assistant Professor
Department of Computer Science
City University of Hong Kong

Image and Video Stylization with Deep Neural Networks

Painting and drawing are popular art forms and have led to the creation of great works of art. However, manually drawing or painting an image in a particular artistic style requires professional training and lots of time. This talk will introduce computational approaches that can automatically and efficiently render a photograph into some artistic style learned from a piece of artwork or a collection of artworks, by leveraging deep neural networks. It will then introduce the extension of neural stylization from image to video and stereoscopic image/video as they emerge with recent virtual reality hardware.

Prof. Ernest Edmonds
Research Professor of
Computational Art, IOCT
Leicester Media School
De Montfort University



Art and Influence: Learning in Augmented Worlds

AI is important in interactive art. Interactive art reaches beyond the computer game paradigm to explore lifelong evolution and the building of relationships. Working in a distributed connected world a new art of evolving and connected systems is emerging. The worlds in which these new art forms exist extends to virtual and augmented realities and the physical environment. This talk begins by describing my “Shaping Form” series of dynamic works. Images are generated using rules that determine the colors, the patterns and the timing. A camera captures movement that changes the generative rules. The future behavior of each “Shaping Form” evolves as a result of its interaction with the world. But what do we really mean here by interaction? With the evolving nature of these works, the words “influences,” “stimulus” or “interchange” are more appropriate than interaction. Machine learning methods implement my art and this talk will show how these methods have been extended to make distributed sets of interactive nodes form a networked art system. The community made up of the work’s distributed audience collectively influence the progress and development of the art system. It will conclude by describing how machine learning is being extended again, this time into a dynamic distributed augmented reality world.

Dr. Philippe Pasquier
Associate Professor
School for Interactive Arts
and Technology Simon
Fraser University



Advances In Creative Ai And Computer- Assisted Creativity.

Computational Creativity, also known as Creative AI, brings together scientists and artists to design generative systems that partially or completely automate creative tasks. This talk will introduce and analyze these new developments in Artificial Intelligence and machine learning that motivate generative systems and computer-assisted creativity. It will be illustrated with examples of generative systems designed and developed at the Metacreation Laboratory that compose music, automate sound design for film and video games, generate presets for sound synthesizers or generate animations of 3D characters, and it will discuss how these systems are evaluated and deployed either in artworks or in the industry.

Ms. Jennifer Gradecki
Assistant Professor of
Game Design + Media Arts
College of Arts
Media and Design
Northeastern University



Automating the Mosaic: Machine Learning in Dataveillance Practices

The mosaic metaphor of intelligence analysis—the notion that seemingly insignificant pieces of information, when combined, can produce a revealing picture—has contributed to the current collect-it-all approach of intelligence agencies. The desire to construct a “complete” picture drives the mass collection of data and produces information overload, which leads agencies to automate analysis. While machine learning algorithms can automate the process of intelligence analysis, mistakes in the data used to train the corpus will replicate erroneous judgments. This talk will discuss the techniques and technologies of automation in intelligence analysis, as well as the assumptions, metaphors, and modes of representation that underpin dataveillance practices. These topics will be discussed via the artistic research project, the Crowd-Sourced Intelligence Agency, a partial replication of an Open Source Intelligence processing system. In order for the public to question the use of statistical pattern recognition algorithms in place of human judgment, they need the technical literacy to understand how these systems work and the data they produce, as well as access to the data that intelligence agencies use to train their algorithms.

Dr. Derek Curry
Assistant Professor
College of Arts,
Media and Design
Northeastern University



Hacktivism in the age of Automated Decision-Making

The increase in automation and networked capabilities that has resulted in pervasive surveillance by machines has also opened new spaces for creative disruption and intervention. For example, in 2013, a tweet made from the @AP twitter account after it was hacked by the Syrian Electronic Army caused a flash crash that momentarily wiped out \$130 billion from the markets. In 2018, Google’s search algorithms were manipulated by British protestors to make images of Donald Trump the top results from a search for “American Idiot.” This talk will position the disruption of algorithms within the history of tactical media and hacktivism, as well as explore how artists can use the same tactics for creative dissent within this new paradigm.

**Ms. Theresa
Reimann-Dubbers**
Artist



Borderline Speculation

Knowledge of the human world is transferred to machines. Aspects of the human condition are defined, then translated into the language of machines. Definitions are precise and exclusive; however, the human condition is not. The border between the realm of humans and that of machines is a filter. Things pass through (filtrate), things are left behind (residue). This talk examines the nature and significance of the residue and discusses art as investigations into the contradictory, the latent and the divergent.

Open Systems Salon

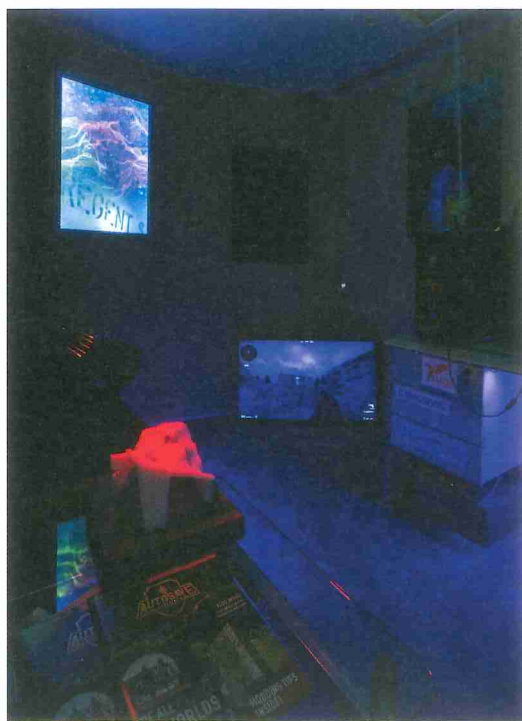
4-7 Jan 2019

8.00 AM - 8.00 PM

8-13 Jan 2019

10.00 AM - 6.00 PM

Singing Waves Gallery,
L3, Run Run Shaw Creative Media Centre



Autosave: Redoubt, Installation view,
Peter Nelson, Andrew Luk and Alexis Mailles

Open Systems is a student-led salon. It is an exhibition and social platform presented in dialogue with the ISCMA Symposium. Featuring works by PhD students at the School of Creative Media, the exhibition showcases the diverse practices and concepts within computational media art, including games, dance, video, installation, VR, 3D scanning and 3D printing. The salon also features an open space for artist talks, panel discussions, screenings, demos and social gatherings taking place throughout the conference.

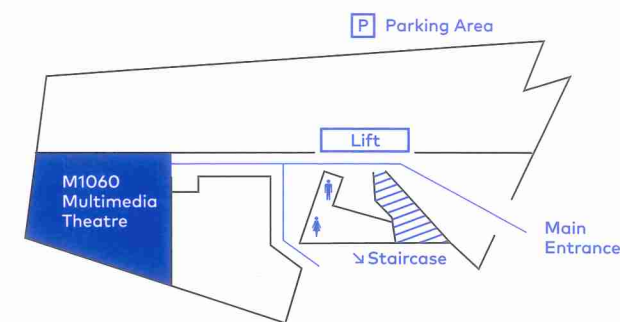
Drawing from computing and systems theory, Open Systems suggests a network of social relations in an open and porous relationship to the world. Through the creation of a dialogic space, Open Systems presents an informal setting for the production of shared knowledge in a collaborative process. Notions of self-organization and participation suggests a concept of space that is collectively created through social gathering and discursive engagement – presenting an alternative format to traditional academic conferences. Visitors are welcome to join in on events and suggest topics for discussion.

The exhibition features works by: Eugenia Kim; Gyung Jin Shin; Ann Mak; Lukasz Mirocha; Yeon-Kyoung Lim; Tobias Klein and Kyle Chung; Zimu Zhang and Zheng Lu Xinyuan; Peter Nelson, Andrew Luk and Alexis Mailles; Lisa Park SoYoung and Minka Stoyanova.



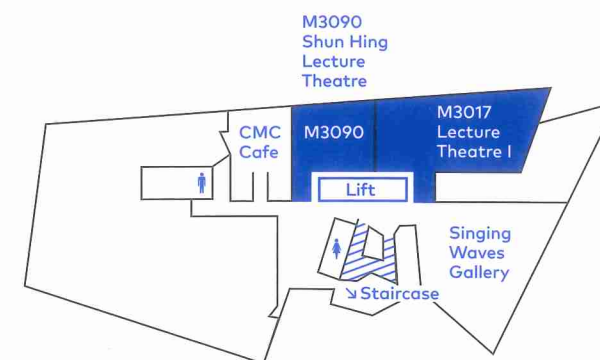
L1

M1060
Multimedia Theatre



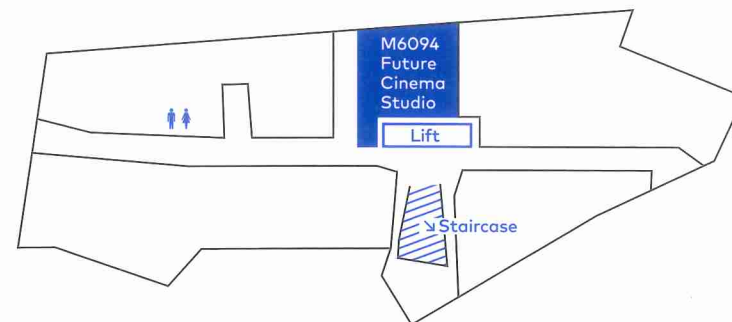
L3

M3090
Shun Hing
Lecture Theatre
M3017
Lecture Theatre I



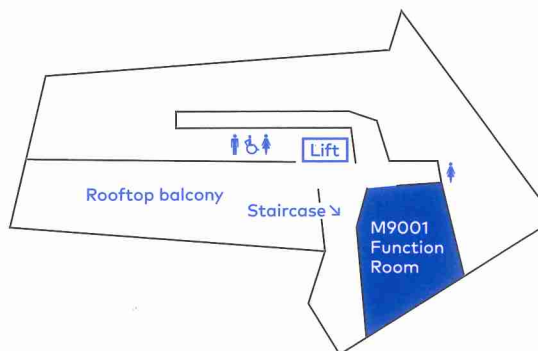
L6

M6094
Future Cinema Studio



L9

M9001
Function Room



CMC Floor Plan

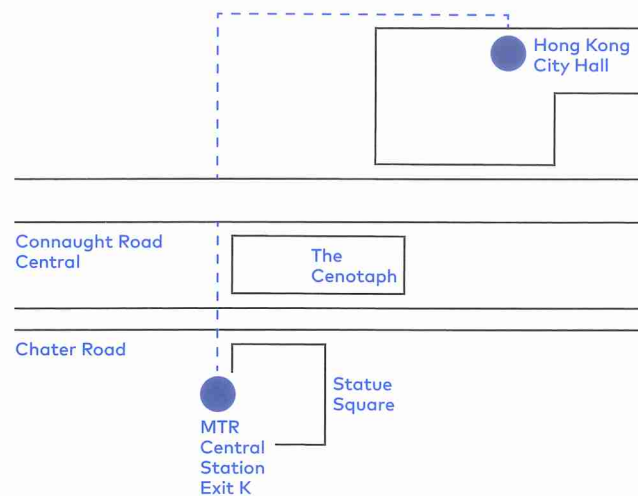


Symposium & Open Systems Salon

Run Run Shaw Creative Media Centre | CMC
18 Tat Hong Avenue, Kowloon Tong

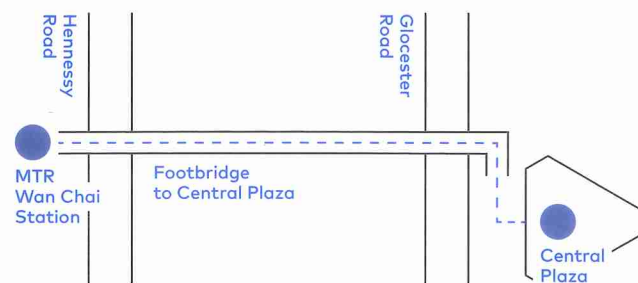
Exhibition

Hong Kong City Hall
Exhibition Hall, 1/F, Low Block,
Hong Kong City Hall, 5 Edinburgh Place,
Central, Hong Kong



Lecture & Seminar

Kwang Hwa Information and Culture Centre
Suite 4907, 49/F Central Plaza,
18 Harbour Road, Wan Chai



Venue Access

Art Machines: ISCMA 2019 Organizing Committee

School of Creative Media, CityU

Conference Director

Richard William Allen

Conference Co-Directors

Damien Charrieras

Harald Kraemer

Tobias Klein

Tomas Laurenzo

Olli Tapio Leino

Hector Rodriguez

Exhibition Curator

Linda Lai

Conference Committee

Maurice Benayoun

Lam Miu Ling

Fion Ng

Malina Siu

Conference Coordinators

Jae Cheung

Choi Hoi Ling

PhD Student-led Salon Co-Curators

Ashley Wong

Mariana Perez-Bobadilla

Any opinions, findings, conclusions or recommendations expressed in this material/event (or by members of the project team) do not reflect the views of the Government of the Hong Kong Special Administrative Region, the Innovation and Technology Commission or the General Support Programme Vetting Committee of the Innovation and Technology Fund.

Acknowledgements

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