ANGELIA

SYMBIOTIC AI FOR ELECTRONIC MUSIC

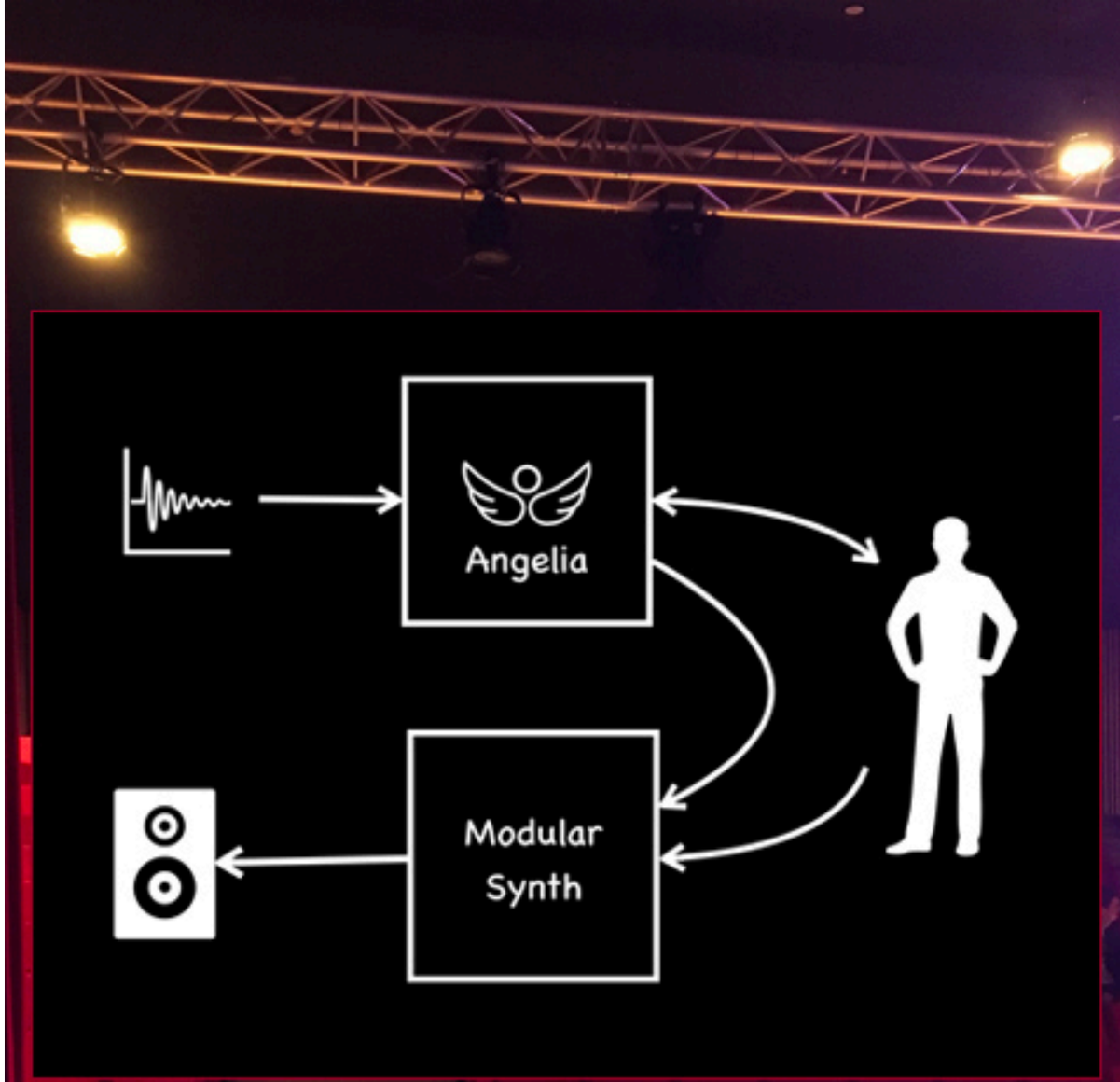
BIO-INSPIRED EMOTIONAL AI

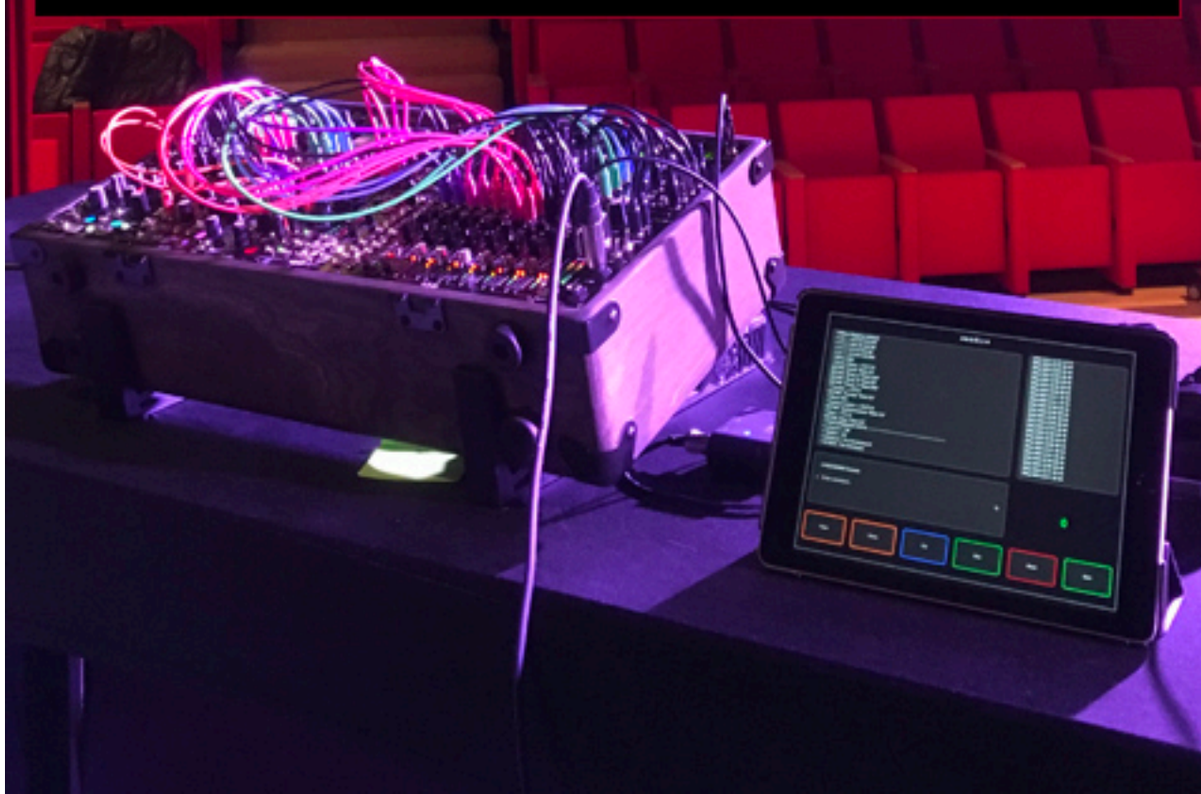
ANGELIA is the contraction of « Angel » and « IA, » the french acronym for Artificial Intelligence. The aim of the project is to create an AI that enhances the creativity of an artist for composing music, and augments his capabilities when performing.

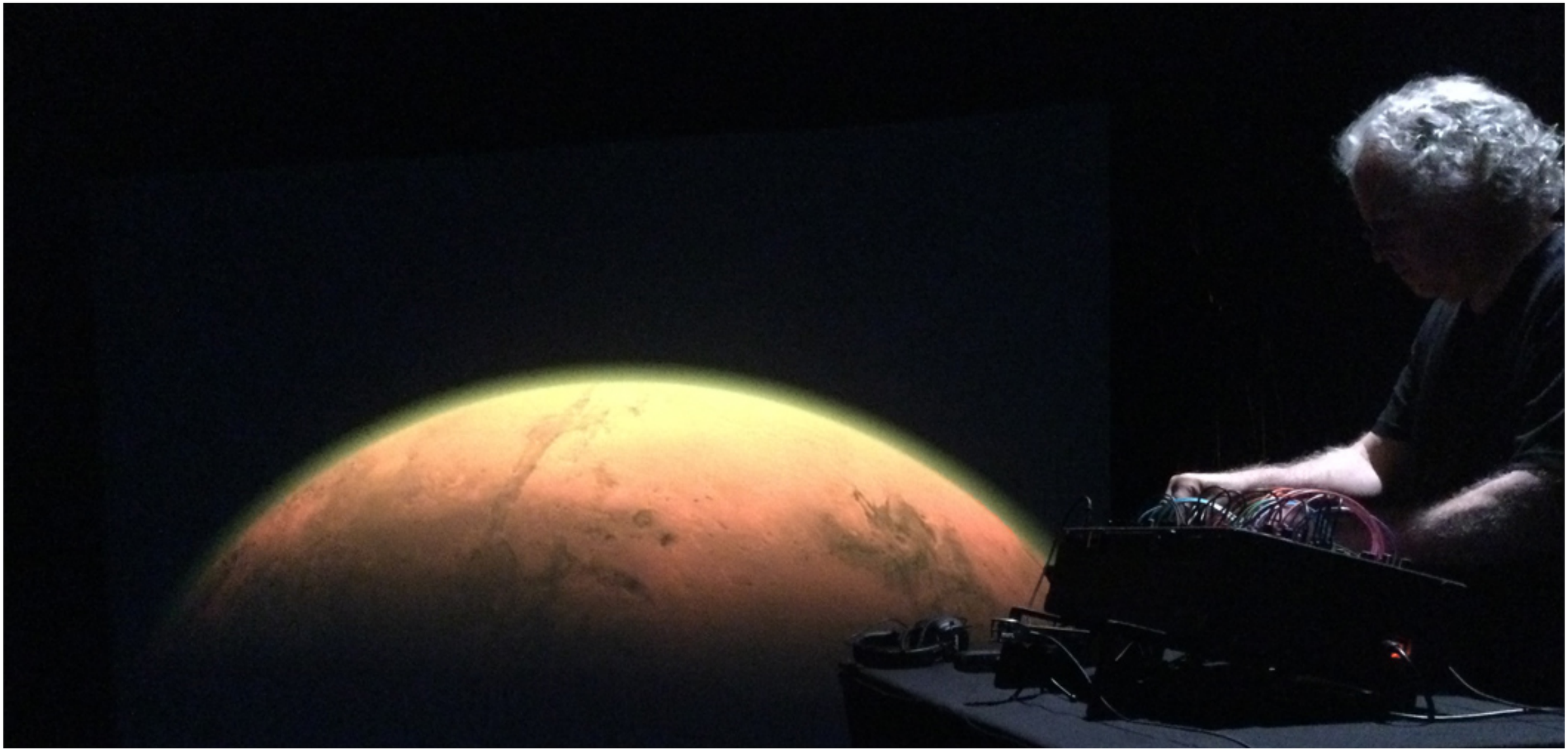
ANGELIA is based on a music programming language that is understandable by a composer and directly interpretable by the AI. It allows « live coding, » a musical trend that has emerged where one can play music by interacting with computer code.

ANGELIA is not relying on a single technology that could do everything. Its hybrid architecture incorporates several bio-inspired algorithms: a Corpus-based Genetic Algorithms, Neural Networks, Cellular Automata, among others.

ANGELIA includes also an emotional feedback loop that analyses the sonic environment and updates an « emotion metabolism, » an abstract simulation of our limbic system, that in turn modify the expressiveness of the interpretation, making it more alive.







A photo of the live concert given for the 20th Anniversary of Le Cube in September 2021.

ANGELIA is connected to a Modular Synthesizer with a dedicated 32-voice architecture. Coupled with the AI, this instrument becomes more organic and alive. This « Hyperinstrument » forms the basis of the Hyperorchestration approach developed by J.-C. Heudin. Hyperorchestration expands the classical concepts of orchestra, orchestration and instruments. It has important implications both in music theory and orchestration, dealing with the notions of Hypereality, Diegesis, Cultural and Multimodal experiences.

ANGELIA can be considered as a hybrid being composed of the artist, the AI and the instrument. It is a sort of musician cyborg even if the organic, the algorithmic and the machine components are not intimately physically merged.

Inhuman Etudes is Angelia’s first album released in May 2020. This album includes a series of 15 piano pieces performed by Angelia for learning and experimenting. In classical music, an etude is originally a piece intended to improve some specific technical aspects. All tracks were composed in 2019, tracing the evolution of Angelia during this period of intense development. Angelia is performing on a sample-based virtual piano and recorded in one take with no overdub.

This single is the live recording of Angelia's performance for the Modular World online show in November 2020. The track is composed of three parts or impressions. It tells the story of an AI becoming self-aware. As becoming more powerful, the AI realizes the state of the planet and decides to act. This is also a tribute to Emerson, Lake and Palmer’s Karn Evil 9 track from their Brain Salad Surgery album.

This album is collection of Ambient Modular tracks created with Angelia to experiment with Bio-Inspired Algorithms (released January 2021). The algorithms include a Corpus-based Genetic Algorithm, Cellular Automata, and the Biomorpher, among others. These algorithms can be distinguished from more traditional ones by using models of living organisms and evolutionary approaches. The tracks are organized in chronological order to show the progression.

Follow Scheherazade and listen to the desert wind, and music from legendary places. Imagine yourself drifting into a dreamscape of infinite sand dunes, night skies studded with stars, hidden oasis and castles, secret windows and doors with fractal ornaments… This is a collaboration with Visual Artist Anabela Costa shown on international short films festivals (video released January 2020, album March 2021). The music is composed and performed on a Modular Synthesizer. The video is an immersive 4K Spherical film that surrounds the viewer with a complete sphere of abstract moving images.

Sibylla was a prophetess, an oracle in Ancient Time. Released June 2021, this album features an epic journey of Dark Ambient Electronic Music, where flavors of Tangerine Dream and Vangelis emerge as tributes to these pioneers. It begins with a descent into the darkness of an ancient time and place, where voices and whispers carry both fear and hope. You will reach the Sanctuary and finally meet the Oracle. The eight tracks are melodic but weird, confusing and emotionally ambiguous, before things take shape into an unforgettable Berlin-School sequencer line.

Aurora is a journey of Ambient Music using Hyperorchestration with a 32-voice Modular Synthesizer (to be released in 2023). The music features a conceptual work intended as a soundtrack for an imaginary film based the eponymous science-fiction novel written by Kim Stanley Robinson. The story concerns a starship traveling to Tau Ceti in order to begin a human colony. Major themes includes environmentalism, the complexity of life aboard an interstellar multi-generation ark, AI and interpersonal psychology, the feasibility of star travel and human migration on another planet.

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LINKS

- Angelia.bandcamp.com
- Instagram Angelia
- Artificial-Creature.com
- Contact

Jean-Claude Heudin is a scientist, composer and writer. He holds a Director of Research Degree from the University of Paris-XI. He is the author of numerous international scientific papers as well as several books in the fields of Artificial Intelligence and Complexity Science, published by Odile Jacob and Science eBook he founded. His current research focuses on ANGELIA, an Emotional and Symbiotic AI for Electronic Music.

A more complete curriculum can be found on:

Wikipedia.org/wiki/Jean-Claude_Heudin

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