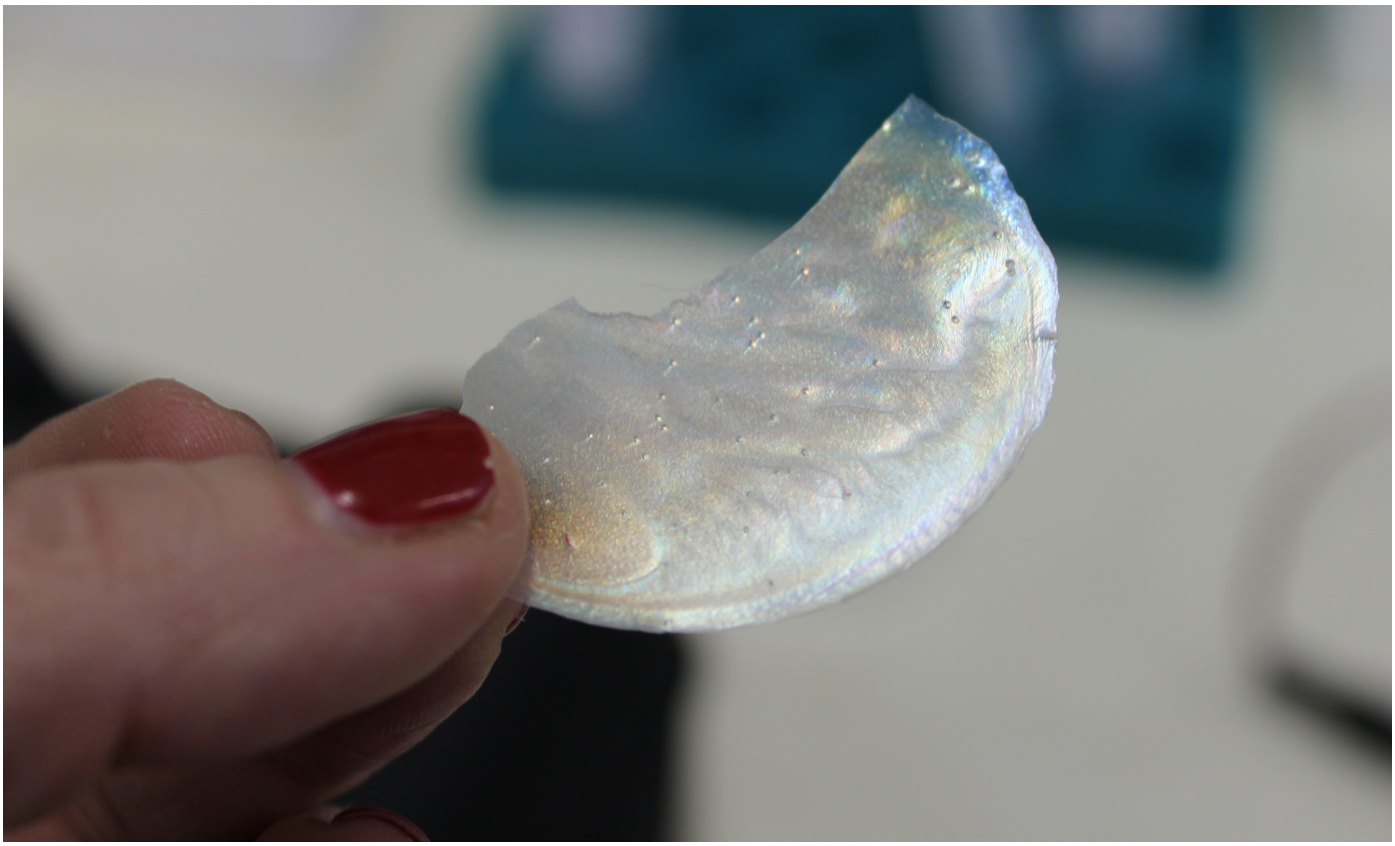
Fleeting

Arielle Blonder, Shira Shoval
In collaboration with Dr. Tiffany Abitbol

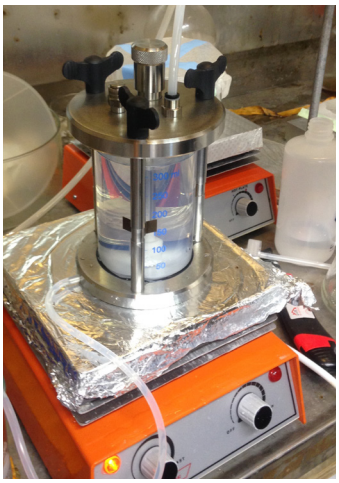
Nanocellulose Casting
1200X450 mm
2016-2017

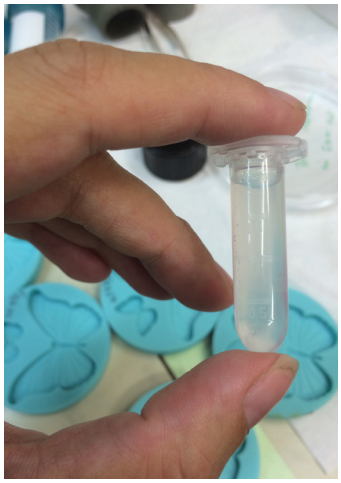
Fleeting is a series of over one hundred crafted butterflies, showcased as a meticulously arranged zoological collection, or a display of precious jewelry. The delicate butterfly-shaped objects, of lacy texture and metallic iridescent colors, are pinned and marked methodically in a collectors' box. It is an art piece of creative material exploration, taking place at the scientist's lab. The collaborating duo of Shira Shoval and Arielle Blonder, textile designer and architect, meets the chemist Dr.Tifanny Abitbol, to explore the magic of Nanocellulose.

Nanocellulose (NCC) is a biopolymer of nanometric size, enhancing nature's extraordinary properties of cellulose. Found in paper and textile waste, cellulose is the most abundant fiber on earth, being the main component of the plants' cell wall. Its high strength, flexibility and resilience make it an attractive resource for various industries and applications. Isolated from cellulose in a lab process, the resulting colorless liquid of varying viscosity presents attributes such as excellent mechanical, electrical and optical properties.



Some types of NCC can be cast, making a thin film-like membrane that exhibits birefringence, the variable refraction of light depending on light polarization that results in a vibrant iridescent color. This phenomenon is the underlying principle of the beauty of iridescence found in surfaces of natural organisms such as butterfly and beetle wings or mother of pearl.





‘Fleeting’ takes the butterfly as a means of exploration and representation of the optical effect, and the ability to control its coloration parametrically. Through careful variation of ultrasonic energy in the material fabrication process, the appearance of the colorless liquid varies gradually. Shifting from cold, blueish-silvery colors to warm orange-red golden shiny surfaces, its material resembles precious minerals rather than paper. This work sets the starting point for future exploration of the interfaces between biodesign, parametric design and new materiality.

Coloured expression of different energy levels. (Top-low energy, bottom - high energy)
Butterfly dimensions: 50X35 mm

Parametric array of 122 butterflies arranged by ascending energy levels (photo: Leonid Padrul)

The work is currently on show at the Muza- Eretz Israel Museum Tel Aviv, in the group exhibition “On the Edge- Israeli Paper”.

The work is a collaboration with Prof Oded Shoseyov Laboratory for Nano Biotechnology, The Robert H Smith Institute of Plant Science and Genetics, The Hebrew University of Jerusalem and Melodea Ltd Israel.

Parametric array of 122 butterflies arranged by ascending energy levels - Segment. (photo: Leonid Padrul)

From lab to studio; assembling the butterflies into the finished composition

At work in the studio

We are addicted to MATERIALS.
Materialism is our spirit
Materiality is our playground
Material innovation is our game

Arielle Blonder is an architect combining academic activity with her architectural practice Amaglama, with projects ranging from architectural design and unique outdoor spaces to sensorial environments for people with special needs, exhibitions, textile design and more.
Graduated from the AA school of Architecture in London (EmTech) and the Techion Faculty of Architecture and Town Planning in Haifa, where she is currently a PhD candidate, researching composite materials and Fabric Materiality, searching for novel processes for architectural applications of FRP. She has been teaching in various leading design and architecture faculties in Israel.

Shira Shoval is a textile designer, artist, researcher, writer and expert in the field of design materials; her works have been exhibited in group exhibitions in Israel and abroad.
Director of Aharon Feiner Eden Materials Library at Design Museum Holon, Israel's unique materials' library, Shoval strives to promote material innovation by collecting and displaying materials, while creating new business opportunities for professionals from different fields. As a Graduate of the prestigious Textile Department of Shenkar College of Engineering and Design, Shoval teaches today innovation in materials and technologies at the department.

Under the label **Jacquard2.0,** Blonder and Shoval have been colloaborating since 2013, exploring the limits of material expression and design. Their works have been exhibited in multiple group exhibitions.