

Maria Peñil Cobo



Cell to Cell

Dr. Mehmet Berkmen

BacArt's Mission is to Bridge the Gap

"The oldest and strongest kind of fear is fear of the unknown."
– H.P. Lovecraft

Bridging the gap between Humans and Microbes:

Microbes were the first living things to inhabit this planet and have shaped every aspect of our ecosystems for the past 4 billion years. They represent the largest biomass, the most biodiversity, and are essential for recycling key elements and for human health. They are everywhere and all over our bodies, yet are invisible to our eyes. We do not see them nor notice them. Usually, we interact with them only in the context of disease and rot. This imbalanced and misinformed relationship that humans have with their own microbial community causes fear and disgust.

Our core mission is to change the relationship humans have with microbes. Using the universal language of art, we would like to bring the invisible to the visible. To familiarize the public with the beauty of bacteria. To engage the public into a deeper understanding and increase their awareness and interactions with the microbial communities in and around us.

Ultimately to enlighten and disseminate knowledge.

Bridging the gap between Arts and Sciences:

The description of Reality has been artificially split into methods of arts and sciences. This separation is reflected in our academic institutions and taught at a young age to growing minds. The philosophical separation between arts and sciences is rooted in history and culture, not in reality. We believe that the artistic and scientific methodologies of describing reality are equally valid. A holistic approach to describing reality using the methods of arts and science is essential to have a more complete understanding of our world.

Collaborative efforts between artists and scientists is therefore essential in bridging this artificial chasm.

How we bridge the gap:

Using agar, a gelatinous-like substance to fill the petri dish, we create a canvas where the microbes can be spread around like paint and allowed to grow and create art. Unlike most forms of art, our 'paint' is alive, and will live, breathe and grow over time, often in unforeseeable ways. It is not constant and the artist does not have full control of its medium. In order to preserve the final artwork, we seal the agar petri dishes with epoxy, thus enabling the viewers to touch and handle the work in safety. We also capture the bacteria growing in time-lapse movies, using a special chamber we built. Currently we are working to expand our art to 3D agar structures and bacterial art jewelry.



Who we are:

Maria Peñil Cobo is a Spanish mixed media artist born in San Vicente de la Barquera, a small fishing village by the Atlantic coast. In 2001, Maria moved to Madrid to study Fine Arts at the University Complutense, where she also completed her Masters in Art Education.

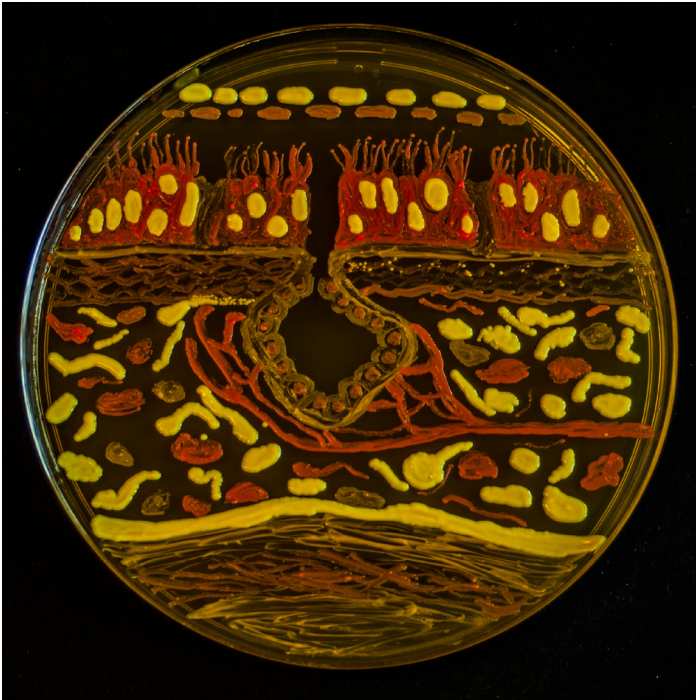
Maria mainly works with natural media, such as hemp, bees wax, wood, branches, thread and fabrics. She is adept at wood carving and sculpture and her main source of inspiration is the natural world. Peñil creates works related to patterns and structures found in nature, organic and primitive shapes that make the observer uncomfortable and warm at the same time.

Maria moved to Beverly, MA in 2010 and soon after met Memo in 2011. Together, they have been exploring making living art with bacteria grown on agar ever since.

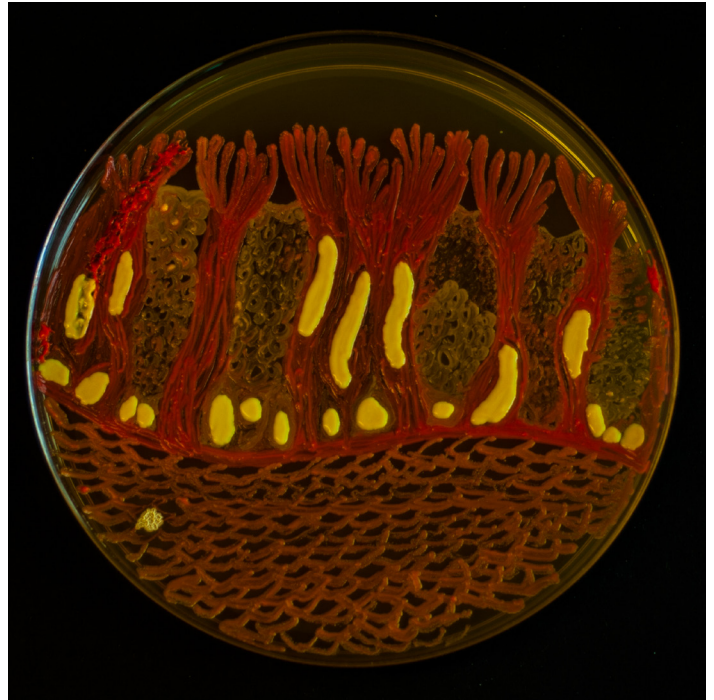
Dr. Mehmet Berkmen also known to his friends as Memo, is a Turkish-born international microbiologist having received his education in Vienna, Toronto, London, Houston and Boston. Memo's dream since his childhood has been to conduct high level science while at the same time making art using the same scientific methodologies. Memo is currently a Senior Scientist at New England Biolabs where his laboratory conducts research on genetically engineering bacteria to produce proteins.

BioArt: *By making microbes visible as art we hope to reset society's thinking about these amazing microorganisms, losing our fear of the unknown and the unseen and letting curiosity take command.*

Using agar, a gelatinous-like substance to fill the petri dish, Maria creates a canvas where the microbes can be collected, spread around like paint and allowed to grow.



Epithelial Cells I



Epithelial Cells II



Epithelial Cells III



Explosion



Mask I



Mask III



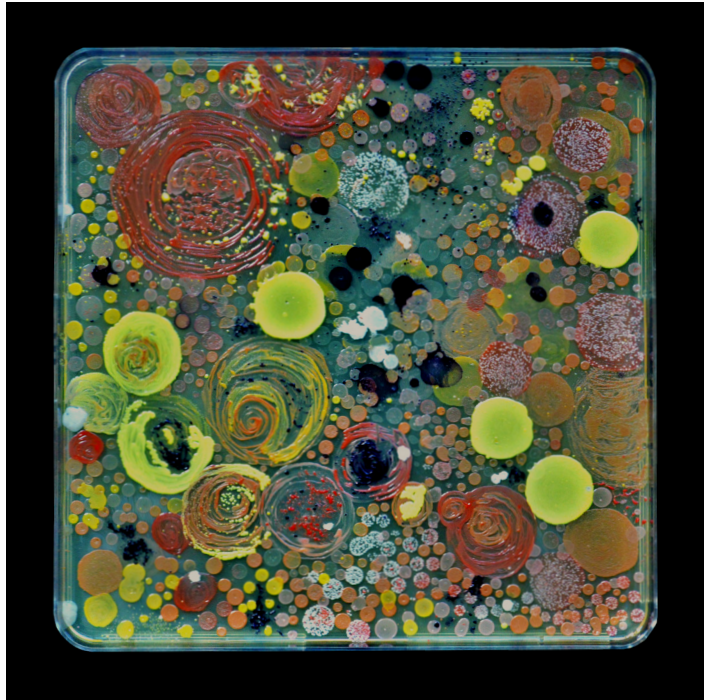
Neuro Study I



Brain Matter



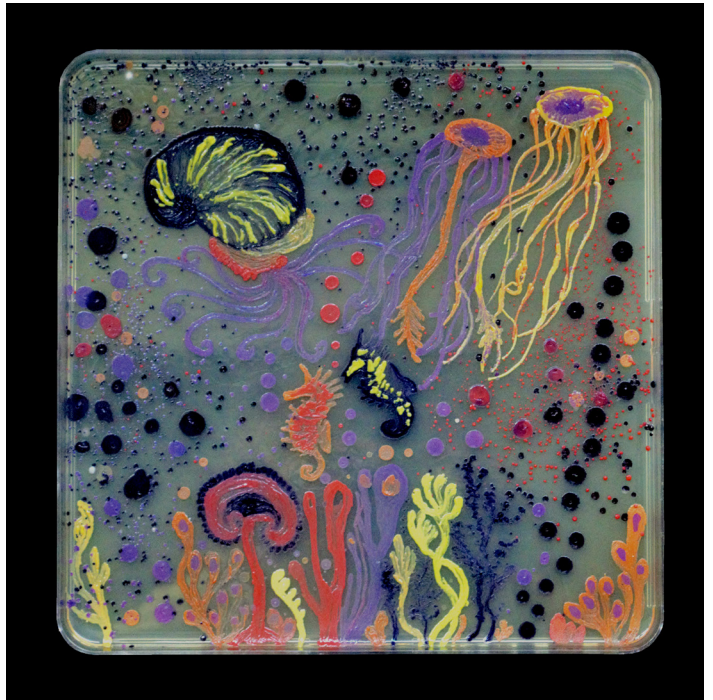
Bloom Surprise



Interactions



Seascapes VII



Seascapes IX



Seascape Study II



Remainders I



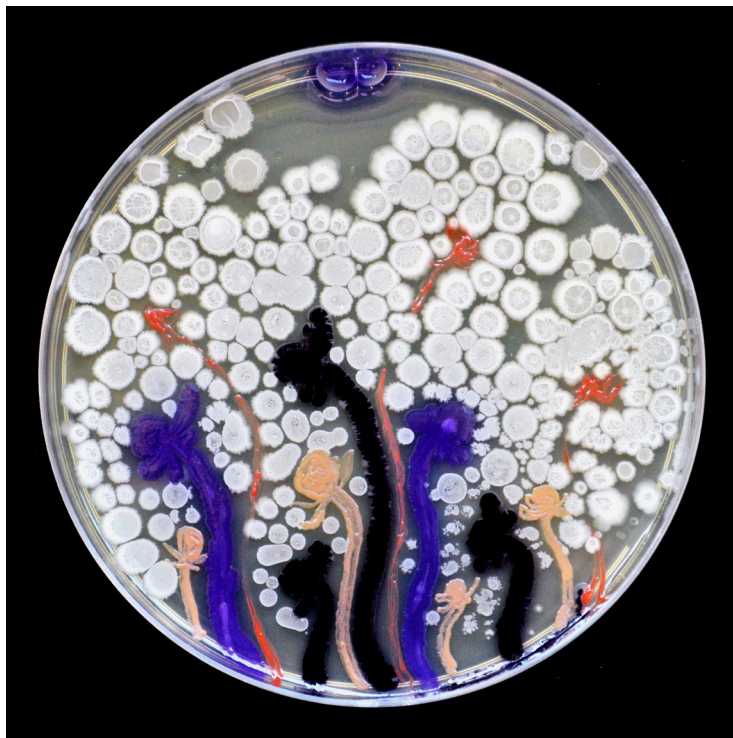
Swarming



Seascape Study I



Sustenance



Diversity

OTHER WORK

Sculpture: *Giant Chrysalis*, cocoons connected by pipes, nests, Art installations made of organic and primitive shapes that make the observer uncomfortable and warm at the same time. Habitable structures made of wood, branches, thread, rope, sackcloth and covered with hemp and raw beeswax.



Transformaciones



Instalation Galileo Madrid



Conexiones

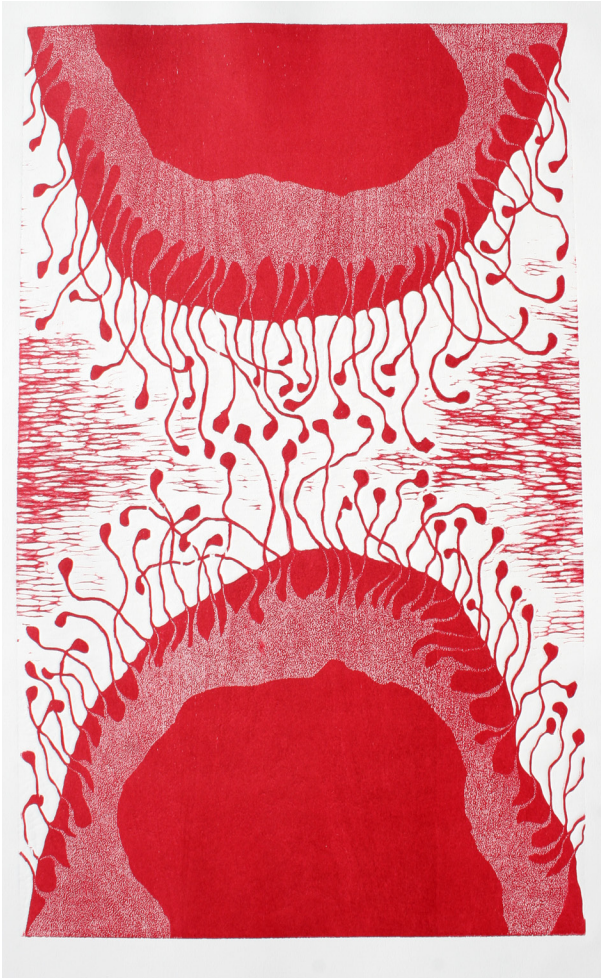


Metamorfosis



Crisálida

Engraving: *The following engravings are xylographs, carved in woodblocks and printed in a tórculo or etching press.*



Conexión II



Subconscius Landcapes I



Subconscius Landcapes II



Brain Matter



Subconscius Landcapes III

Photography:



Caracola



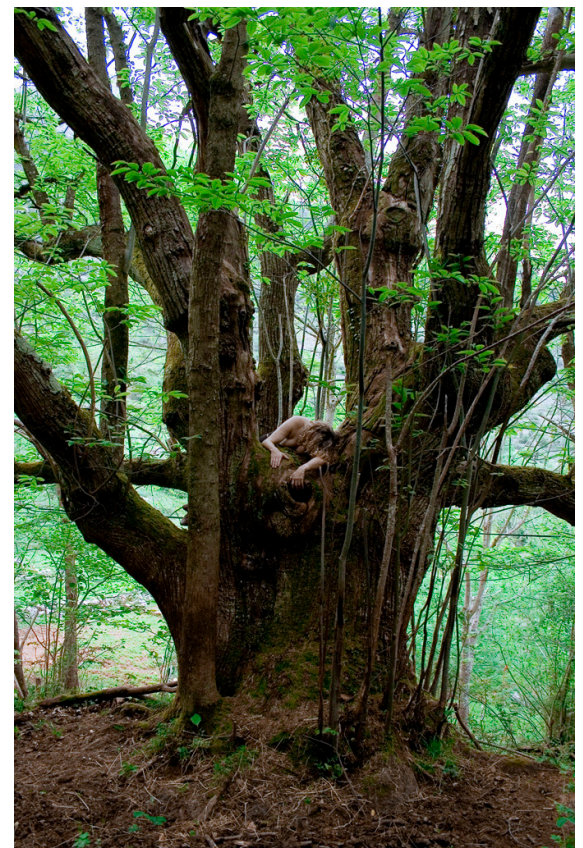
Germinal I



Sirena



Awaiting



Hearing Your Thoughts

MARIA PEÑIL COBO EDUCATION

2009 Masters of Fine Arts in Art Education, University Complutense of Madrid, Spain
2008 Bachelor of Fine Arts, University Complutense of Madrid, Spain
2002 Bachelor of Tourism, SEK University, Segovia, Spain

MEHMET BERKMEN EDUCATION

2000-2006 Postdoctoral fellowship in Microbiology and Molecular Genetics Harvard Medical School, Boston, MA
2000 Ph.D. in Microbiology, University of Vienna, Austria and University of Houston, Houston, TX
1993 M.S. in Biotechnology, University of Reading, England, UK
1992 B.S. in Biotechnology, Imperial College of Science and Technology, London, UK

PUBLIC OUTREACH

2018- Speaker+Workshop, Me convention, Stockholm, Sweden.
2018- BioArt Workshop, New England Biolabs, Ipswich MA
2018- BioArt Workshop, Wellesley College, Wellesley MA
2018- STEAM showcase, Ipswich High School, Ipswich MA
2018- BioArt Workshop, Emmanuel College, Boston MA
2017- BioArt Workshop, Ipswich High School, Ipswich MA
2017- Podcast Interview, Mendelspod: Art in the lab (Falling in love with bacteria)
2017- Panelist Catalyst conversations at HUBweek, Boston MA
2017- TEDx Talk "Bacteria is beautiful", Columbia College, Chicago IL

SELECTED ART EXHIBITIONS

2018 NEST Studio for the Arts, University of Colorado CO
2018 Fountain Street Gallery, Boston MA
2018 Deerfield Valley Art Association, Northfield MA
2018 Emmanuel college, Boston MA
2017 Forum Labo Paris, "From the infinitely small to the infinitely large" Paris, France
2015 ASM Art Gallery, Washington DC
2015 The BAD Tour, Beverly MA
2015 New England Bio Labs Gallery, Ipswich MA
2015 Beverly Main Streets Public Art, Beverly MA
2015 Zeitgeist Gallery, Beverly MA
2014 Salem Art Festival, Salem MA
2014 Cultural Center Galileo, 11-11-11, Madrid Spain
2013 Art Walk Monserrat College, Beverly MA
2012 Salem Art Festival, Salem MA
2012 Endicott College, Beverly MA
2011 Art Walk Monserrat College, Beverly MA
2011 Soma Restaurant, Beverly MA
2011 Eco Gallery Green Festival, Boston MA
2011 17 Cox Gallery, Beverly MA
2010 La Parra Museum, Santillana del Mar Spain
2009 Siboney Gallery, Cantabria Spain
2009 Cultural Center Galileo, Madrid Spain
2009 Cultural Center Circulo de Recreo, Torrelavega Spain

2009 Cultural Center Isabel de Farnesio, Madrid Spain
2008 Faculty of Fine Arts, University Complutense of Madrid, Madrid Spain
2008 Center of Art Studies Felipe Segundo, Madrid Spain
2007 Young Creators Aranjuez Cultural Center Isabel de Farnesio, Madrid Spain
2007 CES Felipe II, Madrid Spain
2006 Cultural Association Nucleos, Aranjuez, Madrid Spain
2006 Cultural Center Isabel de Farnesio, Aranjuez, Madrid Spain
2005 Public Art Festival of Aranjuez, Madrid Spain

SELECTED PUBLICATIONS

2018 “Ripley’s Believe It or Not”: Odd is Art, book cover, London England
2018 “Journal of Bacteriology” magazine cover, January 2018, volume 200, Washington DC
2017 ASM: How to make Agar Art tutorial, Washington DC
2017 “Science de la vie et la terre cycle 4”, book cover, Paris France
2017 “Journal of Bacteriology”, time-lapse paper publication, Washington DC
2017 “Avant Funk” by Justin Piper CD cover, Beverly MA
2016 “Germ Wars” The Politics of Microbes and America’s Landscapes of Fear
by Melanie Amstrong, book cover, University of California CA
2016 NEB TV: Passion in Science-Episode 14, Ipswich MA
2016 Salem News:” Making Art with Bacteria”, Salem MA
2016 “Journal of Bacteriology” magazine cover, May 2016, volume 198, Washington DC
2016 Pasion in Science website images, New England Biolabs, Ipswich Ma
2016 Janssen Human Microbiome Institute website images, Raritan NJ
2015 “ARS Discoveries” magazine cover, New Rochelle NY
2014 “Cien plumas y pico” book cover, Cantabria Spain
2013 “Esta noche te sueno” book cover, Cantabria Spain
2012 “Esta noche te cuento” book cover, Cantabria Spain
2011 “Los Sugar Kings” CD cover, Boston MA
2010 “EL ECO” magazine, Cantabria Spain
2009 “Metronome” magazine, Boston MA
2009 “La Brujula” magazine cover, Cantabria Spain
2008 “La Brujula” magazine cover, Cantabria Spain
2008 UBISVB website photography, Cantabria Spain
2008 “Ritmos Interiores” Centro Cultural Galileo catalogue, Madrid Spain
2008 Los Sugar Kings website photography, Boston MA
2007 “Young Creators” Centro Cultural Isabel de Farnesio catalogue, Madrid Spain

AWARDS

2018 Third Place, Agar Art Award, American Society of Microbiology, Washington DC
2017 Forum LABO, contest of the most beautiful scientific photos, Paris France
2015 FASEB BioArt Competition, Bethesda MD
2015 First Place, Agar Art Award, American Society of Microbiology, Washington DC
2015 People’s Choice, Agar Art Award, American Society of Microbiology, Washington DC
2015 First Place, Beverly Main Streets Downtown Banner Program, Beverly Main Streets, Beverly MA
2007 Finalist, Young Creators Award, Aranjuez, Madrid Spain
2005 First place, First Public Art Festival, Aranjuez, Madrid Spain