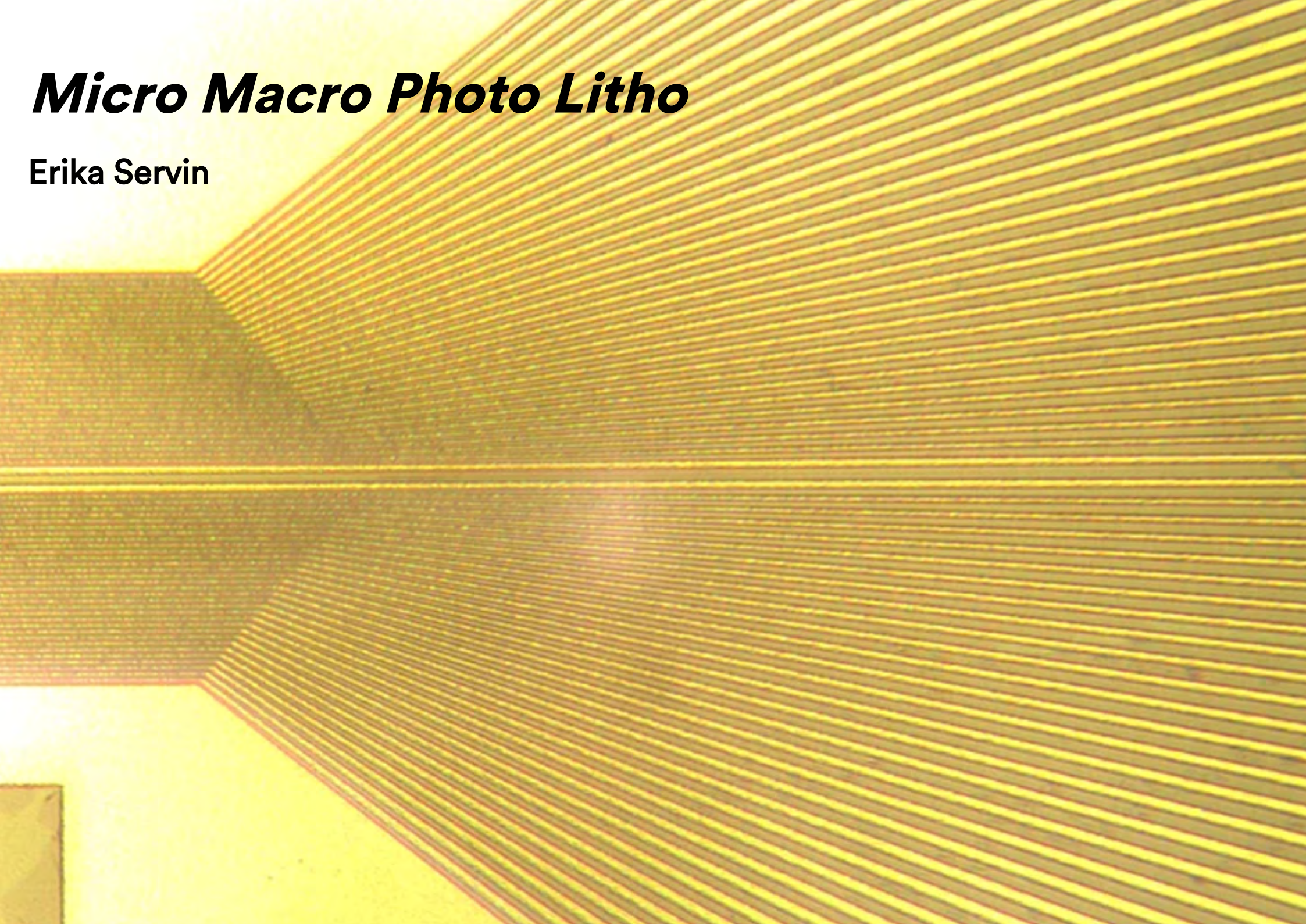


Micro Macro Photo Litho

Erika Servin



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Micro Macro Photo Litho (2018), Biblioteca Central, Santander, Spain.
Exhibited as part of the IMPACT 10 International Printmaking Conference 2018, University of Cantabria

Erika Servin & Dr Enrique Escobedo-Cousin *Micro Macro Photo Litho*

STATEMENT

Micro Macro Photo Litho (2017-18) was the outcome of an exploratory collaboration between artist-researcher Erika Servin and biomedical engineer Dr Enrique Escobedo-Cousin. The work originated with a shared interest in how a single technology, photolithography, is used in both fine art printmaking and semi-conductor micro-fabrication. Servin and Escobedo-Cousin collaboratively developed knowledge and techniques in both fields to build on their prior expertise and to extend Servin's work on subcultural identities.

Print series 1: comprised a series of 'macro' prints depicting medical electrodes used to study human skeletal muscle. These were produced by Servin using fine art lithographic print processes. Designed for public exhibition, the large-scale prints focussed upon innovations in nanotechnology developed at Newcastle University, making visible the devices and processes that normally go unseen, and enabling new audiences for Escobedo-Cousin's work.

Print series 2: consisted of small-scale 'micro' prints, made by Escobedo-Cousin using the equipment depicted in the macro prints. These could only be viewed by being mounted on glass slides and viewed through the microscope. This theme of making visible the invisible was also conveyed in the subject matter, original images by Servin, depicting Mexican citizens from minority groups and subcultures.

The nano-scale lithographic prints demanded new modes of viewing, in turn fostering a different relationship between the viewer, the prints and the subject matter, and encouraging audiences to rethink colonial depictions of ethnic groups in Mexico.

The project was funded by Newcastle University's Institute for Creative Arts Practice.

OUTPUTS

- 20 photo-lithography prints (76 x 56cm) by Erika Servin, based on the circuits for biomedical research devised by Escobedo-Cousin.
- 10 microscopic-scale prints on platinum and gold (0.5 x 0.5mm), representing Mexican subcultures. Printed by Escobedo-Cousin using original images by Servin.
- The work was exhibited in individual and group exhibitions in the UK, Mexico and Spain, 2017-18.



Cholombiano (2017) seen in viewmaster scroll of images. Image from exhibition at T.A.C.O Gallery, Mexico City, 2017.



Erika Servin, *Macro 10*, photo-litho print, 76 x 50cm 2017

Erika Servin & Dr Enrique Escobedo-Cousin *Micro Macro Photo Litho*

XL Gallery, Newcastle University,
5 June – 7 July 2017.

T.A.C.O. Gallery, Mexico City, Mexico,
20 November – 5 December 2017

Biblioteca Central, Santander, Spain,
1 September – 9 September 2018.
Part of IMPACT 10, International Printmaking
Conference, University of Cantabria.

Fig Bilbao 2018, International Etching and Art
on Paper festival, Palacio de Euskalduna,
15-18 November 2018.



Above: poster for *Micro Macro Foto Litho*, T.A.C.O. Gallery, Mexico City, Mexico.
Below: installation in the gallery

Servin (2018) *Micro Macro Photo Litho*. An academic paper presented at Impact 10, International Print Conference, Santander, Spain, 1-9 September 2018.

Presented as part of:
Panel 7: Bio-Medicine and Traces in Print

Abstract available at:
<https://www.academia.edu/37469223/impact.docx>

IMPACT is one of the largest professional conferences for printmaking. It was first held in 1999 by the Centre for Fine Print Research at the University of the West of England.

IMPACT 10 was the tenth edition of the International Printmaking Conference.



Servin giving her paper at Impact 10, University of Cantabria, Santander, Spain, 7 September 2018.

Erika Servin & Dr Enrique Escobedo-Cousin *Micro Macro Photo Litho*

Micro Macro Photo Litho contributes to contemporary fine art printmaking practice by offering an innovative example of cross-disciplinary collaboration, resulting in reciprocal knowledge exchange through its exploration of the use of scale. The project built upon the representation of scientific material in contemporary printmaking (e.g., Aldworth) to integrate fine art printmaking into the scientific process, enabling the scientist to gain a new audience for their work.

The exchange of ideas between biomedical engineering and fine art was central to *Micro Macro Photo Litho*. Print series (2) consisted of microscopic-scale images, printed via deposited layers of gold or platinum, which could not be viewed unaided by the human eye. This disrupting of normal modes of display resulted in a rethinking of the role of scale in relation to the work of both collaborators.

An exploratory dialogue between Servin and Escobar-Cousin impacted on the work of each. The images of tiny muscular probes, when printed onto the macro-scale, acquired a new significance by bringing new audiences for this area of scientific work – an important goal for Escobar-Cousin and his colleagues, and prompted discussion among diverse audiences regarding the future of nanotechnology.

Servin's drawings, upon which the prints are based, represent contemporary subcultures in Mexico, such as the *Cholombianos* and *los Chuntaritos* - a northern Mexican urban youth subculture from the city of Monterrey, remixing Colombian cumbia and vallenato music (Watkins, 2015). '*Los Chuntaritos*' is a term, often misappropriated as derogatory, which describes a youth farmer native to Michoacan, and other northern states of Mexico.

The scale of the micro prints obliges viewers to look at the images through a microscope. This physical act of scrutiny brings the viewer into an intimate relationship with the image, changing their relationship with the subjects portrayed.

Servin used the exploratory process to develop her work in this area:

- To reflect cultural identity as non-fixed, creating new contemporary depictions of Mexican cultural groups
- To find new ways of viewing cultural identities through the genre of portraiture in contemporary art printmaking
- To develop new ways of looking at portraiture, in terms of scale, through collaboration with scientific imaging specialists



Left: the microscope set up for viewing the prints
Right: Viewing the prints, T.A.C.O. Gallery, Mexico City, 2017

Servin's research-based practice draws the unique qualities of reproduction and graphic possibilities of printmaking into an already well-established dialogue with Mexican politics.

Through her work, she translates symbols used within Mexican popular culture into more complex narratives. This brings a different dimension to the political aspect of Mexican printmaking, contributing to its role in reflecting and supporting societal changes.

Micro Macro Photo Litho builds on Servin's research into minority subcultures and social issues within Mexico. This is reflected in current project work *Pulque*, which explores the gentrification of 'pulqueria', low-class social spaces with a distinctive visual culture.



Erika Servin, *Macro 3*, photo-litho print (2018), 50 x 50cm

Servin's interest in Mexican subculture developed from interrogating the colonial Mexican 'casta' (caste) system, which influences depictions of certain cultural groups to this day.

If cultural identity should be regarded as fluid and not predetermined, there is a need to find new ways of representing minority cultures, by replacing discriminatory images related to the 'casta' system with contemporary representations of cultural groups. This draws upon broader cultural studies methodology, in particular the study of past and current anthropology of Mexico (Cesar & Negrete, 2000).

Responding to historical work by Miguel Cabrera, which presents a typology of categories within Mexican society, Servin sought to produce a contemporary visual identity, providing a different way of visualising minority cultural heritage in Mexico.



Left: Erika Servin, textile print 2018

Right: Oil painting by Miguel Cabrera. C. XVIII Museo de La Raza, Mexico City

The micro photolithography prints were created to provide an alternative type of social genealogy, which moved away from earlier problematic typologies to find new methods of portraiture, giving a new kind of representation and visibility to minority cultural groups.



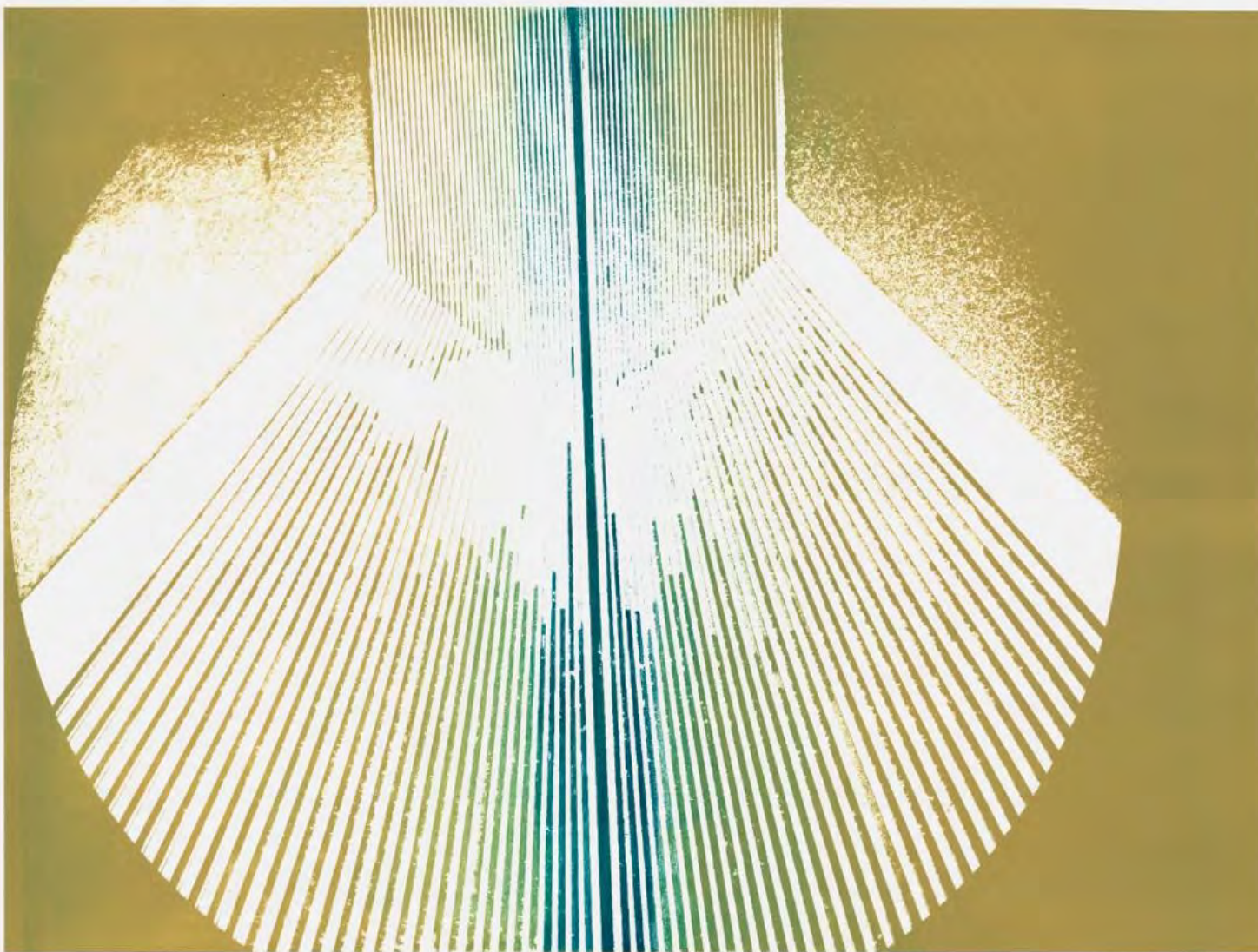
Erika Servin, *Micro pint* viewed through a microscope of a portrait of a contemporary Menonita, 2017

To understand the photolithography process from two distinct areas of study and application, contemporary art printmaking and semiconductor micro-fabrication, Servin and Escobedo-Cousin first conducted demonstration sessions for each other in their respective print labs, revealing how they use lithographic print in their own work.

Working to a brief from a medical consultant, Escobedo-Cousin designs visualisation processes that are customised in relation to both functionality and to each patient. He provided Servin with hundreds of digital image files, from which she selected 20 images, guided by the variance of forms and pattern. Servin interpreted this variance and individuality as analogous to her own interests in social non-conformity and in giving visibility to minorities, showing a heterogeneity in society.

Servin added colour to the macro-photolithography prints using a fine art lithographic print process. The choice of colour was determined by the type of metal used, drawing further attention to the process of lithographic print and the variance in materials used across both disciplines. A two-colour separation was created for each file, and two different aluminium photo plates were used to reproduce Escobedo-Cousin's semiconductor device designs, enlarging their size and making them visible to the naked eye.

New challenges emerged while producing these prints, inspiring experimentation in the printing process and allowing Servin to achieve new qualities within the medium, especially in relation to colour selection and saturation.



Erika Servin, *Macro 5* (2017), photo-litho print, 76 x 50cm

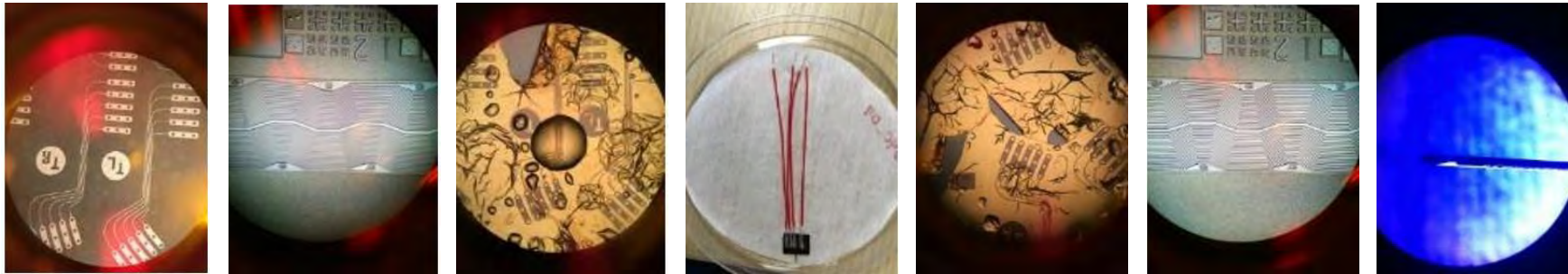
Erika Servin & Dr Enrique Escobedo-Cousin *Micro Macro Photo Litho*

To create the micro photolithography prints, Servin gave Escobedo-Cousin 22 digital drawings based on her work within contemporary Mexican subcultures. Escobedo-Cousin required Servin to edit the graphic information to produce a monotone image with one consistent and unbroken line of a certain intensity.

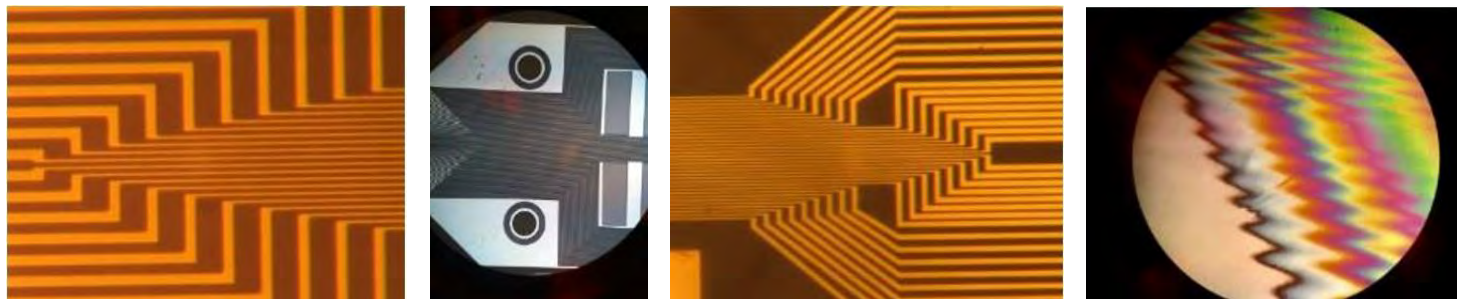
The images were converted using a programme developed by Escobedo-Cousin, which could read images in conventional formats (.jpg .tiff .png) and translate them into the vector image format (.gds) required by the photomasks used in microfabrication. The pixels of the drawn line were reduced to one micron, the smallest resolution that could be printed in the lab.

The images were then printed using photolithographic deposition in either gold or aluminium. The final images are of a scale that is only viewable by a microscope.

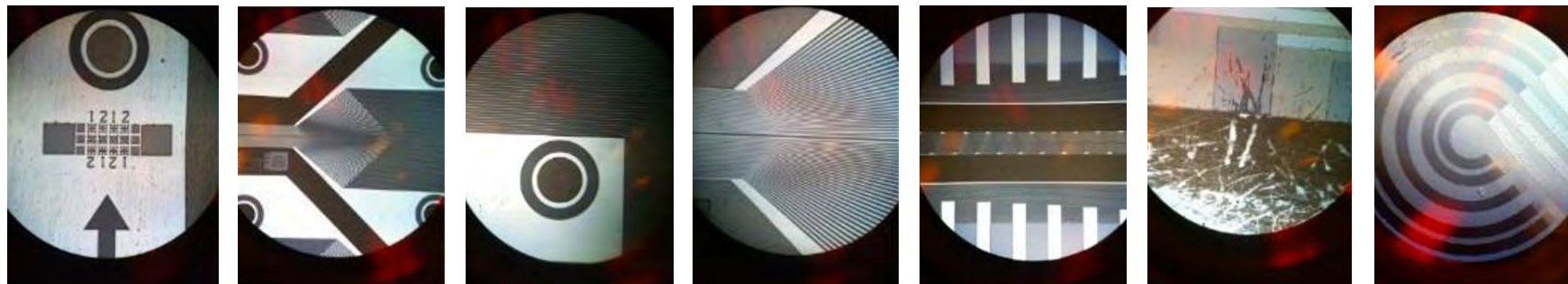
Macro Process - Technical



Images **not chosen** at the beginning of the selection process for two reasons: too much information or lack of contrast within the shapes.



Images tested as photolithography prints, but not chosen to be part of the exhibition due to their different nature in relation to repetition and patterns presented.



Examples of images **chosen** to be developed as macro imagery.

Creative Development of the macro prints, 2017

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Fig Bilbao (2018). International Etching and Art on Paper Festival. Palacio Euskalduna, Bilbao, Spain. 15-19 November 2018