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# MICROSCOPY AND ANALYSIS

MAKING **ART** FROM ALL  
KINDS OF **MICROSCOPY**





# Microscopy meets art

## How did you find your way into microscopy?

I was introduced to microscopy in the 1990's by Professor Ron Ottewill at Bristol University, UK, where I was working as a research technician making polymer lattices. Vials of these colloidal suspensions would be sent to another department for imaging, but I wanted to learn how to do it myself, so I did. Starting with TEM and then SEM, what I saw never ceased to amaze and delight me – how could materials that appeared so nondescript at the macroscale contain such fascinating structures at the microscale? I became irrevocably hooked. In 1995, I set off for the Physics Dept at Cambridge University, where a PhD project awaited with Professor Athene Donald, involving what was then, a mysterious new type of 'environmental' SEM.

## Why combine art and microscopy, and launch NANOVISS?

I unexpectedly hit a career crossroads in 2018, and paced up and down for a few months, trying to come up with something microscopy-related that I hadn't done before. And then I remembered a long-standing idea of bringing art and microscopy together, to sell as art prints or other items. I had no experience of such a business, and my husband said it was a crazy idea, but I set about figuring out how it could be done and within a few weeks had a plausible plan. Soon afterwards, I headed off to the International

*The Netherlands-based NANOVISS produces stunning artwork and objects from all kinds of microscopy images. Company founder, Dr Debbie Stokes, describes how she set up her unconventional business.*

Microscopy Congress – IMC19 – in Sydney, and talked to as many people as possible about my plans, eager to receive feedback. Immediately upon my return, NANOVISS was registered for business both for retail and consultancy activities.

## What makes a microscopy image a good print?

Probably the most important attribute is that the viewer can relate to the image in some way. I love a good (false-coloured) SEM image, and these sometimes work well for prints and other products, depending on the subject matter. Often, though, images that make a good print are either abstract or contain repeat structures – TEM images are great for repeat structures. In my search for suitable images, I've discovered polarised light microscopy and the striking, colourful patterns that can be produced.

## Has collaboration been important to your business?

Yes. NANOVISS got

started using image licenses from Science Photo Library and I also approached some of my associates at The Royal Microscopical Society, RMS. Peter O'Toole and some of his colleagues, along with Susan Anderson, were kind enough to contribute images at this early stage.

I was also put in contact with John Chapman, who has a vast collection of lovely polarised light images, and Tom Kelly generously donated some fabulous field ion images that had been turned into paintings resembling Aboriginal art, in a fun project with Emmanuelle Marquis and Dave Larson.

Later, the RMS Merchandise Collection was created, with the centrepiece being art prints based on entries to the RMS Micrograph Competition at mmc conferences. The proceeds go to the RMS to help fund Microscope Activity Kits for primary schools. The most recent collaboration is with Dublin-based entrepreneur Karl Gaff, whose microscopy art has brought him many awards, and rightly so.

## Can you tell us a little about your work with the RMS?

I was recruited to the RMS EM Section

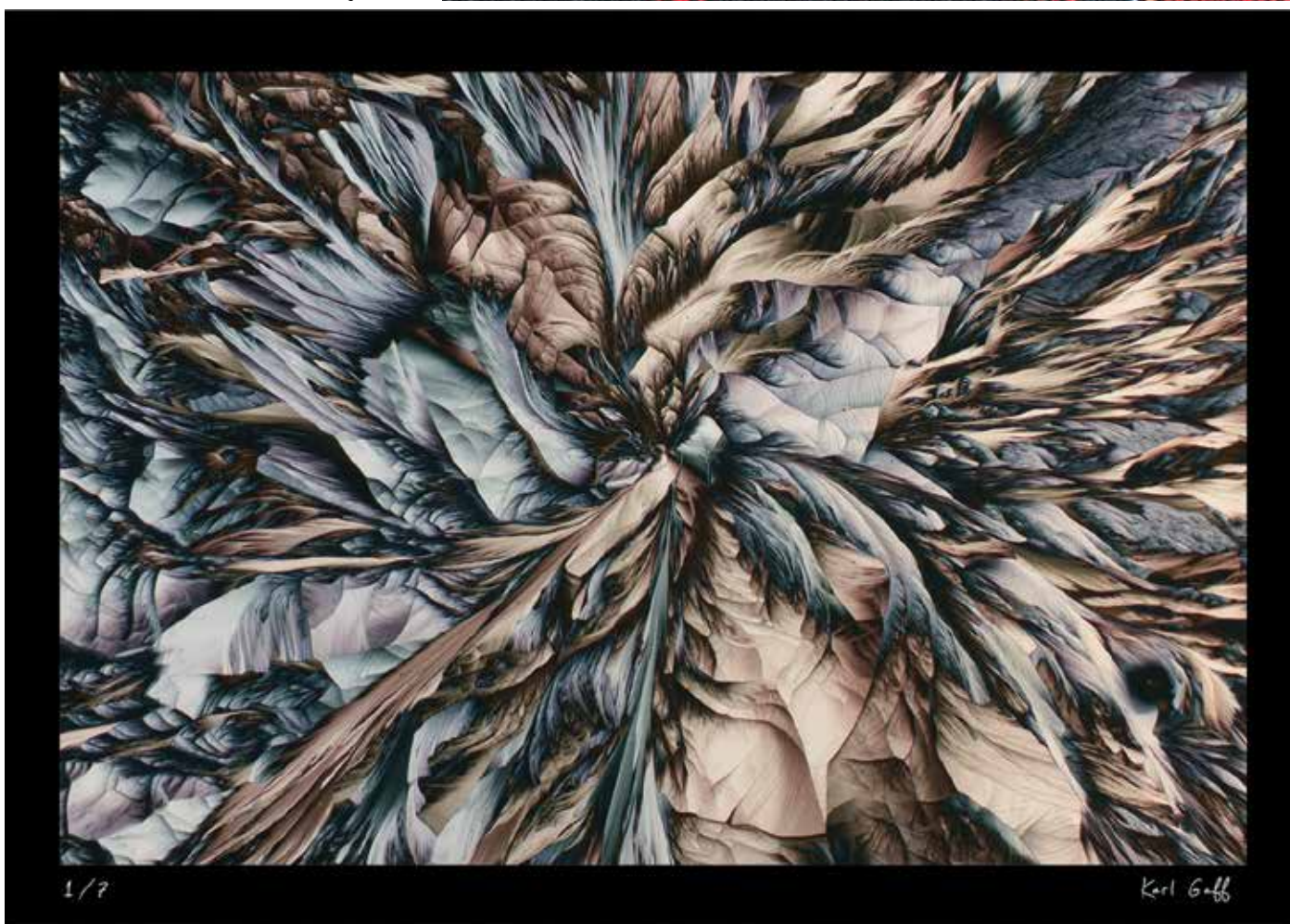
**A CHIFFON SCARF**, above, from NANOVISS shows SEM imagery of the scales on a butterfly wing. Image from Kenneth Bart, Visual Unlimited Inc via Science Photo Library





by Ken Robinson many years ago, and in 2005 invited by Chris Hawes to join the RMS Executive Committee as Honorary Secretary (Materials – now Physical Science). This role involves helping to oversee the Society's scientific programme, including its mmc conferences, jointly chaired with the Honorary Secretary (Life Sciences).

In 2012, the Society hosted the European Microscopy Congress and, being incumbent in the role at the time, this provided me with the opportunity to chair a major congress, and serve for eight years on the Executive Board of the EMS. I was also on the Board of IFSM, thereby simultaneously holding Executive roles at national, European and global microscopy societies. Other roles include RMS Vice President and International Secretary. My term of office came to an end in November 2020, but I remain on the Executive Committee for the time being, while



**A DROPLET** of amino acids crystallises to form this striking image. On close inspection, some of the features resemble feather-like structures. Imaged with polarised light microscopy. Karl Gaff

the Society steers through these difficult COVID-19 times.

#### Can you tell us more about your consultancy services?

The consultancy work has been really successful and hugely enjoyable. My biggest project to date was in consumer healthcare, where I designed experiments, identified suitable collaborators in various areas of microscopy and materials characterisation, and worked on-site

with them to quickly produce results that the client could use for sales training and marketing material for a new product. This got me back in the lab and doing science again, which was fantastic.

#### What advice would you give to someone looking to create a 'less conventional' company?

Starting a business is a real risk and takes a lot of time. It's really important to do the research and make a proper

business plan – know what's needed to be successful, and fully commit to it. My business is perhaps an odd combination, but it has a central, connected theme: microscopy. In the retail business it's tough to make money and takes time to get become established, so having income from another source is vital in the interim, in my case, consultancy work.

#### What are your future plans for

#### NANOVIZZ?

Aside from securing further consultancy work, I'd like to see the retail part serve a wider purpose. For example, it could grow into a hub or marketplace to support microscopy-inspired small businesses and entrepreneurs who would like to offer niche products, through the NANOVIZZ online platform. And I really must start writing that blog, to help get the word out about the wonders of microscopy to a broader audience.