

470 million years of design-engineering optical meta-surfaces



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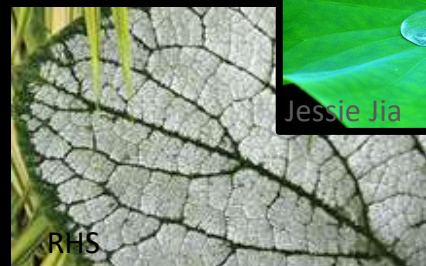
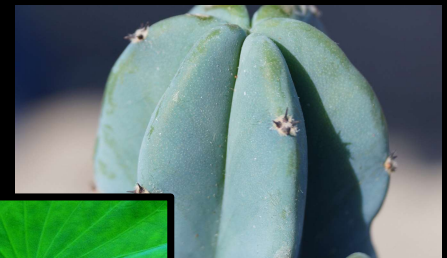
Botanic Photonics

Dr Rox Middleton

Lecturer in Nano Bio Photonics,
Physics

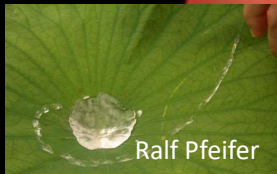
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Materials & sustainability





Ralf Pfeifer



Kevin Lino

SHARKSKIN
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Sharkskin, the original and still the best thermal layer on the market, has had a cosmetic overhaul and now fits better than ever.

Sharkskin is a revolutionary technical water sports garment suitable for many different active water sports from scuba diving, kayaking, jet skiing to water skiing and surfing. Sharkskin garments come in a large range of both sizes and styles providing the equivalent warmth of a 2.5 - 3mm neoprene wetsuit.

Sharkskin's 4-way stretch material combined with a carefully designed multi-panel cut for both men and women provides a superior body hugging, comfortable, non restrictive fit along with easy donning and doffing. Sharkskin is also odour and itch resistant, non chaffing, has outstanding sun protection (UPF 30+), is abrasion resistant, mildew resistant, lightweight and dries much faster than neoprene.

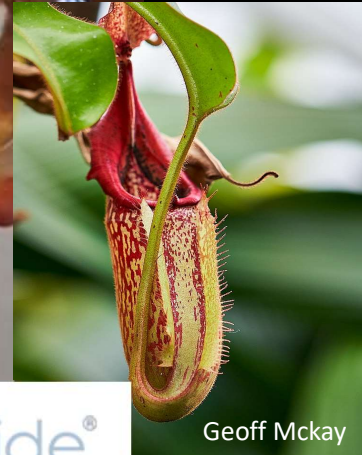
Sharkskin is the Australian Made product of choice for water sports enthusiasts who enjoy their sport all year round. Regardless of the forecast!

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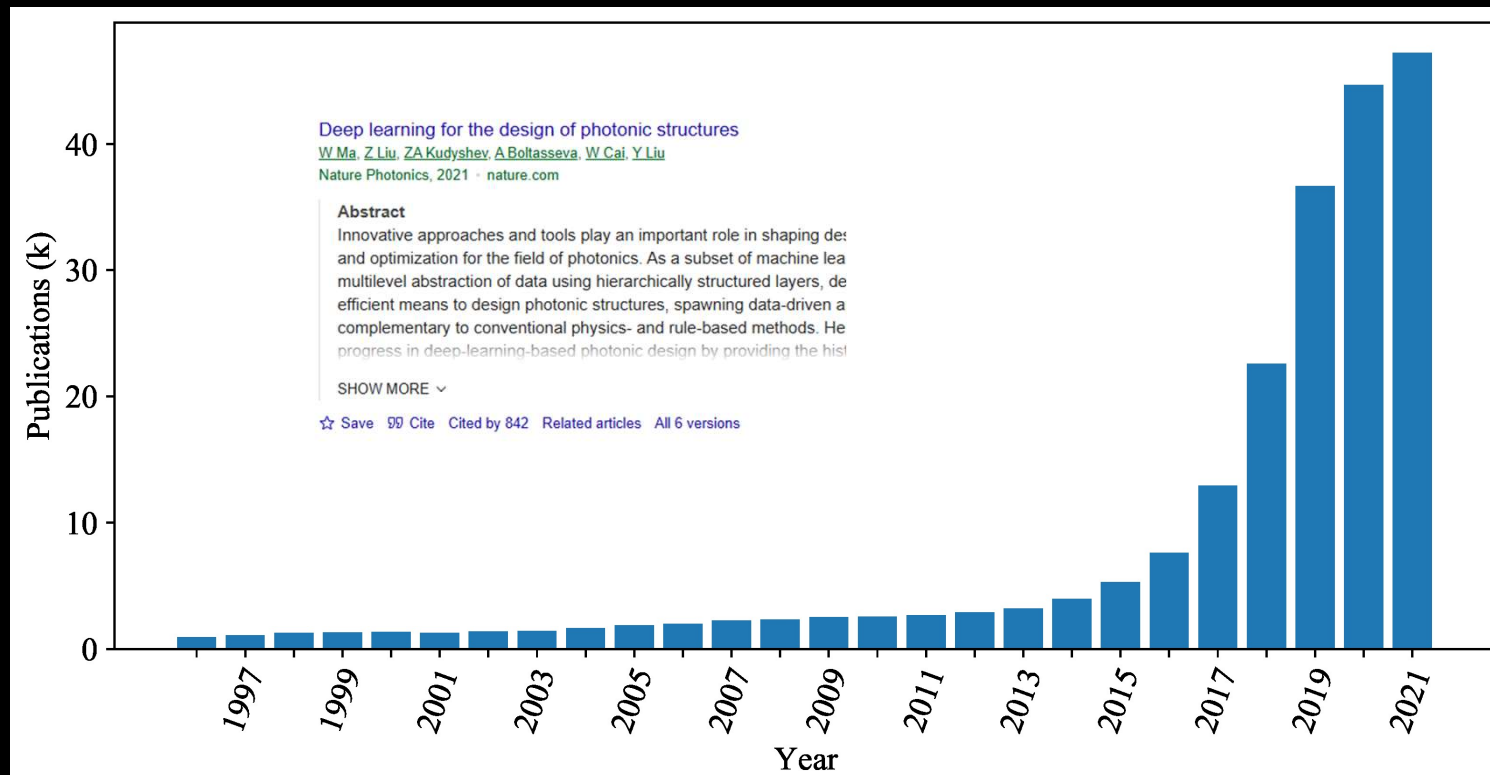
Regular glass

edgehog



Fedaro



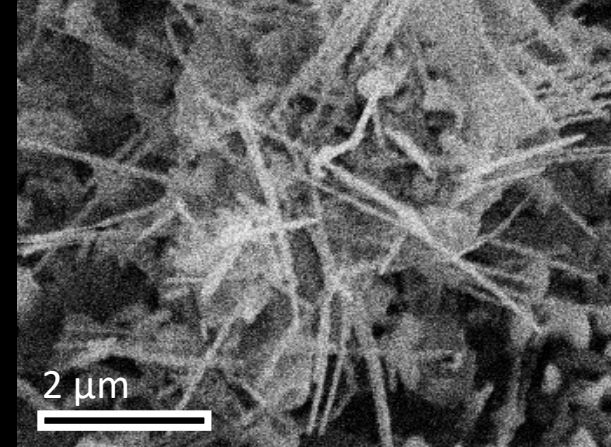
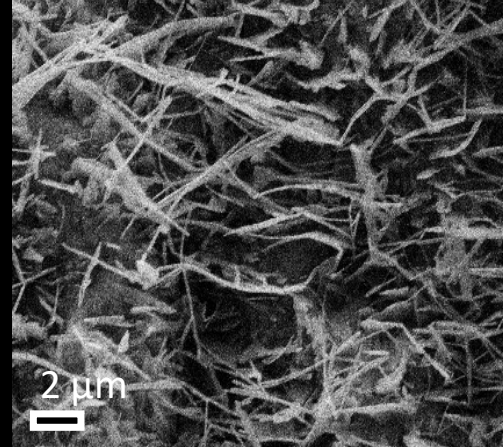
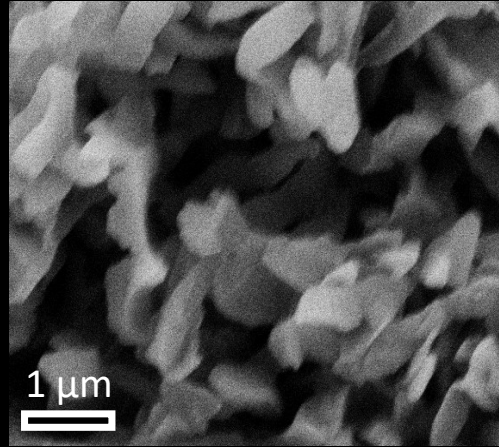
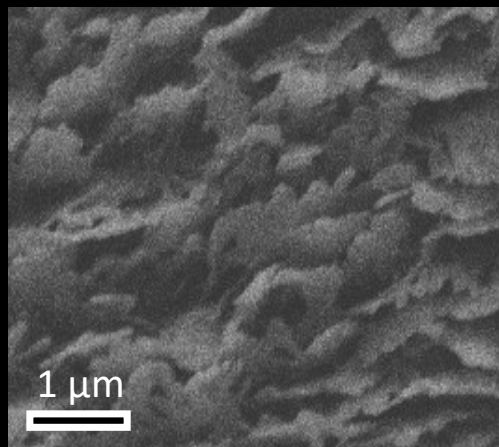
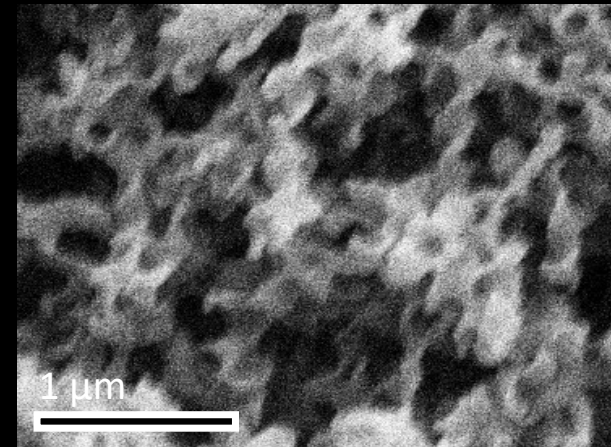
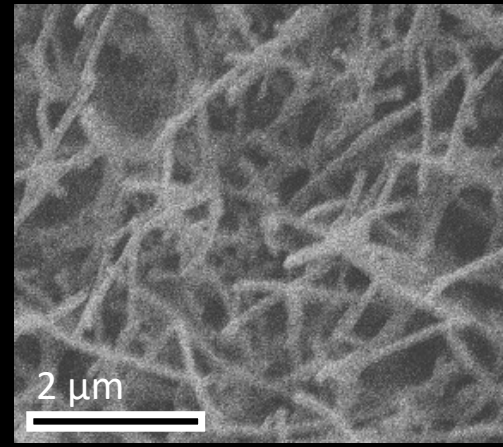
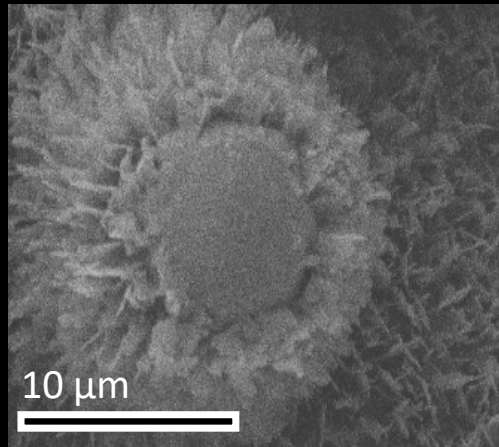
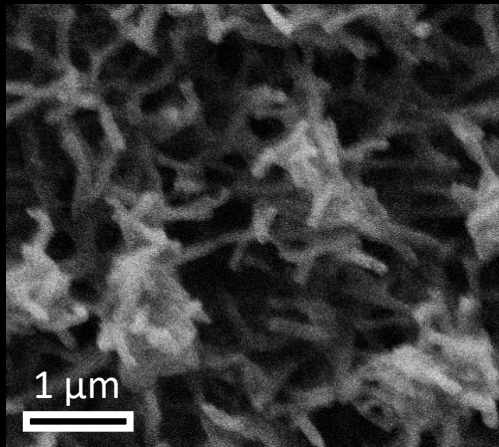


Alagappan, G. et al. Leveraging AI in Photonics and Beyond. *Photonics* **2022**, 9, 75.

Epicuticular Wax



Epicuticular Wax



Epicuticular waxes



Purity of the sacred lotus *Planta*
1997 Barthlott & Neinhuis

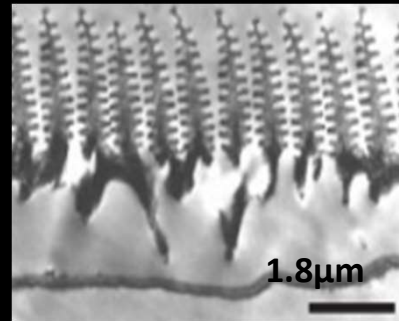


Neinhuis et al. 1997

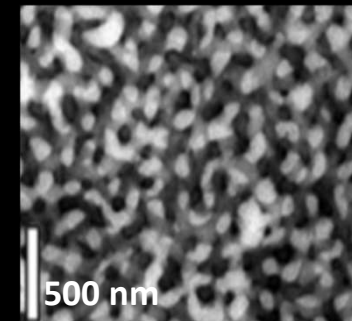




Vukusic et al. 2003



Saranathan et al. 2012





Dr Heather Whitney Dr Sverre Tunstad



Dr Susan McCallum



Prunus insititia



Mahonia aquifolium

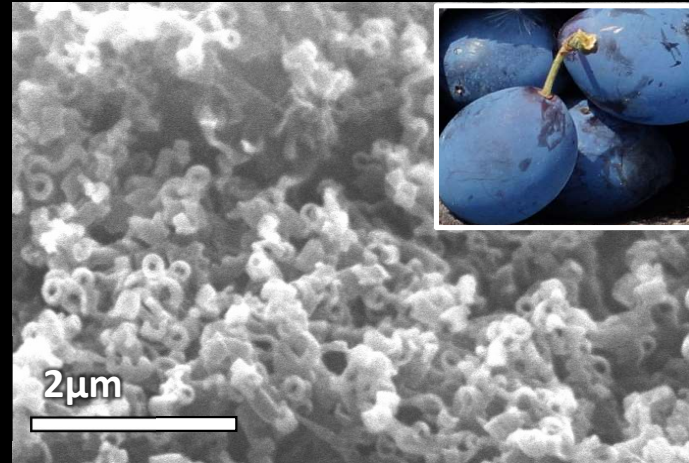


Vitis vinifera

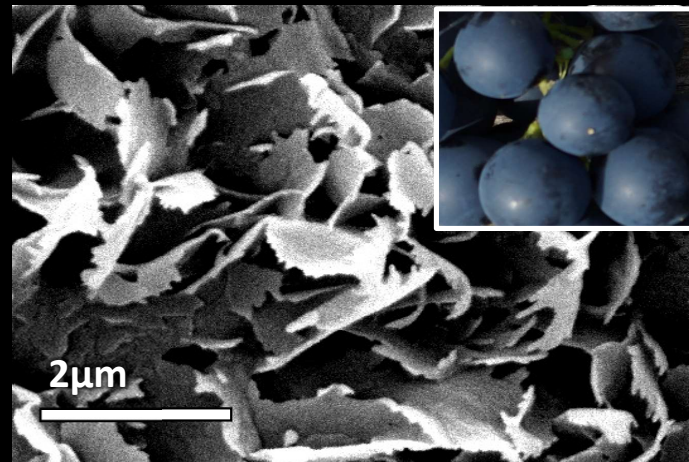
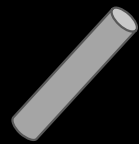
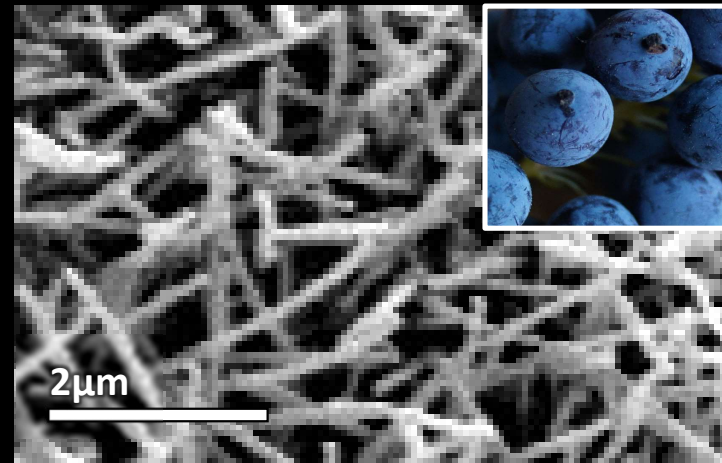


Vaccinium corymbosum

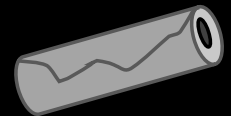
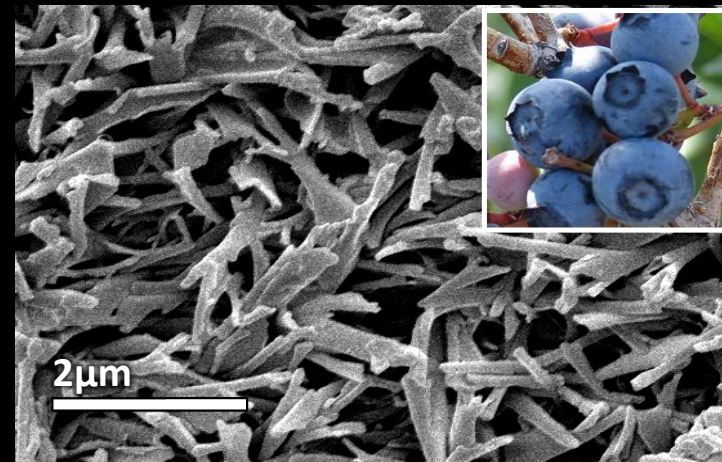
Prunus insititia



Mahonia aquifolium

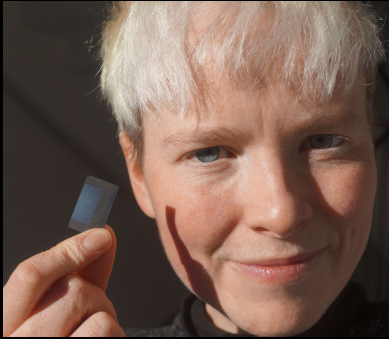


Vitis vinifera

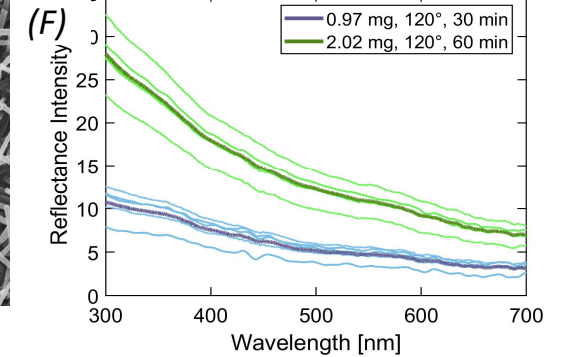
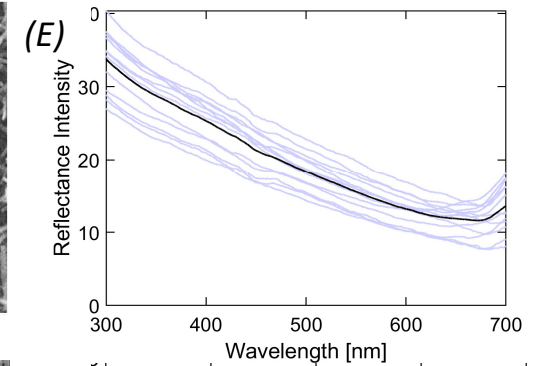
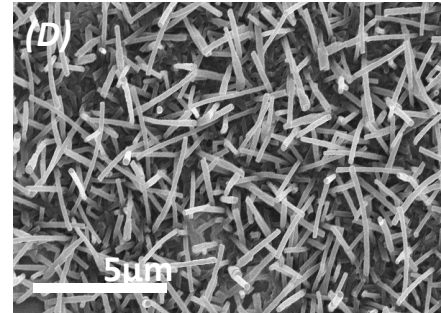
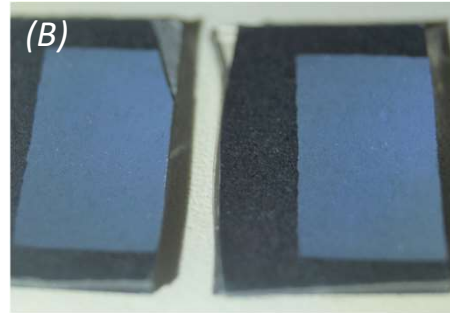
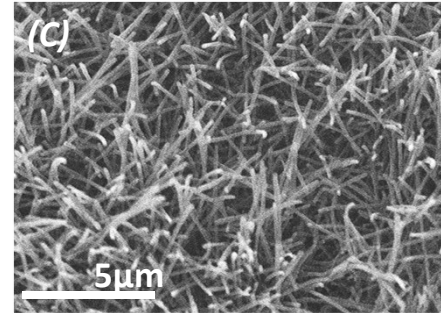


Vaccinium corymbosum





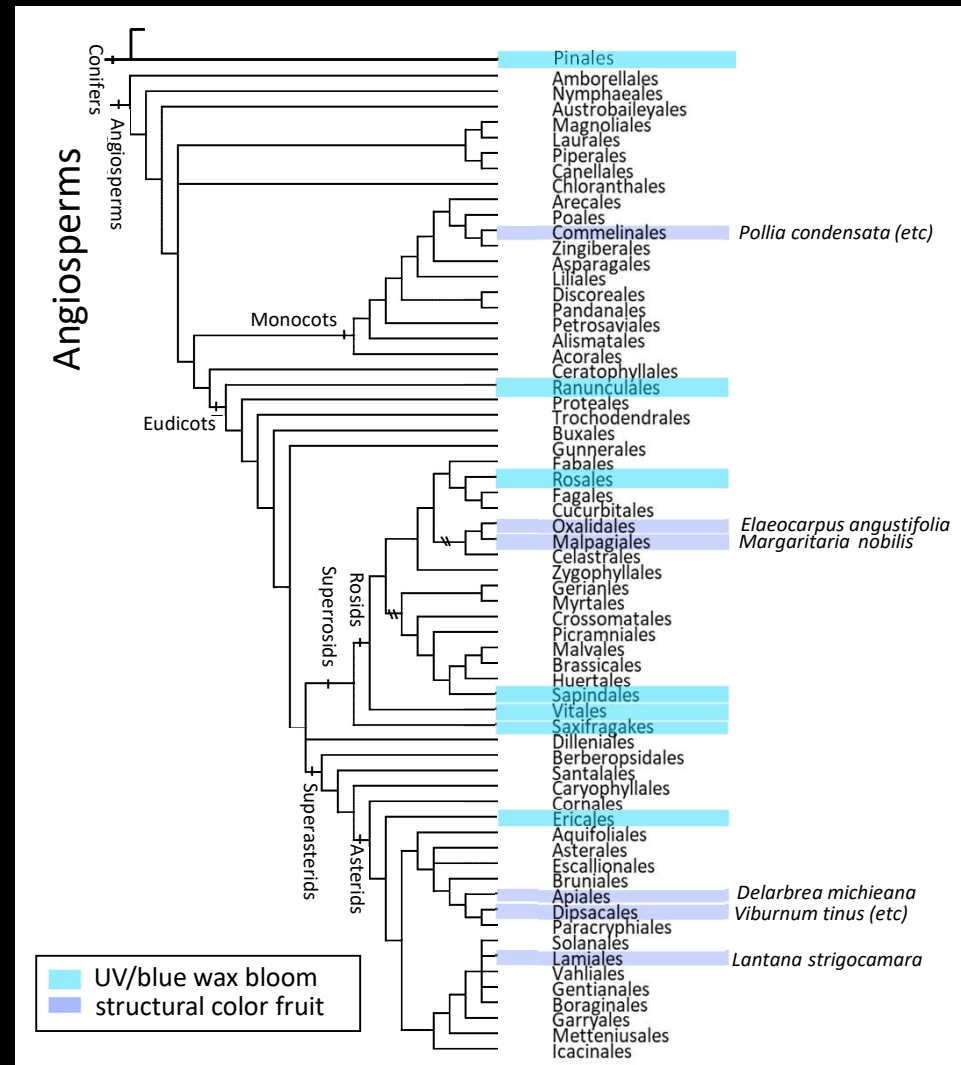
Mahonia aquifolium

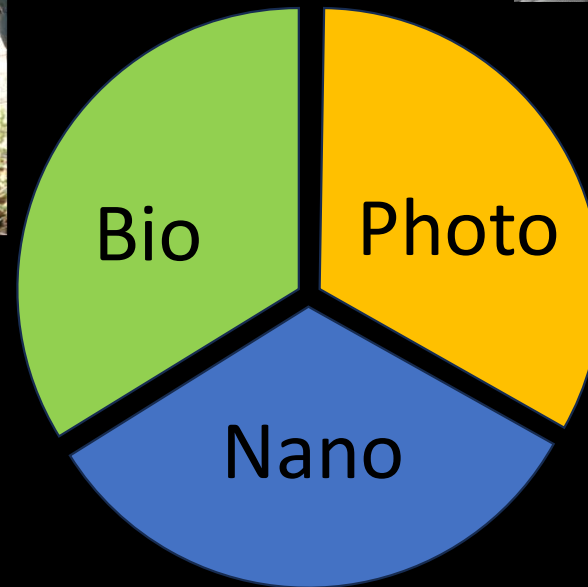
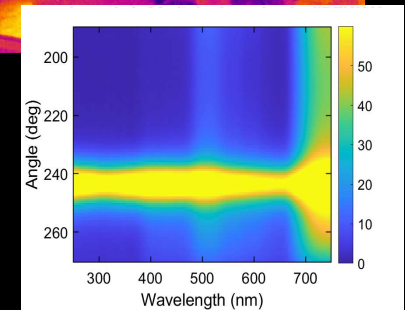
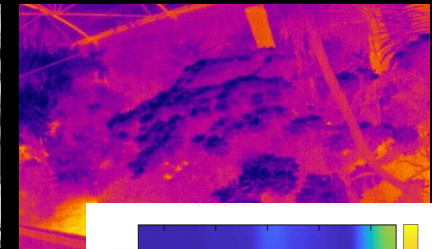
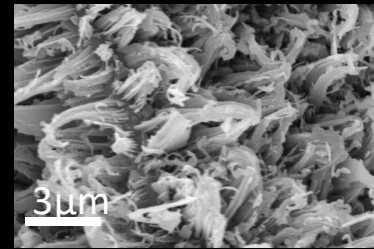


A new blue!

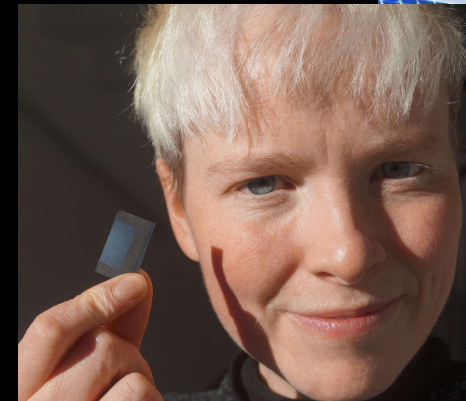
Science Advances Feb 2024

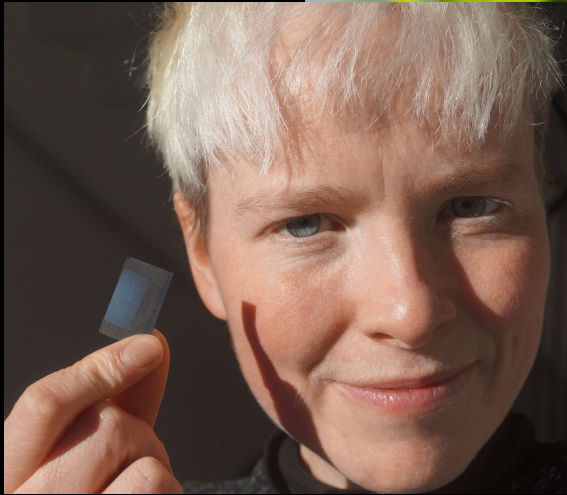






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Thanks for listening

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