

RMS, BioImagingUK & UKRI-BBSRC Business Interaction Vouchers Scheme, 2021 - 2022

Imaging of biological samples, or bioimaging, underpins bioscience research from plant and animal phenomics to drug delivery. Bioimaging operates at all scales from high-voltage cryo-electron microscopes as used in structural biology, to enormously powerful super-resolution microscopes, through to whole-plant or animal imaging.

As it crosses all bioscience domains, bioimaging is an area of strategic importance for the BBSRC (see the 2018 strategy document [here](#)). In 2019, the BBSRC together with the RMS and BioImagingUK funded eight bioimaging Business Interaction Vouchers (BIVs) which demonstrated the potential for these investments to pump-prime new Industry partnerships that result in novel scientific discoveries, application development, publications, funding and training opportunities. To further support Academic-Industry engagement in bioimaging the BBSRC awarded two additional voucher schemes:

- BIV2 awards of up to £15,000 to pump-prime small confidence building new or early-stage collaborations were matched by industrial funding of at least equivalent value and projects ran for six months or less. The successful applicants and projects are listed below.

Academic PI	Industrial Partner	Project Title
Heather Mortiboys	Nanna Therapeutics	Develop screening method for small molecule modulators of mitochondrial calcium uptake
Nicholas Anthony	Nano Clinical	Fluorescence Lifetime Resolved Single Molecule Localisation Microscopy
Kevin Webb	IntraCrop, Verdesian, Biolchim, TradeCorp	Imaging the sub-cellular biodistribution and physiological effects of phosphites in plant tissues with Stimulated Raman Scattering (SRS)
Stephen Rolfe	Syngenta	Detection of biotrophic plant pathogens in vivo using sinusoidally modulated chlorophyll fluorescence imaging

- BIV Proof of Concept (PoC) awards of up to £30,000 to further existing partnerships, or new partnerships working on a product/process/etc., requiring pilot data or further evidence prior to full commercial demonstration ran for 6 months or less. The successful applicants and projects are listed below.

Academic PI	Industrial Partner	Project Title
Rebecca Thompson	Labcorp	Evaluation of Mass Photometry methods to measure the empty:full capsid ratio of viruses for use in gene therapy
Paul French	Cairn Research	Development of modular, sustainable open-source optical bioimaging instrumentation
Patricia Murray	Stream Bio	Assessing the potential of near infrared conjugated polymer nanoparticles (CPNTM) for fluorescence and optoacoustic imaging

Chris Toseland	Refeyn	Development of a Label-free single molecule screening assay
Adam Packer	Scientifica	Adaptive optics for three-photon microscopy to increase the feasibility of imaging deep in thick specimens
Alex Laude	Visitech	Testing and benchmarking next generation live-cell super resolution imaging technology.
Jonathan Taylor	M Squared Life	Computational correction of motion artefacts in 3D microscopy
Susan Cox	Nikon	Enabling artifact-free high speed 3D localisation microscopy
Heba Sailem	Terasom	Phenotyping cellular organization and interactions in 3D co-culture models
Tim Hawkins	P&G	Develop imaging platform for melanosomes into a screening technology for industrially relevant bioactive compounds

In total, UKRI funding came to £306K and this was matched with £308K in-kind from industry. BioImagingUK and the RMS would like to thank the UKRI-BBSRC for funding this second round of BIVs, and we are very grateful to all participants of these studies for their hard work during 2021-22.