

University of Southampton
SPFS Programme Innovation Fund
- The Third Call for Research Proposals (November 2016) -

EPSRC-funded Programme Grant “Silicon Photonics for Future Systems (SPFS)” includes an “innovation fund” to enable the inclusion of additional partners to bring additional value to the programme. Initial engagement will be via short research projects that support the objectives of the programme. Therefore, we are inviting proposals from UK-based academic researchers for projects valued up to £100k which, directly or indirectly, contribute to the areas outlined below and add benefit to the overall aims of the project.

1) **Wafer-scale testing of photonic components**

The SPFS programme is focused on developing erasable grating couplers, suitable for comprehensive wafer-scale testing of individual photonic components and devices. Funding will be awarded to research proposals that offer low-cost, high-throughput solutions in this field.

2) **Multi-layer 3D photonic platform**

Following trends in microelectronics, there is a strong motivation to upgrade the existing Silicon-on-Insulator (SOI) photonic platform that effectively offers only a single photonic layer. In this respect, development of a three-dimensional platform in Silicon Photonics, offering integration of multiple photonic layers is an important prerequisite for creating a low-cost, high-density integration platform suitable for mass market. The SPFS programme investigates the development of amorphous Silicon and Silicon Nitride as additional layers in a multilayer photonics platform and the funding will be awarded to research proposals that complement and/or support the ongoing research within the SPFS programme.

3) **Novel Silicon Photonics modulator architectures and coding formats for high capacity transmission**

Development of modulators in Silicon Photonics and appropriate modulation formats that offer high-speed and low power consumption and are suitable for optical interconnects is a key task within the SPFS programme. The innovation fund will support research related to the study of devices, circuits and techniques that are suitable for ultra-high data rate transmission via Silicon Photonics.

4) **Advanced packaging solutions in Silicon Photonics**

With the emergence of Silicon Photonics, and the consequent application of photonics to mass markets, there is an imperative to find a low cost, passive alignment solution to the

coupling/packaging problem. It is one of the biggest challenges in Silicon Photonics today, but also an area of research that is vastly under investigated. Therefore, the SPFS Innovation Fund will support development of robust and low cost packaging solutions for Silicon Photonics.

5) Integrated optical sources

Funding will support research in enhancing the integration of lasers for telecommunication wavelengths with Silicon Photonics integrated circuits that are potentially suitable for future industrial-scale fabrication.

For more information about the SPFS programme, see www.uksiliconphotonics.co.uk.

Eligibility

The Call for Proposals is open to any interested UK-based academic research group or individual.

Funding levels available

Up to £100k is available in this call. The funding can be either awarded to a single proposal or distributed among several winning proposals. It is planned that an additional final call (4th call) will be announced in 2017.

Application process and requirements

One page-long proposals should be e-mailed to spfs@sotonfab.co.uk. The proposals should include the project title, names of the investigators, brief description, expected duration, costs at Full Economic Cost (FEC) with manpower requirements and a breakdown of expenditure. Grants will be funded at 80% of the stated FEC. The remaining 20% must be contributed by the academic institute submitting the proposal. The grant can support any directly incurred (DI) costs such as research staff time (excluding academic time), consumables and travel to the project partners, but no directly allocated (DA) costs such as investigator time or overheads. If you require any clarification on DI or DA costs please contact us prior to submitting the proposal.

Proposals should also contain an explanation of how the proposed work fits into the frame of the SPFS programme and what added value it brings to a specific area of the programme. The PI and/or Co-I(s) of all funded projects will be required to engage fully with the programme and to attend consortium meetings as required during the lifetime of the project, including; on commencing, mid project, and at the end of the project. In addition, within one month of the end of the project, a final report will be submitted to the SPFS Management Group highlighting the project outcomes and impact.

The best proposals will be short-listed based on their innovation, compatibility with the SPFS programme and the added value that they are offering. Authors of the selected proposals will be asked to give a 15-minute presentation to the SPFS Management Group, followed by a 10-minute questioning session. Following this, the final ranking list will be made and the winning proposals will be awarded up to £100k.

Awards will be confirmed upon acceptance of the non-negotiable Terms and Conditions set out in the **Award Letter** attached to this call.

Schedule and deadlines

Deadline for submission of proposals: 12pm on Thursday 22nd December 2016

Announcement of the short-listed proposals: Friday 13th January 2017

Presentation to SPFS Management Group members: Monday 23rd January 2017

Announcement of the winning proposals: Monday 30th January 2017