Touching lives through innovation

Application Manual

2026 CSIR Photonics Centre Rental Pool Programme

September 2025

Supported by the

science, technology & innovation

Department:
Science, Technology and Innovation
REPUBLIC OF SOUTH AFRICA

Table of Contents

PART ONE: Introduction

1.1 Purpose

This manual provides information on opportunities for funding within the CSIR Photonics Centre's Rental Pool Programme Grant Scheme.

The manual is intended to be an easy reference guide to the CSIR Photonics Centre Rental Pool Programme Grant Scheme and to assist potential participants in accessing the available funding. It does not, however, constitute a complete set of policy, procedure or systems supporting the programme.

1.2 Background

At the establishment of the CSIR Photonics Centre (previously known as the CSIR National Laser Centre) in 2000, the centre started a laser equipment access programme, which is now funded by the Department of Science, Technology and Innovation (DSTI). The Rental Pool Programme (RPP) provides Higher Educational Institutions (HEIs) in South Africa the opportunity to access a large number of laser systems, laser diagnostic equipment and laser laboratories available at or from the CSIR Photonics Centre. Over the years, the equipment programme has grown and the equipment base has expanded through careful management of funding allocated to expand and maintain the equipment base of the programme.

Through a grant received from the DSTI, the CSIR Photonics Centre has again made funding available to support the CSIR Rental Pool Programme, which will be used to support HEI research specifically within the multidisciplinary laser environment in 2026.

1.3 Strategic intent

The purpose of the programme is to support laser and laser-based application research in South Africa and to develop, encourage and support a unique programme of building and growing a sustainable corps of expert researchers in South Africa utilising laser technology in their research programmes.

The objectives of the programme are to:

- Stimulate and support research at South African HEIs in laser-related research, in all research fields;
- Render technical and scientific support to RPP participants at HEIs;
- Support the development of a next generation of scientists/engineers to rejuvenate and strengthen the ageing South African scientific and engineering community;
- Encourage research collaboration; and
- Effectively manage and expand the CSIR Photonics Centre Rental Pool Programme (RPP).

PART TWO: Call, eligibility, funding and timelines

2.1 Call for applications

The call for the CSIR Photonics Centre Rental Pool Programme funding is facilitated through the Rental Pool Programme office, which is hosted by the National Programmes group at the CSIR Photonics Centre. A template for new applications is distributed by this office to interested parties via the CSIR website, CSIR Photonics Centre's database of contacts and research offices of all South African universities and universities of technology.

Proposals in response to this call must be forwarded to the CSIR Photonics Centre's National Programmes project office, at the following email address: tiduplooy@csir.co.za and nlcrentalpool@csir.co.za.

The scientific and technical contents of the proposed project will be refereed through a peer review mechanism to assess the quality of the research plan proposed, human capital development potential and alignment with national priorities. Applications must be substantial and comprehensive to allow proper assessment of the proposed research.

Applicants are encouraged to approach the CSIR Photonics Centre for assistance with the completion of the application, specifically with reference to gathering information on equipment availability, pricing and suitability of equipment.

For applications to access the high-power laser equipment at the CSIR Photonics Centre's Laser Enabled Manufacturing group, preference will be given to proposals aligned with the Photonics Centre's research programmes in additive manufacturing and laser surface engineering.

2.2 Funding

The programme allows access to equipment at the CSIR Photonics Centre facilities and the rental of equipment for use at the researcher's university laboratories. The programme also makes provision for the upgrading of existing equipment to ensure suitability for the proposed project. In summary, the grant funds the following activities:

- Preparation and upgrade of equipment approved within the programme;
- Maintenance of equipment supported by the CSIR RPP;
- Delivery, setup and return cost of equipment where necessary;
- Technical or scientific support from the CSIR Photonics Centre staff;
- Insurance costs for CSIR-owned equipment while at the HEI;

- Travel and accommodation costs **limited to** traveling to CSIR Photonics Centre laboratories or facilities at HEIs where CSIR RPP equipment is hosted, to access equipment in approved research projects;
- Accommodation and travel support for attendance at the annual RPP Review Meeting (if applicable). Grant holders and their students who are involved in the supported project are required to attend this compulsory reporting session;
- New laser or ancillary equipment required to support research activities;
- Consumables required for research activities, **limited** to optics and other laser-based consumables to support the proposed research project.

Each project will be eligible for new ancillary equipment (smaller diagnostic equipment) to a maximum value of R 100 000 and laser-related consumables to a maximum value of R75 000, **subject to the availability of funding**. Consumables will remain the property of the grant holder's institution and will assist in establishing in-house laser infrastructure.

All of the above-mentioned costs will contribute to forming the budget of each grant holder based on the equipment they request for their laboratories.

2.3 Time line

Table 1: Call and outcomes announcement

The timelines for the CSIR Photonics Centre Rental Pool Programme Grant Scheme call are shown in **Table 1**. Also listed in this table are the expected dates for the outcomes announcement of the applications.

CALL	OPEN	CLOSE	OUTCOMES ANNOUNCEMENT
2025	Tuesday, 16 September 2025	Tuesday, 21 October 2025	Tuesday, 31 March 2026

2.4 Eligibility criteria

Researchers from all HEIs (public universities) may participate in the CSIR Photonics Centre Rental Pool Programme grant scheme.

The programme considers applications from researchers who are:

- Involved in laser-based research in any field in natural science, engineering and health sciences;
- Hold at least a Master's degree and have a reasonable research track record; and

- Employed at South African HEIs on a full-time or full-time contract basis. If on a contract basis, the length of the contract should at least be for the duration of the research project applied for and be clearly indicated in the application.

Participation of postgraduate students (Doctoral and Master's students as key drivers), registered at a recognised South African HEIs, is of paramount importance, as well as the collaborations with other researchers based at the applicant's institution and other institutions. These should be stated clearly by the researcher in the application. Although student involvement is a priority, the primary motivation for the research grant is to **address a specific research question**. Proposals that request funding support merely for the training of students will not be considered.

2.5 Duration of the grant

Researchers can apply for a multiyear project, with a maximum duration of three years.

Contracting with successful applicants happens on a yearly basis from 1 April to 31 March of the next year, and continuation funding for a second or third year for approved projects can only be considered based on the submission of a comprehensive annual progress report at the end of each year of the project. Continuation is subject to the progress reported in the annual progress report, the quality of the annual progress report and the presentation made at the Rental Pool Programme grant holders' feedback meeting arranged towards the end of each funding year, usually around the end of January/beginning of February of the year of funding.

Continuation beyond the first three years can be considered if a new funding application is submitted to support a continued research programme.

2.6 Assessment process

All applications received by the CSIR Photonics Centre will be submitted to an independent review panel appointed by the CSIR Photonics Centre. The purpose of the review panel is to provide an assessment of the quality of the proposals received and to make a recommendation to the CSIR Photonics Centre on whether proposals should be funded. The panel will consist of experts from industry, universities and international members. The assessment will primarily focus on scientific merit, capacity building, output and impact as presented in the proposal. **Applicants are encouraged to ensure all the necessary information is captured in the proposal that is required for the review panel to do a fair assessment of the proposed work.**

Continuation applications will also be assessed on progress; hence, progress reports submitted to the CSIR Photonics Centre will form part of the application and evaluation process.

It will be expected from applicants submitting new applications to the Rental Pool Programme to present their research proposal to the independent review panel during the last week of January 2026. This presentation usually happens through a virtual platform such as Microsoft Teams; however, where necessary, the CSIR will provide mobility support to applicants that made the shortlist for projects to be reviewed by the independent review panel.

The following aspects are important to consider when submitting a RPP application.

2.6.1 Quality of the RPP application

Applicants are strongly discouraged and warned not to commit plagiarism in the preparation of CSIR Rental Pool Programme project proposals or in the reporting of work completed. The review process has, in the recent past, picked up an increase in this very serious transgression. The Merriam-Webster dictionary defines **Plagiarise** *as "to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source". Applications that are found to contain plagiarised passages will immediately be disqualified.*

Applicants are STRONGLY discouraged to copying and pasting large sections of text from previous applications or progress reports. The peer review panel notices this and feels that this is an indication that applicants are not respecting the peer review process. Applicants and document authors are encouraged to keep the inputs and discussion short and relevant to the section that they are completing, without the necessity to generate large amounts of text.

Applicants are also encouraged to follow the instructions provided in the proposal or the annual progress report templates meticulously, to ensure that the review panel has the correct information available when assessing the information provided. Assessment of new applications or progress reports will only be based on the written text found in the proposal or annual progress report, as supported by the presentation made on the new application or on the progress reported.

[1]https://www.merriam-webster.com/dictionary/plagiarize

2.6.2 Management plan

The management plan submitted as part of the application must be a clear, executable plan for the project. The following aspects need to be addressed and should be clear when reviewing the management plan:

- The plan must include defined major project activities that will be executed as part of the project plan;
- For each activity, a start and end date must be provided;

- Resources (collaborators, team members, students and equipment) need to be assigned to each of the activities defined;
- Each of the activities should also have a clearly defined deliverable; and
- It is a requirement that a detailed Gantt chart, which corresponds to the management plan, is submitted as part of the application.

The management plan should also address any equipment-related activities, including specific maintenance requirements that need to be highlighted to the CSIR, as well as contingency planning around equipment breakdowns. The CSIR will take responsibility for major repair and maintenance tasks, but it is expected of the grant holders and the institutions to plan and provide routine maintenance services on equipment provided as part of the grant.

2.6.3 Scientific merit

This section should clearly articulate the main research question that the proposed work intends to address. The section must support and reflect a detailed description of the scientific background and demonstrate, through the proposed research, a high level of scientific and technical excellence. Scientific outputs and impact need to be qualified.

In progress reports, grant holders and applicants are encouraged to also list publications that have been submitted, but not yet accepted for publication to provide the review panel with an accurate view of progress on the project.

Through the review of proposals and progress reports, as well as investigating the type of journal publications reported by applicants and grant holders to the programme, the CSIR has noted that some researchers elect to publish their work in predatory journals that have questionable peer review processes in place. Although this may boost the number of published peer review papers, it is important that research efforts are designed and constructed based on peer review in reputable scientific journals with ethically sound review processes in place.

2.6.4 Collaborations

The proposal format requires the applicant to provide detailed information on collaborations that will support the proposed project. A list of collaborators should be included, which clearly articulates the contribution of each of the collaborators to the programme. The information provided must be presented in such a way that it will allow reviewers to assess the expertise and experience of the listed collaborators.

It is important to also list all the members of the research team who constitute this collaboration. Be sure to highlight the Principal Investigator's (PI) track record, staff involvement, student involvement, postdocs, technical support and external collaborations (institutional, regionally, nationally and internationally).

2.6.5 Human capital development

In the section on Human Capital Development (HCD), the applicant needs to list all students who will work on the project. It is important **and compulsory** to identify the main supervisor and co-supervisor, if applicable, as well as provide the thesis or research project title on which the student is working. Generic thesis titles or research project titles are not acceptable.

Attention should be given to accurately reflect student demographics. It is expected of the applicant to demonstrate that this project will actively seek to involve South African black and female students.

2.6.6 Relevance, impact and commercialisation

The proposal should clearly articulate the scientific, social, economic and environmental relevance and impact of the proposed work.

The proposal should provide information on the PI's plan for commercialisation of the research undertaken. The proposal should also provide a description of a commercialisation route, as well as identify possible commercialisation partners.

Even if there are no formal commercialisation strategy or commercialisation plan for the proposed work, applicants are encouraged to offer some evidence that commercialisation of the technology is being considered. This evidence can by direct, or indirect of even anecdotal evidence indicating that there is some consideration for commercialisation of the technology. Leaving this section of the proposal blank is not acceptable.

2.7 Laser safety

Laser safety is of upmost importance. The proposal should clearly nominate a laser safety officer and plans around laser safety should be included in the management plan section of the proposal. For successful applicants, it will be expected that:

- A permanent member of the research team be assigned the role of laser safety officer;
- The nominated laser safety officer needs to be trained; and
- All users of the equipment, including students, are provided with laser safety training.

It is expected that laboratories at universities that house CSIR-owned equipment are carefully managed from a safety, health and environmental perspective and that risk assessments and risk monitoring practices are established, up to date and managed.

2.8 Proposal assessment criteria

Assessment criteria will be used to maintain consistency during the assessment of research proposals. Each criterion is assigned a weight (see **Table 2**).

Table 2: Assessment criteria

For new applications:

Criterion	Details	Weight
Management plan 15%	Feasibility and efficiency of management plan	10%
	Presentation of the proposal	5%
Scientific merit 40%	Scientific/technical excellence	15%
	Scientific impact/outputs	25%
HCD 25%	Research students and post-doctoral fellows	5%
	Black and female students	15%
	PI track record	5%
Collaboration network 10%	National, regional and intra-institutional network	6%
	International network	4%
Relevance ani Impact 10%	Scientific, social, economic and environmental impact	4%
	Commercialisation plan	6%

Table 3: Assessment criteria

For annual progress reports:

Criterion	Details	Weight
Project progress 15%	Project progress with regards to original or amended project schedule	10%
	Quality of the progress report and quality of the progress report presentation.	5%
Scientific merit 40%	Scientific/technical excellence	15%
	Scientific impact/outputs	25%
HCD 25%	Research students and Post-Doctoral Fellows	5%
	Black and female students	15%
	PI track record	5%

Collaboration network 10%	National, regional and intra-institutional network	6%
	International network	4%
Relevance and Impact 10%	Scientific, social, economic and environmental impact	4%
	Commercialisation plan	6%

Based on the recommendations from the review panel, the CSIR Photonics Centre will allocate the budget, rank the proposals received and make a decision on the projects that will be funded in the next funding cycle.

2.9 General comments

It is important that proposals submitted are concise and provide only the information requested in the proposal template. However, information provided must be comprehensive to allow the reviewers an opportunity to accurately assess the potential of the proposal. The review team will only assess proposals based on what is written in the proposal/annual progress document, as supported by the presentation made by the applicant or the grant holder.

Applicants and grant holders should also respect the review process and the CSIR-appointed review panel. Applicants and grant holders are encouraged not to copy and paste sections from one part of the proposal or annual progress report to another.

PART 3: MANAGEMENT OF GRANT AND EQUIPMENT

3.1 Contracting

For approved projects, a CSIR Rental Pool Grant contract will be established that contains the clauses and requirements for the management of the grant. The contract addresses responsibilities, intellectual property issues, ownership of the equipment, as well as the financial arrangements associated with the project. The contract is between the CSIR Photonics Centre and the host institution of the applicant.

The contract will be an annual contract and will be renewed annually through a new contract or a contract amendment for the funding allocation in subsequent years, **subject to the submission of an annual progress report and favourable review of the progress report.**

3.2 Reporting and use of equipment

On accepting the award (signing the contract), the grant-holder will be required to deliver on the annual research plan that formed part of the accepted application. An annual review

meeting is scheduled where all grant holders are required to report on progress. Attendance at this meeting is compulsory.

At the end of the calendar year, the grant holder will be required to prepare and submit an annual progress report on the project to the CSIR Photonics Centre. The annual report must address project progress, delivery on milestones and project outputs and outcomes as presented in the research plan. In instances where the original project application was a multiyear proposal, the annual progress report will be used in an evaluation process to determine whether the project will continue in the next financial year.

3.3 Payment of grants

The CSIR Photonics Centre will take responsibility for the acquisition of new equipment, shipment of equipment to universities, installation and maintenance of the equipment supplied under the agreement. Claims for payments of travel costs, consumables and small auxiliary equipment approved as part of the project should be submitted to the CSIR Photonics Centre for payment. Claims should be submitted as an invoice, with associated proof of expenses, for the attention of Thomas du Plooy (tiduplooy@csir.co.za).

Invoices for payments should be addressed to:
The CSIR Photonics Centre
PO Box 395
Pretoria
0001

All invoices should reflect the CSIR's VAT no. 4470114283

All invoices should also reflect the unique reference number assigned to the project and available on the Rental Pool Grant contract or from the CSIR Photonics Centre.

No payments will be processed unless proof of expenses accompanies the invoice submitted to the CSIR Photonics Centre.

3.4 Assistance

Should you require clarification on any of the processes, criteria or plans presented in this manual, please do not hesitate to contact Thomas du Plooy at 012 841 3511 or 082 443 1128, email nlcrentalpool@csir.co.za.

Appendix 1

A list of equipment accessible at the CSIR Photonics Centre facility.

Nd: YAG Pulsed Lasers
Nd: YAG Laser Ablation system for material processing applications (DML40S - Deckel Maho Gildemeister)
5kW IPG fibre Laser System with Robot manipulation (For laser material processing)
CW CO_2 Lasers (up to 100W)
LENS 850 R Additive Manufacturing system
5kW CO_2 Laser System (For laser materials processing)
Laser systems for Spectroscopy
Low output visible lasers
Low output near infrared lasers
Clark Femto Second Laser System (1mJ, 1 kHz)

Appendix 2

CSIR Photonics Centre research focus areas in 2024/2025.

Biophotonics research, with a focus on point of care diagnostics for HIV, Malaria, TB and other diseases.
Solid state laser development research (1 and 2 micron source development)
Laser materials processing research (Additive Manufacturing, Laser welding/cladding, Laser-based Surface Engineering Technologies)