SOUTHERN AFRICAN BIOMANUFACTURING TRAINING HUB

science, technology & innovation

Department:
Science, Technology and Innovation
REPUBLIC OF SOUTH AFRICA

CSIR
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SOUTHERN AFRICAN BIOMANUFACTURING TRAINING HUB

The CSIR-hosted Southern African Biomanufacturing Training Hub is pleased to announce the commencement of the *"Upstream Production of Recombinant Proteins in Prokaryotic Expression Systems"* course, scheduled to begin on Monday, 7 September 2026. The course forms part of the Strengthening Biomanufacturing Capabilities in Southern Africa (BIOcapSA) programme, which is supported by KfW Development Bank.

The programme aims to support training and development in the biomanufacturing sector, focusing on developing a skilled and competent workforce in Africa.

UPSTREAM PRODUCTION OF RECOMBINANT PROTEIN IN PROKARYOTIC EXPRESSION SYSTEMS

(A-BTH01)

The Biomanufacturing Training Hub's goal in providing this course is to help grow and develop the biomanufacturing sector on the African continent through cutting-edge training in partnership with both local and international stakeholders.

The course is offered to African manufacturers, scientists and other key players in the development and scaling-up of biomanufacturing processes and products. A key aspect of this programme is to provide both theoretical and hands-on training and skills development that will enable local manufacturing of biologics, vaccines, recombinant proteins and therapeutics. This programme is aligned with a number of other initiatives that focus on establishing vibrant biomanufacturing industries on the African continent.

COURSE DESCRIPTION

The course will provide a comprehensive understanding of the principles and practical hands-on exposure to upstream process unit operations required for recombinant protein production. Participants will strengthen their understanding of the upstream workflow, from microorganism screening and selection, preservation techniques, inoculum train development, to bioreactor cultivation (at a 30L scale). The course will provide theoretical knowledge transfer, through online-based lectures and team activities, to strengthen the participants' knowledge and understanding prior to the onsite training. Hands-on training will provide practical exposure to the key areas within recombinant protein production for improving and growing the practical capabilities of individuals for improving the continent's competencies within biomanufacturing.

This course will be delivered in a hybrid model of applied and advanced knowledge transfer in the form of online lectures, hands-on training and demonstrations.

KEY AREAS OF DEVELOPMENT INCLUDE:

- Upstream bioprocess development
  - Principles of GMP (quality control, process and cleaning validation,
  - Microorganism selection;
  - Genetically modified organisms;
  - Cell bank establishment;
  - Inoculum development and validation;
  - Bioreactor design and scale-up;
  - Bioreactor setup, operation and cleanup at 30L scale;
  - Analysis and calculations within bioprocessing; and
  - Risk management within fermentation.
  - Specialised competency development on key Downstream

COURSE DATE AND DURATION

DATE: **7 SEPTEMBER – 11 SEPTEMBER 2026** (ONLINE)
AND 14 SEPTEMBER – 18 SEPTEMBER 2026
(ON-SITE TRAINING)

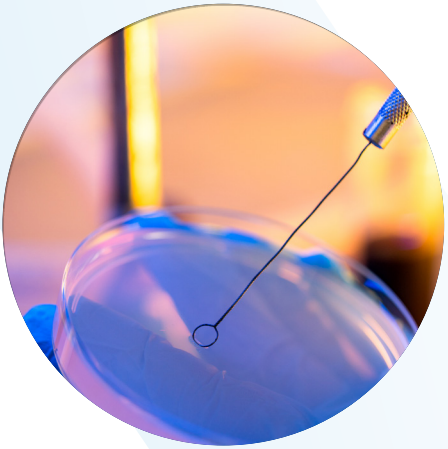
DURATION: **2 WEEKS (ONLINE IN TEAMS/ ON-SITE AT THE CSIR, PRETORIA CAMPUS, SOUTH AFRICA)**

COURSE DELIVERY

The course is delivered using a blended format to transfer advanced knowledge, which includes:

- Hands-on training;
- Classroom-based lectures (online*); and
- Demonstrations.

*Please note that a reliable internet connection is required to participate in the online sessions. It is recommended that a good download and upload speed be at least 5-10 Mbps.



COST AND FINANCING

Please note that a maximum of 20 candidates will be selected. For South African candidates, the funding package includes:

- Course fees (all);
- Travel expenses (flights for 10 participants outside of Gauteng) and accommodation for on-site training;
- One return ground transport from the airport to the accommodation; and
- Daily ground transport from the accommodation to the CSIR (designated course venue)

Scholarships will be awarded to five participants from the African continent based on the motivations submitted and readiness to travel (including a valid passport/visa for South Africa).

Subsistence and travel allowance (S&T) will not be covered.

WHO SHOULD ATTEND?

Preference will be given to the following candidates:

- Current staff in the biomanufacturing sector requiring skills expansion or upgrading;
- New or developing staff in the biomanufacturing sector;
- Identified staff or recruits for a biomanufacturing facility; and
- From biomanufacturing facilities currently under construction that will require a skilled workforce.

APPLICATIONS from qualified individuals from all African Union member states will be accepted. Young, African women are encouraged to apply. Participation will be limited to candidates holding a master's or doctoral degree. For enquiries, please email **BIDC@csir.co.za**.

IMPORTANT DATES

- **Application deadline:** Friday, **7 August 2026**
- Selected candidates will be notified by Monday, **17 August 2026**.

Applications form link: APPLICATION.