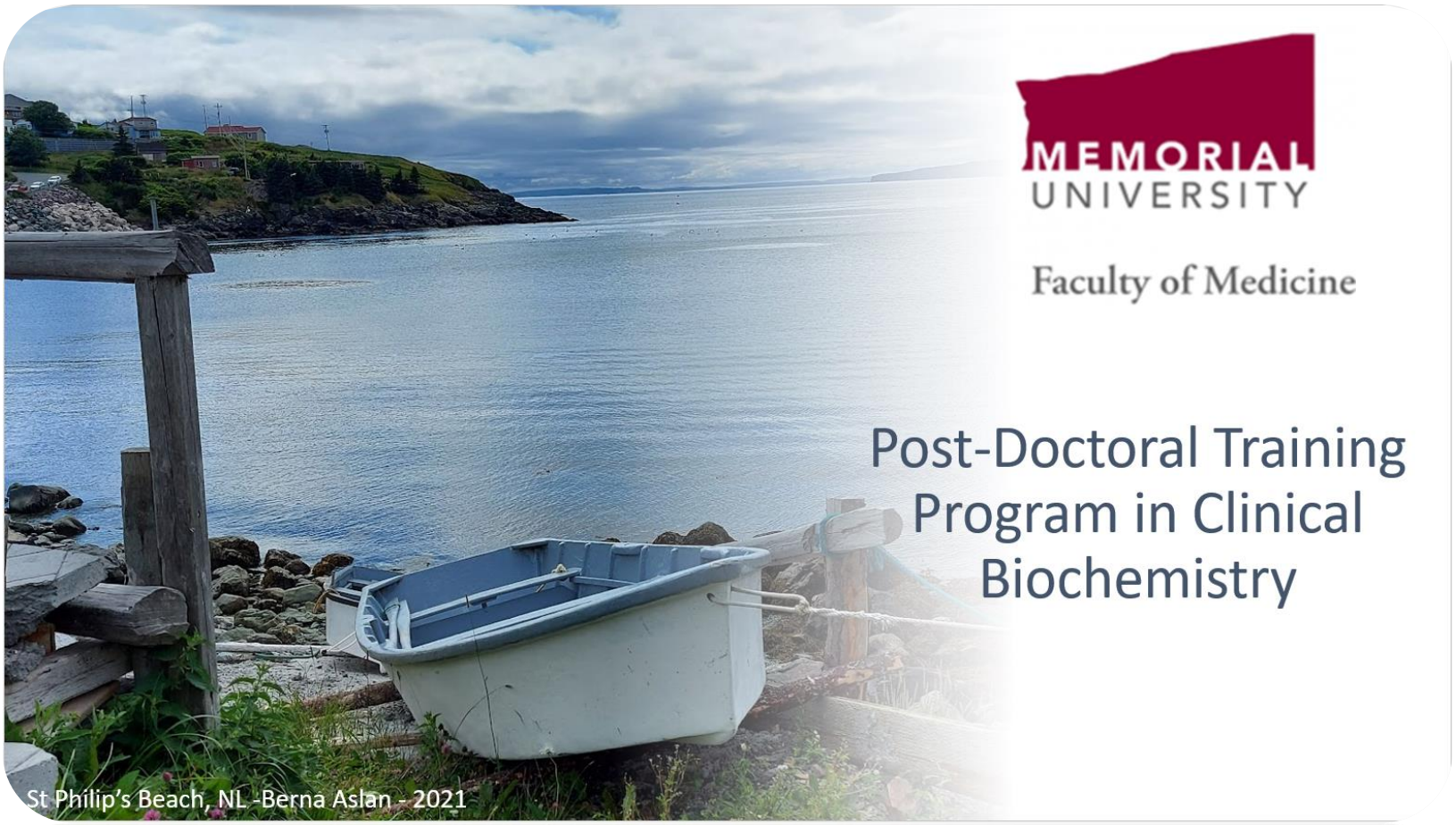

Program Description

Application Deadline: March 15, 2024

Program Start Date: July 2, 2024

For inquiries, contact:

Program Director,

Dr. Berna Aslan

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1. Overview

This is a full-time, three-year program in clinical biochemistry. The first two years consist of guided and self-directed learning and follow the Canadian Academy of Clinical Biochemistry (CACB) syllabus, which includes specialized clinical biochemistry training the third year will be allocated to applying knowledge and experience gained in the first two years. The program is accredited by CACB, and graduates will be eligible to be certified through CACB. Detailed information about the certification process can be found on the CACB website
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Graduates will act as consultants to clinicians regarding test selection and interpretation and educators and provide leadership in the clinical laboratory as scientific laboratory directors.

2. Objectives:

The principal objective of the post-doctoral training program is to educate, train, and prepare graduates for work in the field of clinical biochemistry. Graduates are expected to participate in clinical laboratory service, research, and teaching. Therefore, the well-balanced program provides basic training in patient care, clinical service, management, research, education, and administration to prepare the trainee for these various professional opportunities.

3. Competency Framework:

A. Medical Expert:

The Medical Expert Role is central to the function of Clinical Biochemists and built on the competencies of communicator, collaborator, leader, scholar, and professional.

As Medical Experts, clinical biochemists will be committed to high-quality, safe, patient-centered care, learning, and using the evolving body of knowledge, keeping their practice up to date, ethical, and resource-efficient, and delivering in collaboration with other laboratory professionals and healthcare providers. They will understand the complexity, uncertainty, and ambiguity of clinical decision-making and develop self-awareness of their limits of expertise.

During the training, the trainee will develop expertise in the following areas through weekly learning objectives.

a. Principle of leadership, laboratory organization, and management
b. Basic statistics and common mathematical concepts used in laboratory medicine.
c. Specimen collection and processing
d. Analytical techniques used in clinical biochemistry.
e. Clinical pathology and laboratory evaluation of disease with a focus on clinical cases, which enables understanding of clinical signs and symptoms, pathophysiology, biochemical changes in diseases or disorders, laboratory tests for detection, diagnosis, the management or monitoring diseases, and interpreting results considering the clinical picture, and be familiar with the analytical techniques used.

B. Communicator:

Trainees will be supported in developing effective communication skills with laboratory personnel, clinicians, administrators, and the public. They will have the skills to collate, interpret, and transmit accurate information to all stakeholders. These skills will include active listening, effective oral and written communication, accurate record-keeping, respect for diversity, mutual understanding, and shared decision-making.

To develop communication and teaching skills in Clinical Biochemistry at levels of complexity appropriate for the audience, trainees will be given opportunities in:

a. Working on laboratory projects as team members together with team members from various backgrounds, such as IT, business, technology, biochemists, physicians, and other health professionals.
b. Presenting to address learners and participants from different backgrounds.
c. Shadowing accreditation teams
d. Communicating with physicians to discuss appropriate test ordering, suggesting confirmatory tests, and providing clinical interpretation of results.
e. Communicating with patients as per NL Health Services (NLHS) policies where physicians are not accessible and critical results need to be delivered during on-call duties.

C. Collaborator

Collaboration is essential for safe, high-quality, patient-centered care and involves all parties in the patient's circle of care. Collaboration skills also apply to administration, education, advocacy, and scholarship and are built on trust and respect between individuals with complementary skills. This requires understanding the roles of self and others.

During the Program,

a. Trainees will understand the Clinical Biochemist's roles in the diverse healthcare teams and develop skills to promote inter and intra-professional collaboration. Trainees will be able to participate in the project teams, clinical biochemistry meetings as a member, and hospital and provincial committees, such as the Newborn Screening Advisory Committee and Provincial Clinical Biochemistry Advisory Committee meetings.
b. Trainees will understand medical practice by joining clinical rounds and rotations.

D. Leader

As Leaders, clinical biochemists engage with others to contribute to a vision of a high-quality medical laboratory service delivery as clinical scientists, administrators, scholars, or teachers. Clinical biochemists participate as team members and leaders in regional, national, and international groups.

a. The trainee will participate in the
    i. The Leadership in Quality Management course was provided by CSCC.
    ii. Clinical Laboratory Leadership and Management by ADLM
b. Trainee will complete a Laboratory Management Experience Development Rotation overseen by highly experienced clinical biochemists, Provincial Senior Director, and Laboratory Operations Manager.
c. The trainee will direct the laboratory in one of the hospitals in the city under the supervision of a Clinical Biochemist to apply the knowledge.

E. Scholar

Clinical Biochemists are expected to be committed to lifelong learning to improve in each competency area by developing individual professional development plans and becoming models for others, facilitating others' learning as teachers or mentors. (Technologists, students, colleagues, team members, public).

Clinical Biochemists are also expected to change practices considering emerging evidence-based information and technology, engage in research activities, and publish scholarly articles to disseminate knowledge

During the training, trainees will have opportunities to participate in

a. Research study(ies)
b. Diagnostic test development project(s)
c. New instrument method implementations
d. Laboratory quality improvement projects
e. Present or publish their findings regionally, nationally, and internationally.

F. Professional

The professional role includes competence in clinical chemistry, a commitment to ongoing professional development and promotion of the public good, adherence to ethical standards, and values such as integrity, honesty, selflessness, humility, respect, and commitment to delivering the highest quality laboratory services.

The trainees will be guided to

a. Understand their role as medical leaders within their hospitals and commit to delivering the highest quality laboratory services to their populations.
b. Demonstrate self-awareness of the limits of their expertise.
c. Respect for the confidentiality, privacy, and dignity of the patients
d. Be open to accepting guidance, supervision, and constructive criticism.
e. Demonstrate accountability to appropriate regulatory and legal bodies.
f. Identify and manage conflicts of interest.

4. Program Structure

In the first week of the training program, the Program Director and the trainee will meet and review previous academic courses taken during BSc, MSc, Ph.D., or MD studies, academic research, and work experiences. Based on the identified improvement opportunities in the review and considering the trainee's future interests, the Director and the trainee will determine if any additional academic courses are necessary.

The program director will provide the trainee with a program overview and the program curriculum, listing weekly locations and supervisor(s) names.

The Program Director jointly reports to the Clinical Chief of Pathology and Laboratory Medicine, who oversees province-wide laboratory medicine services in all discipline areas, and the Chair of the Memorial University, Faculty of Medicine, Discipline of Laboratory Medicine. In addition to Clinical Chemistry, both support other laboratory medicine disciplines in the training program. The trainee will have rotations in

cognate disciplines such as molecular diagnostics, hematology, microbiology, and pathology, as required by the CACB curriculum. NLHS's state-of-the-art laboratories are well-equipped to support the training.

Many learning methods will be used to strengthen trainee's learning:

a. Guided self-study and received mentorship:

Each week has a preidentified theme based on the CACB Syllabus. For each week, the trainee will receive and review a document called the weekly learning plan determining the analytical and clinical learning objectives, locations in the laboratory, clinic, or site, and reference books, standard documents, and guidelines for the self-study. At the end of each week, the trainee will meet with the Program Director and other relevant faculty members, such as rotation mentors, to review the progress during the week. The trainee will have the opportunity to ask questions and provide feedback on how the learning experience would be improved while the Director and the faculty members evaluate if the learning objectives have been achieved. The weekly learning evaluation form is filled and signed by the trainee and faculty.

b. Laboratory rotations

Laboratory rotations will consist of 50% of the learning time and provide a chance to apply knowledge and learn by observing daily laboratory workflow.

c. Participating in clinical rotations, rounds, case studies, and journal clubs
d. Attending workshops, conferences, or seminars to learn from experts in the field.
e. Taking additional courses or certificate programs from professional organizations such as CSCC, ADLM, EFLM, IFCC, JCTLM, MSACL, etc.
f. Assisting Clinical Biochemists in daily laboratory work and longer-term projects.
g. Participating in research and projects to gain hands-on experience.
h. Joining professional organizations or networking groups to connect with others in the field and stay up to date on the latest developments.
i. The trainee will be assigned gradually increasing service responsibilities,