



Management Plan
December 2019

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TMIC – an Overview

Background

The Metabolomics Innovation Centre (TMIC) was formed in 2011 with the vision of becoming one of the world's premier metabolomics facilities, offering the widest possible range of cutting-edge, comprehensive, quantitative metabolomic research capabilities and services. TMIC's mission is to catalyze innovation and translate metabolomics from the laboratory to real-world use by creating novel technologies, providing cutting-edge analytic services,¹ sharing foundational data resources, and equipping the next generation of scientists and end-users. The ultimate goal is to enable the creation of a strong metabolomics industry in Canada and generate social and economic benefits for Canadians. TMIC is an "affiliated centre" constituted under the Centre's and Institutes Policy of the University of Alberta (<https://policiesonline.ualberta.ca/policiesprocedures/policies/centres-and-institutes-policy.pdf>), operating as an unincorporated entity under an Inter-Institutional Affiliation Agreement between the University of Alberta and the University of Victoria as Founding Partners. A TMIC Constitution sets out a structure for the governance of TMIC. While the Member Institutions retain ultimate legal authority with respect to the operation of TMIC, it is their stated intent, where it is reasonable to do so, to act in accordance with the directions of the updated TMIC governance and management structure.

TMIC Governance

Overview

Under the TMIC Governance structure implemented in 2018-19, the Board of Directors (the "Board") is advisory to all institutions participating in TMIC. Therefore, the Member Institutions will retain ultimate legal authority over the operations of TMIC, but the expectation is that in practice, the wishes of the TMIC Board will be complied with. This governance structure is designed to strengthen the "external face" of TMIC and to ensure that decisions and directions of TMIC truly reflect the needs of the larger community, and to keep a strategic focus on delivering scientific, societal and economic benefits for Canadians. The Board is mandated to monitor the activities of TMIC in accordance with the roles and responsibilities defined in the TMIC Constitution, and subject to endorsement by the UofA or other applicable member institutions, including: 1) formulating policies relating to TMIC's governance; 2) recommending TMIC's strategic and management plans for approval; 3) providing oversight and advice regarding TMIC operations; 4) recommending the annual TMIC budget for approval; 5) facilitating communications with TMIC's funders; 5) monitoring TMIC's performance and ensuring TMIC's compliance with funder and/or institutional requirements; 6) approving ISAC (International Scientific Advisory Committee) appointments; and 7) recommending addition of TMIC Nodes or Node leaders. The Board structure consists of at least 11 highly qualified senior individuals from the academic, not-for-profit and private sectors, including the Vice Presidents of Research from the two Founding Partners (UVic and UofA), one representative from each of the funding partners Genome Alberta and Genome BC, a TMIC Node leader (non-voting), and

¹ Services refers to all the novel and innovative metabolomics methods and technologies translated to assays and tests provided by TMIC to its clients.

at least six independent or at-large members. The Operations Manager sits on the board as an *ex-officio*, non-voting member. TMIC's Board-approved Governance Model is represented in Figure 1.

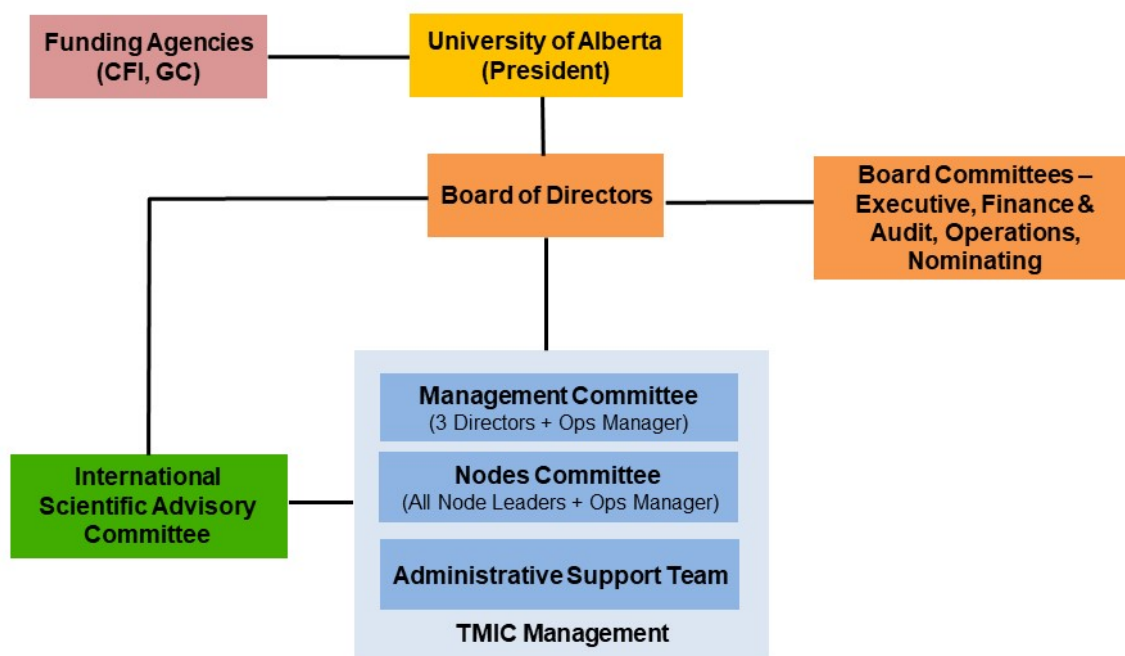


Figure 1. Governance Structure of TMIC

TMIC's Board Directors are formally appointed, removed or approved by the UofA's president or their designate. The Lead Institution receives advice, directives and guidance from TMIC's key funding agencies (CFI and GC). The advice and guidance from the funding agencies and Board is provided to TMIC's Management (the Management Committee), which operationalizes that advice or those directives. TMIC's Management Committee consists of TMIC's three Scientific Co-Directors (Drs. Li, Borchers and Wishart) and the Operations Manager. The International Scientific Advisory Committee (ISAC) provides scientific advice and guidance to TMIC via the Management Committee and the TMIC Board. The TMIC Board has four Committees: 1) an Executive Committee which performs executive governance functions between Board meeting; 2) a Nominating Committee which identifies and nominates Board members; 3) a Finance and Audit Committee which reviews TMIC's financial reports, provides

financial monitoring and recommends its annual budget and 4) an Operations Committee which provides advice, monitoring and recommends approval of TMIC's Management, Operations and Strategic Plans. These committees and their roles are described in more detail below.

Changes Since April 1, 2019

Minor changes to TMIC's Governance Model and how TMIC's Governance interfaces with TMIC Management have occurred since April 1, 2019. These were brought on by budget changes due to reductions in available GC funds starting April 1, 2020, management staffing changes, and updates to the Board composition and activities. These minor management changes were also proposed to Genome Canada as part of their Interim Review process, and no concerns were noted. TMIC's Governance and Management activities have a clear separation under the current model with the Operations Manager and Node Leaders overseeing day-to-day operational control.

Roles and Responsibilities of TMIC Governance Committees

Board of Directors (the Board)

Advising all Member Institutions and reporting to the University of Alberta as host institution, the Board's principal duties and responsibilities in regard to the host institution are set out in the Constitution.

Executive Committee

The Executive Committee (EC) deals with matters delegated to it by the Board and acts on behalf of the Board in between meetings. See Appendix 2 for the membership list.

Nominating Committee

The Nominating Committee is responsible for advising the Board on candidates for Board membership, committee structure and appointments. Specific responsibilities are outlined in Appendix 1. See Appendix 2 for the membership list.

Finance and Audit Committee

Reporting to the Board, the Finance Committee provides oversight of the financial management and budgeting processes as well as related financial issues. Specific responsibilities are outlined in Appendix 1. See Appendix 2 for the membership list. In summary, the Finance Committee is responsible for the first level of oversight of:

1. TMIC's financial information and reporting
2. Network funding and allocations
3. Risk management
4. Compliance

5. Investigations

Operations Committee

Reporting to the Board, the Operations Committee is responsible for monitoring long-range operational planning; the development and recommendation of TMIC's strategic plan, Management plan, annual operational plans and new policies and practices across the Nodes. This Committee is responsible for monitoring the evolution of TMIC's Key Performance Indicators (KPIs) and the annual or periodic reporting to funders. Specific responsibilities are outlined in Appendix 1 under planning, reporting and operations. See Appendix 2 for the membership list.

The International Scientific Advisory Committee

The mandate of the International Scientific Advisory Committee (ISAC) is to evaluate TMIC's scientific progress in the context of international developments in metabolomics and TMIC's strategic vision. The ISAC provides advice and guidance to TMIC management (the TMIC Management Committee) and to the Board to help ensure that TMIC achieves its stated scientific objectives and milestones and maintains itself at the cutting edge of metabolomic services. New ISAC members may be recommended to the Board by the TMIC Management Committee. ISAC members are then appointed by the Board. Specific responsibilities of ISAC members are outlined in Appendix 1. See Appendix 2 for the membership list.

TMIC Management

The role of management is to oversee the day-to-day operations, activities, planning, managing and financial controls of TMIC. In TMIC, Management and TMIC Governance are distinct and are therefore handled by two separate but closely linked bodies or committees consisting of different individuals with different skills and time commitments. The Board and Board members (who are part-time advisors) handle TMIC governance, while TMIC Node leaders (who are full-time scientists and professors) handle TMIC management. TMIC's Management Model consists of two committees, a Management Committee (MC) and a Nodes Committee (NC). The Management Committee comprises three TMIC Scientific Co-Directors (Drs. Wishart [GC lead], Li [CFI lead] and Borchers) and the Operations Manager (to be hired in early 2020). The Management Committee communicates directly with UofA Management and the ISAC. Two Management Committee members, the MC Chair and the Operations Manager, sit as an *ex officio* members of the Board without voting rights. The Chair of the Management Committee (which is held on an annual, rotating basis) for 2019-2020 is Dr. Li. The Operations Manager is formally employed via the office of the Dean of Science to provide an independent institutional voice to Management Committee deliberations and to facilitate direct communications with the Lead Institution and TMIC's funders. The Management Committee interfaces with and provides oversight to the TMIC Nodes Committee. The TMIC Nodes Committee consists of all TMIC Node Leaders (Wishart, Li, Borchers, Harynuk, Overduin, Britz-McKibbin, Lewis [pending], Goodlett [acting] and the Operations Manager). Both the Management Committee and the Nodes Committee are aided by the TMIC Administrative Support Team. The Administrative Support

Team consists of a full-time Sales and Marketing Manager(to be added in 2020),, a Business Manager a Communications Manager (to be added in 2020), a part-time programmer analyst for LIMS and web development and a part-time Executive Assistant (all located at the UofA) and four part-time Administrators (located at UVic and McGill). Additionally, a new Node Leader (Dr. David Goodlett), representing UVic, will be added to TMIC's NC in 2020. TMIC's Board-approved Management Model is represented in Figure 2 (see next page).

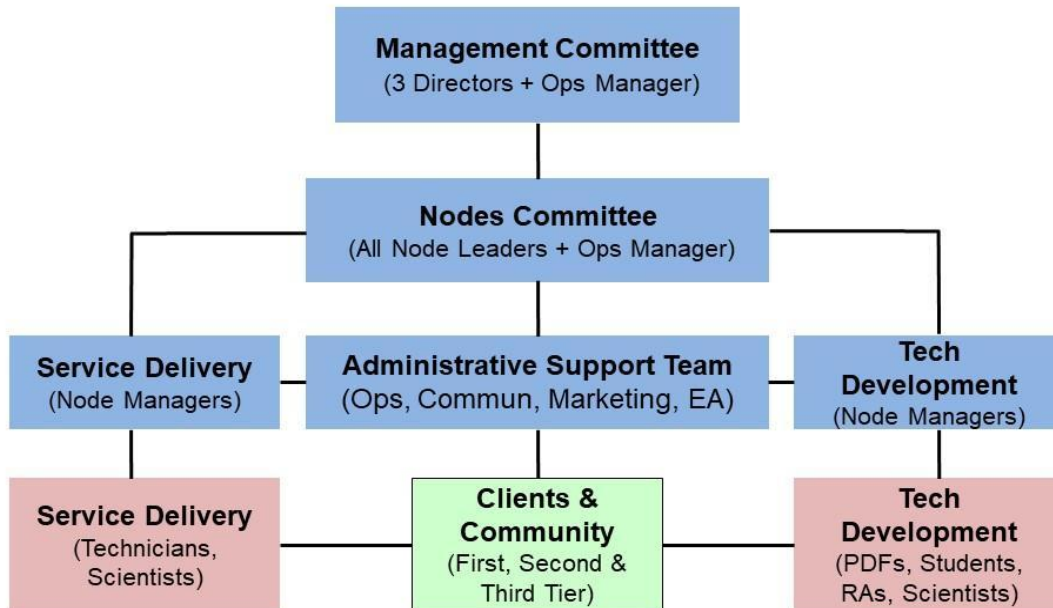


Figure 2. Management Structure of TMIC

Roles and Responsibilities of TMIC Management Committees

The Management Committee

The Management Committee (MC) is TMIC's key management body. The MC is responsible for providing executive management of TMIC and for interfacing with TMIC's Board, the host institutions, the lead institution representatives and TMIC's Node leaders. The MC is intended to be a small, nimble and responsive body consisting of senior TMIC Node leaders that can make executive management decisions without the requirement of convening a full Node Committee meeting. The MC helps TMIC achieve scientific and technical objectives through:

- Developing TMIC's long-term vision, scientific and technical priorities, strategic plans, management plans, and operational principles for TMIC's function as a distributed node-based network, which are then recommend to the Board of Directors;
- Managing the network functions of TMIC – e.g. node-to-node collaborative strategies, operational planning and coordination, including technology development;
- Providing a forum for exchange, oversight of technology development activities, harmonization and standardization of activities across the TMIC network;
- Identification and joint pursuit of collaborative funding and research opportunities;
- Setting communications policies and practices
- Recommending new ISAC members to the Board
- Recommending resource allocations to the Board
- Assisting with matters arising from TMIC Code of Conduct violations

Membership of the Management Committee comprises the three Scientific Co-Directors (Drs. Wishart [GC lead], Li [CFI lead] and Borchers) and the Operations Manager (to be hired). This is done to help reduce the administrative burden by sharing executive duties between Scientific Co- Directors, to facilitate succession planning of TMIC Scientific Co-Directors and to allow TMIC's Scientific Co-Directors to take leaves of absence or sabbaticals. Of note, Dr. Wishart will be taking a one-year sabbatical in July 2020. During his sabbatical Dr. Wishart will not be teaching but will carry on normal supervisory duties of his graduate students, his PDFs and his lab. Dr. Wishart will be hiring a research coordinator (anticipated start date of April 2020) to help manage lab, administrative, and research activities in his absence. The MC meets on a weekly basis and meeting minutes are recorded.

The Nodes Committee

The Nodes Committee (NC) consists of all Node Leaders (Wishart, Li, Borchers, Harynuk, Overduin, Britz-McKibbin, Goodlett [acting], Lewis [pending]) and the Operations Manager. The NC engages all Node leaders and is intended to provide a voice to all Node leaders concerning key management or operational plans and decisions. The NC helps achieve TMIC's operational, technical and scientific objectives by:

- Overseeing and monitoring TMIC progress through monthly meetings
- Communicating management decisions to TMIC staff members
- Assisting with the assembly of TMIC annual and progress reports

- Identifying and recommending the termination of non-performing activities or Nodes
- Evaluating and recommending the addition of new PI's or new nodes
- Re-allocating or raising TMIC funds
- Approving TMIC-wide partnerships with companies or institutions.

TMIC-wide decisions, TMIC-wide budget adjustments, institutional partnerships, and TMIC-wide dispute resolution are all handled by the TMIC-NC. The TMIC NC meets on a monthly basis via Skype/Zoom. Meeting minutes are recorded. One face-to-face TMIC-NC meeting is held each year, which includes the ISAC and Funder representatives.

TMIC General Management

TMIC will continue to follow a management strategy that has allowed it to grow continuously since 2011 and to become one of the world's top metabolomics centres. As always, TMIC will follow and maintain clear processes for making and communicating decisions, overseeing progress, and resolving disputes. Individual node leaders will retain responsibility for their node's staff, their node's finances, meeting their node's TMIC service and/or technology development objectives, reporting and overseeing their node's operations and resolving any node-specific personnel, client or project disputes. For management issues involving more than one node, or issues requiring coordination between all TMIC nodes, TMIC's Management Committee (MC) and TMIC's Nodes' Committee (NC) will provide guidance and make decisions. All TMIC management committees will be assisted by TMIC's Administrative Support Team (AST). The MC will meet on a weekly basis while the NC will meet once a month in person or via teleconference (a Genome Alberta representative will also be invited to each NC meeting). Agendas are distributed to all participants prior to each MC or NC meeting and detailed minutes of the meetings are kept and distributed to meeting participants, as well as being made available to CFI and Genome Alberta. Node-specific technology development activities for TMIC will also be handled and monitored by the TMIC NC. A separate TMIC Technology Development meeting is held each month wherein TMIC node leaders (or their designates) discuss and plan TMIC's overall scientific direction and provide oversight for the TMIC's technology development activities. Within each activity, the assigned PI(s) is/are responsible for scientific leadership and advice, team management, planning and prioritizing, reviewing results, and troubleshooting to ensure that deliverables for that activity are met within the proposed timelines. Every effort is made to achieve consensus within the MC and NC regarding major strategic decisions pertaining to services, operations and technology development activities. If a consensus cannot be achieved within the NC, decisions are made by simple majority vote on a clearly defined resolution. The TMIC NC communicates its decisions to staff through the TMIC Node Leaders, the Operations Manager and the Node Managers. TMIC's Node leaders are supported by their Node Managers.

Each Node in TMIC has (or will soon have by April 2020) a full time or part-time Node Manager. Node Managers are an important component of the overall TMIC management team. They work very closely with the Operations Manager and the AST to manage TMIC's operations. Node Managers are responsible for assisting node leaders on financial matters including purchasing,

compiling scientific, financial and operational data for funding agency reports, entering data into the TMIC Laboratory Information Management System (LIMS), coordinating the completion of all day-to-day TMIC assays and services for users, and implementing and overseeing quality control and quality assurance standards set for TMIC at their respective Nodes. The Node Managers report to their respective Node Leaders on a day-to-day basis but also work closely with the Operations Manager and Sales and Marketing (and Business) Manager(s) to ensure that all TMIC service activities are efficiently distributed through the TMIC Network, and that the interface with clients is centrally managed to ensure satisfaction with TMIC services. Node Managers are expected to have relevant experience with assay, instrumentation and overseeing service operations of an appropriate scale and scope.

Management Changes Since April 1, 2019

Minor changes in management personnel and organization have been made since April 1, 2019. These take into account a reorganization of administrative staff, turnover of staff, advice received from internal and external TMIC partners, and a mandatory reduction in Genome Canada funding (29% for FY 2021 and beyond). Under the guidance of the host institution, TMIC reviewed full management processes and made minor adjustments to the existing Management Model. This included distribution of a subset of management tasks to individual nodes (via Node Managers) and amalgamation of administrative staff under a new unit, the AST (full description below), to increase operational efficiency. The MC and AST continue to provide oversight on individual Node operations including budgets and expenditures, retaining the core structures that guided TMIC management for the past 8 years under the revised funding available due to Genome Canada reductions. Timing of changes coincides with the Genome Canada mid-term review process.

Specific changes to TMIC's Management staff are outlined in the Table below (Table 1). Further justifications for these are provided in the Budget Amendment and Justification document, the updated Annual Report and the Executive Summary submitted to the CFI.

Table 1. TMIC Administrative Personnel Changes

April 1, 2019	October 17 th 2019
Director of Network Relations	Replaced by Operations Manager - Position Removed
Manager, Finance	Replaced by Operations Manager - Position Removed
Communications, Outreach	Communications Manager
Financial Analyst/Manager	Position Removed
Client Relations Manager	Sales & Marketing Manager
MetaboNews Editor	Position to end March 2020 (responsibilities transferred to Communications Manager)
Financial Coordinator	Purchaser
Website & LIMS Developer	Website & LIMS Developer
Administrative Assistant and TMIC Coordinator	Executive Assistant
UVic/McGill Admin. Staff (4 PT)	UVic/McGill Admin. Staff (4 PT)

Management Personnel

Scientific Co-Directors

The Scientific Co-Directors work together, as part of the Management Committee (MC), providing executive management and oversight to TMIC. The Scientific Co-Directors are the scientific leaders for TMIC, with overall responsibility for the attainment of TMIC scientific goals and vision for the future, in accordance with the Strategic Plan, the Management Plan and the funding proposals that support TMIC. The Scientific Co-Directors also implement and oversee the strategies, policies, programs and performance requirements recommended by the Board. TMIC's Scientific Co-Directors contribute to the TMIC brand by acting as chief spokespersons for TMIC. They guide the organization to develop new and innovative ways of enabling scientific

research and translation through the actions of the TMIC network. The TMIC Scientific Co-Directors must have outstanding records of scientific accomplishment and/or science facility leadership. They must have the scientific knowledge, stature and credibility to fulfill the requirements of these roles. The position of Chair of the MC rotates on an annual basis. Specific responsibilities of the MC members are outlined in Appendix 3. The Scientific Co-Directors include:

David Wishart, University of Alberta (past Chair of the MC, Project Lead for Genome Canada)
 Liang Li, University of Alberta (Chair of the MC, Project Lead for CFI)
 Christoph Borchers, McGill University and University of Victoria (to July 1, 2019) (Alternate Chair)

Node Leaders

Node Leaders – must have significant scientific knowledge, stature and credibility in metabolomics. All Node Leaders are members of the TMIC Nodes Committee. Node Leaders are responsible and accountable for:

- Contributing to the intellectual and strategic leadership of TMIC;
- Actively pursuing opportunities for collaborative ventures with other Nodes under the umbrella of TMIC;
- Ensuring the effective operation of TMIC as a distributed platform;
- Contributing to the TMIC brand by acting as spokespersons for TMIC;
- Developing and motivating direct reports and their respective teams to support the TMIC vision and mission;
- Overseeing the day-to-day activities conducted by the Node Managers (see below); and
- Sustaining competitive advantage through maximizing available resources, encouraging staff commitment and strategically aligning activities and workplace culture with TMIC's goals and objectives.

Node Leaders (2019)

- *David Wishart, University of Alberta*
- *Christoph Borchers, University of Victoria (to July 1, 2019) and McGill*
- *David Goodlett, university of Victoria (current acting)*
- *James Harynuk, University of Alberta*
- *Ian Lewis, University of Calgary (new addition for 2020)*
- *Liang Li, University of Alberta*
- *Michael Overduin, University of Alberta*
- *Philip Britz-McKibbin, McMaster*

Operations Manager

The Operations Manager is overseen by the Dean of Science at the University of Alberta and works closely with Scientific Co-Directors (through the TMIC Management Committee) and Node leaders (through the TMIC Nodes Committee). The Operations Manager also acts as the

interface between TMIC's management and the Board and, in conjunction with the Scientific Co-Directors, is responsible for maintaining TMIC's relationships with the host institutions, government, funders, and partners in the public and private sectors. The Operations Manager manages overall administrative oversight of the facility, and reporting to sponsor agencies. Additionally, the Operations Manager manages node relationships through the coordination/initiation of management, multi-node and AST team meetings. The Operations Manager also manages compliance oversight (funder, facility, and institutional compliance), and performs node reporting (to the funding agencies). The Operations Manager also performs financial reporting and budget development (planning and preparation) for TMIC and ensures, through careful budget monitoring, that resources are in place for TMIC operations. The Operations Manager also performs reconciliation of accounts and preparation of financial statements for the TMIC Board and TMIC funders.

Administrative Support Team (AST)

The Administrative Support Team (AST) is responsible for providing administrative support to the Management and Nodes Committees. They work closely with the Operations Manager, who provides day-to-day oversight of the AST. The AST is responsible for managing the horizontal (e.g. Network-wide) operational and translational activities of the Network that are most efficiently managed from a central office. These include: supporting inter-Node coordination, establishing and overseeing policies and practices that promote optimal use and effectiveness of the TMIC facilities (including QA/QC), overseeing the preparation of funding proposals, reporting to funders, supporting the dissemination of research results, overseeing the distribution and use of funds to/by the Nodes, liaising with the University of Alberta administration as the institutional host, Business Relations, Network communication and outreach, and working towards the translation of innovations from the TMIC Network.

Key positions within the core staff of the AST are the Communications Manager, the Marketing and Sales Manager, the Purchaser (position to end in March 2020; purchasing will be handled by individual Nodes with oversight by Management Committee and AST), the part-time LIMS and website developer and the Executive Assistant (all located at the UofA). Additional administrative (part-time) staff are located at the University of Victoria and McGill University. Their roles and responsibilities will be further clarified after March 2020.

Communications Manager

The communications manager is responsible for managing TMIC communications, advertising and outreach that is directed to the metabolomics community, to potential clients, to TMIC Node members, to potential donors and industry partners, to TMIC's partner institutions and to TMIC's funders. The Communications Manager works closely with the Business Manager, the Operations Manager and the TMIC Management Committee. The Communications Manager coordinates the design and content of the TMIC web pages as well as the advertising content on TMIC's web servers and databases. They also assist with the writing, editing and development of TMIC-wide grants and proposals and with statistical data collection for TMIC's KPIs. The Communications Manager is also responsible for managing, preparing and conducting

the Annual Survey for the CFI annual report. Beginning in 2020 the Communications Manager will be responsible for the production and distribution of the MetaboNews newsletter. This is a newsletter distributed to >3100 subscribers worldwide and serves as the monthly voice of the International Metabolomics Society and for TMIC.

Marketing and Sales Manager

The Marketing and Sales Manager is responsible for overseeing the marketing of TMIC products and services. They are also responsible for managing associated outreach activities such as the Research Hotel (through interactions with the Executive Assistant). They provide key support in the areas of user/client recruitment, interaction and engagement, service agreement negotiation and service outreach. The Marketing and Sales Manager is the central point of contact for users, and distributes user projects to the Nodes with the appropriate capabilities and infrastructure to fulfill the user's needs.

Purchaser

The Purchaser is responsible for purchasing of laboratory supplies as well as reconciliation of financial records related to these purchases at the UofA. In the review of TMIC's global administrative requirements, these responsibilities are felt to be better held by Node Managers. . As such, this position will end in March 2020 and will be largely replaced by the new responsibilities given to the Node Managers. Node Managers have situational awareness of node-specific requirements and can assume these responsibilities without potential duplication that results from a separate Purchaser position. This adjustment will be monitored closely for compliance with institutional and CFI requirements, with additional training or assistance engaged where appropriate

Executive Assistant

The Executive Assistant is responsible for scheduling meetings and travel arrangements for TMIC Management Committee staff at the UofA, for the organization of TMIC workshops and conferences, for monitoring and facilitating correspondence with the UofA MC and AST staff, assisting with arrangements for Research Hotel guests and TMIC visitors, and assisting with document preparation including grant proposals, papers and reports. The Executive Assistant also facilitates interactions between TMIC and University units, assists the Communications Manager with statistical data collection on TMIC's KPIs and assists with communications and outreach via the Sales and Marketing and Communications Managers.

Administrative Staff at UVic/McGill

Four part-time (0.2 FTE each) administrative staff (Tech Ops, Facility, Financial & General) currently work at UVic to assist administrative operations in that Node. Discussions regarding the status of those staff post-March 31, 2020 are ongoing and should be resolved in early 2020.

Other Key Aspects of TMIC Operations

Bioinformatics - The bioinformatics team embedded in the Wishart Node is responsible for

maintaining and developing key metabolomics resources, including databases, web servers and data analysis tools. The bioinformatics team also maintains and upgrades the Network-wide Laboratory Information Management System (LIMS) and provides statistical support for service projects and supports individual requests from clients, such as customized reports, data interpretation and bioinformatics/statistics training. This team is led by David Wishart.

Coordinating Board and Management Interactions

The Board holds a minimum of three meetings a year, including at least one in-person meeting. The Board committees meet in advance of each Board meeting or as required. In addition to ongoing coordination through the Operations Manager between the Management Committee and the Board, the TMIC Management Committee meets weekly while the Nodes Committee meets on a monthly basis. The Scientific Co-Directors meet with Node Leaders individually at least once per year. Research (technology development) meetings for Node Leaders are held as often as once a week, depending on the project.

TMIC Core Facility Operations

Access

The first point of contact for most prospective users is typically through the TMIC website (www.metabolomicscentre.ca) or through exposure to TMIC offerings at high profile sector specific meetings. The website includes detailed descriptions of TMIC resources, infrastructure, capabilities and services offered. In addition, links to key metabolomics databases, libraries and software tools are provided. TMIC's location and contact information are also available on the website.

Users interested in engaging TMIC services contact the TMIC Sales and Marketing Manager via either a web request, by e-mail or by telephone. Contacts may also be initiated through interactions with a TMIC Node Leader or a TMIC Node Manager. A TMIC staff member (usually the TMIC Node Manager) is assigned to the user and remains as the user's main point of contact with TMIC. The Sales and Marketing Manager (or Node Manager) consults with the user regarding his/her specific project/analysis requirements and also consults with TMIC's Node Leaders and/or staff to ensure the user's needs, questions and concerns are adequately addressed. All incoming TMIC service work must be processed through the Sales and Marketing Manager or a Node Manager to ensure that proper tracking and management of the job is achieved through the TMIC LIMS. In 2020, the Sales and Marketing Manager will be assisted by a newly recruited Business Manager in an effort to increase TMIC's fee-for-service revenue and to reduce the workload of Node Managers.

Standard service contracts including Statements of Work (SOW) are prepared and approved for all analyses to be undertaken. Once a service contract and Statements of Work has been executed, the user sends the sample(s) to the appropriate TMIC Node, as identified by the Sales and Marketing Manager or Node Manager. The analysis is completed and results are uploaded into the LIMS as they are generated. If the sample needs to be transported to another TMIC Node(s) for additional assays, sample shipment will be handled internally by TMIC staff and

tracked through the LIMS. Users are invoiced upon completion of the contract; billing and payment tracking are also accomplished through LIMS. See Figure 4 for an illustration of the TMIC workflow.

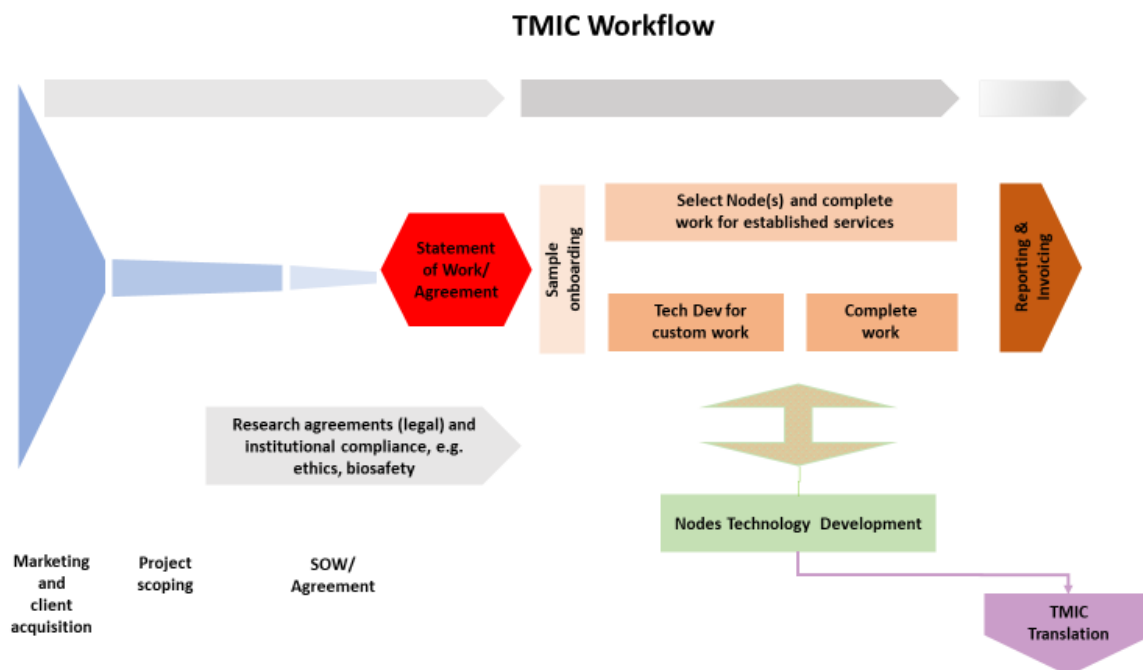


Figure 4 TMIC's workflow

Activities undertaken by TMIC are in compliance with the Tri-Council guidelines on Responsible Conduct of Research, utilizing institutional procedures for ethics approval.

TMIC's Fee-for-Service Model

TMIC's pricing model is based on a cost recovery model with different pricing levels for researchers in academia, the public and private sectors, and is in accordance with the Genome Canada Access policy for the Genomics Innovation Network:

- Where the users are researchers from the public sector, pricing is based on the variable costs of providing the service (e.g., consumables, technicians' salaries and consultation time);
- Where the users are researchers from the private sector, full cost recovery is required, and the pricing will be based on both the variable costs as described above, and other direct costs such as overhead, amortization expense related to equipment costs, etc. institutional overhead rates also apply to private sector projects; and
- Prices are set using the above criteria as guidelines, where variations in prices may be due to the type of relationship between the user and TMIC (collaborative or fee-for-service) and the level of interaction required (e.g., with or without post data-generation analysis), under no circumstances is TMIC able to provide services to any users

(collaborative or fee-for-service) at prices below the variable cost of the service as defined above.

Data Management and Standardization

Core operations and data management are facilitated by the TMIC LIMS, which enables communications and process management across all Nodes involved in the Network. The TMIC LIMS is a web-enabled information management system that permits seamless internal data exchange and sample tracking, billing, data dissemination as well as management of technical standard operating procedures (SOPs). All TMIC staff have been trained on LIMS functions that are relevant to their role. The LIMS is managed and updated in-house, and is continually improved through user feedback.

One of the metabolomics “Grand Challenges” is standardization, not only in reporting data, but also in how the data are collected, analyzed and interpreted. The LIMS platform provides a key resource toward solving this challenge, as it hosts a large library of up-to-date electronic SOPs. This allows TMIC staff to reference common protocols for sample preparation and analysis, and to easily compare results for quality assurance and quality control purposes.

Maintenance and Repairs

Routine and scheduled maintenance on laboratory equipment is overseen by the Node Leaders for instrumentation in their respective labs. Instrument repairs, when required, are assessed on a case-by-case basis. In the case of more sensitive/expensive instrumentation, TMIC initiates an immediate service call for an initial estimate, especially if that instrument is not covered by an extended warranty or service contract (as is the case for many newer pieces of instrumentation). There can be severe impacts on TMIC’s ability to meet the analytical needs of its users and research partners in a timely manner when an instrument is down for repair. As a result, in recent years, TMIC has invested in some degree of redundancy for critical instrumentation and/or located suitable alternatives in other laboratories. This allows TMIC to continue operations and minimize the impact of gaps in capacity. The proactive identification of supplementary instrumentation continues to be a priority for the facility.

Another key issue is that of aging instrumentation - i.e., when a piece of equipment is nearing the end of its useful life and repairs are becoming more frequent and/or costly. In such circumstances, the Nodes Committee considers the priority to replace or upgrade the equipment capacity. If this committee deems that the instrument is no longer fit for repair, the instrument is repurposed for other uses or disposed of in accordance with institutional policy. Any useful parts are retained to be used as spares and re-deployed elsewhere. Hazardous materials are removed and disposed of according to institutional procedures, and the instrument is disposed of according institutional policy.

Human Resources

By deliberate design, most tasks in TMIC can be performed by multiple people. This allows for personnel to cover for each other during leaves, illness and unforeseen absences and enables

the facility to run smoothly. It also allows for more efficient staffing if there is an increased demand for a specific activity. Having more than one person trained for each task also addresses the need for succession planning for TMIC personnel (see also below).

Because TMIC operates within the host universities, TMIC staff are employees of those institutions and as a result TMIC benefits from very strong support from the Human Resources units at University of Alberta, University of Victoria, McMaster University and McGill University. TMIC core positions are classified by institutional staff according to position descriptions and qualifications and posted publicly. Support is also available for the recruitment process, with TMIC making decisions on new hires subject to institutional policies. Salary levels and benefits are determined by each institution and, if the need arises, there is also support for disciplinary and termination procedures.

With an excellent international reputation as a world-class metabolomics facility, TMIC benefits from a dedicated core of talented personnel in key positions. All of the Nodes receive unsolicited resumes and CVs from applicants on a regular basis.

Financial Controls

TMIC finances are monitored at several levels. Activity-based fiscal responsibility/control is the responsibility of each Node Leader subject to approval by the institution where day-to-day budget decisions occur, including authorization of purchases in accordance with the budgetary and financial process controls set in place by the home institution and funders. All TMIC financial transactions are overseen by the Operations Manager but managed by individual Node Leaders and Node Managers. The University of Alberta, as host institution, provides oversight of compliance with funders' regulations. The Board Finance Committee and the TMIC Board provide additional oversight on financial matters.

Environment, Health and Safety

TMIC supports the need for education and regulatory compliance with respect to personal and environmental safety. All employees at each Node must meet rigorous safety standards enforced by dedicated Biosafety Officers (normally institutional positions). All new TMIC personnel receive lab-specific safety training as part of their orientation. TMIC labs continually update their Biosafety Registry information with their respective offices of Environment, Health and Safety and are subject to routine and thorough safety inspections. Non-compliance is not tolerated and biohazards approval must be obtained before activities on a research project can commence.

TMIC requires that adequate apparel be worn in the lab at all times, including any required personal protective equipment (PPE). Workplace Hazardous Materials Information System (WHMIS) training is required for all staff working in a laboratory. All hazardous material must be handled and disposed of properly and documented. All personnel receive training in emergency procedures.

Succession Planning

Succession planning is managed at two levels – i) contingencies for short term absences of key personnel and ii) longer term planning for sustainability of the leadership team. For short-term, and more extended but temporary absences of the Scientific Co-Directors, their designate assumes all leadership responsibilities. In situations where a Scientific Co-Director steps down or retires, the Board, in conjunction with the University of Alberta, will manage a process to identify and/or recruit a highly qualified individual to ensure effective leadership of TMIC.

For long-term stability TMIC actively identifies key staff or highly capable personnel who could potentially move into more senior positions. In this regard, succession planning for Project Team members is conducted by the Management Committees on a continuous basis. Likewise, the constituent universities recruit new faculty members with interests in metabolomics and/or systems biology. As Drs. Wishart, Li and Borchers near retirement (in approximately 10 years), the institutions are expected to recruit suitable replacements.

Expansion of TMIC

TMIC is a pan-Canadian network of metabolomic centres or Nodes. TMIC currently consists of 8 Nodes with one Node in Victoria (UVic), four nodes at the University of Alberta (UofA), one pending node at the University of Calgary (UofC), one Node at McMaster University (McU) and one node at McGill. Where a new organization or a new investigator wishes to become a Member of TMIC and establish a new TMIC Node, they shall prepare a written application, along with a current copy of their curriculum vitae (CV), outlining or highlighting their qualifications in metabolomics, their operational plans for such a TMIC Node, the requested budget and the expected benefits to TMIC and to the Metabolomics Community by becoming a TMIC Node. This proposal will first be submitted to and reviewed by the TMIC Management Committee and the TMIC Nodes Committee, who will then make a TMIC management recommendation. The proposal and TMIC management recommendation will then be submitted to the Board and the President of the Lead Institution (UofA) for review and further discussion with TMIC management. The Board and the President, each acting in their sole discretion, shall have the right to support or deny such a recommendation. Any reallocation recommendations in support of TMIC expansion and involving a TMIC funder's existing award(s) are subject to conditions contained within agreements in place regarding such funding.

Termination of a TMIC Node

If a TMIC investigator moves out of Canada, retires or chooses to remove themselves from TMIC-associated activities, they must notify the TMIC Management Committee with a letter indicating their wish to cease acting as the leader for that TMIC Node, their wind-down plans and the date that they will cease to act as a Node Leader. A full assessment of how that Node's services could continue to be delivered will be undertaken, seeking constructive ways to maintain the national collaboration among Nodes. That assessment will include internal discussions with the UofA RSO, the VPRI, the TMIC Scientific Leaders, as well as discussions between the UofA and the institution where the departing node leader resided. The recommendation made to the Board of Directors should be based on the outcome of those

discussions and should reflect the full review of all options that took place during the consultations. If a determination is made that the operations of the departing Node member can be handled by the remaining TMIC Nodes, the TMIC Management Committee will prepare recommendations regarding the dispersal of any of that Node's TMIC-associated funds to other TMIC Nodes. Recommendations for the termination of that TMIC Node location and the dispersal of the TMIC funds are then made to the Board and the President of the Lead Institution (UofA). The Board and the President, each acting at their sole discretion, shall have the right to support, modify or deny these recommendations. Alternately, if a TMIC Node has been determined (by external or internal review) to be: 1) non-compliant with TMIC's Code of Conduct; or 2) non-compliant with funder requirements; or 3) unable to provide sufficient services to the community; or 4) non-viable or non-functional for other reasons; or 5) unable to relocate (or has had its relocation request denied), a similar assessment (as described above) of how that Node's services could continue to be delivered will be undertaken, seeking constructive ways to maintain TMIC's full service offerings. If a determination is made, after appropriate consultation, that the Node should be terminated a formal recommendation will be made by the TMIC Management Committee to terminate that Node and to disperse those funds associated with that Node to other TMIC Nodes, as appropriate. Recommendations for the termination of that Node and the redistribution of those funds are then made to the Board and the President of the Lead Institution. The Board and the President, each acting in their sole discretion, shall have the right to support, modify or deny these recommendations. Finally, if a TMIC Investigator has moved within Canada and transferred their Node operations from one Institute to another, a recommendation will be made by the Management Committee that the vacated Node be terminated by the end of the fiscal year or within 6 months of the move, whichever is later. Recommendations for the termination of that vacated Node and the redistribution of any remaining funds will be made to the Board of Directors and the President. The Board and the President, each acting in their sole discretion, shall have the right to support, modify or deny these recommendations. If the vacated Institute wishes to create a new Node within TMIC, it must follow the protocols outlined in the "Expansion of TMIC" section of the Management Plan. Any recommendations for, and plans following from, a proposed Node termination are subject to any and all legal obligations in place among the applicable parties.

Change of TMIC Node Location

Should an existing TMIC Investigator move to another department within a university or should they move to another university within Canada, while still expressing a desire to remain in TMIC and maintaining a capacity to perform previous TMIC services or functions, then a Change in TMIC Node Location may be undertaken. A detailed plan must be received by the TMIC Management Committee that describes that Node's transition and relocation plans at least three months prior to the move. Upon receiving notice, the TMIC Management Committee shall consult with UofA Management (The Dean of Science, the VPRI) and the departing investigator's host institution (if it is not the UofA) to assess the plan, to explore options, and to seek constructive ways to maintain TMIC's full service options and collaborative networking across all existing Nodes (including the Node where the TMIC investigator is leaving). Should the investigator's former host institution indicate they wish to recommend a replacement TMIC

investigator, negotiations will be undertaken between all parties (the departing TMIC investigator, the new host institution, the replacement TMIC investigator and the existing host institution) to develop a plan for an equitable split between operations and budgets. Additionally, a proposal and for the admission of the replacement TMIC investigator into TMIC as a TMIC Node leader must also be prepared (see Expansion of TMIC, above). These negotiations may be mediated by UofA Management, members of the TMIC Board and the TMIC Scientific Directors. If a plan that satisfies all parties is developed, recommendations for the change in Node location (for the old TMIC investigator), and the admission of a new TMIC Node leader (for the replacement TMIC investigator) are then made to the TMIC Board and the President of the Lead Institution (UofA). The Board and the President, each acting in their sole discretion, shall have the right to support or deny these recommendations.

If the host institution of the departing TMIC investigator indicates that no replacement can be found or that it has no intention of finding a suitable replacement, then the TMIC Management Committee may recommend that the TMIC Node, led by the departing TMIC investigator (and all associated or eligible TMIC funds), should move with that TMIC investigator to the new location. Recommendations for the change in Node location are then made to the TMIC Board and the President of the Lead Institution (UofA). The Board and the President, each acting in their sole discretion, shall have the right to support or deny these recommendations. Any recommendations for, and plans following from, a proposed Node location change are subject to any and all legal obligations in place among the applicable parties.

Risk Management

Risk is an inevitable component of managing TMIC, dealing with reputation, instrument reliability and technical performance, project management, quality assurance, regulatory compliance, health and safety, facility and data security, privacy, human resources, managing multiple partners, financial management, cost control, and continuity of external funding. While a risk management framework is currently in place, in 2020-2021, the Board, together with the Management Committee will oversee the development of a more comprehensive approach to identifying, assessing and managing risks.

Among the current risk factors that TMIC manages and works to mitigate are:

Competition from other technology cores at academic institutions

- Work with these cores rather than compete, expand TMIC concept and protocols to other places
- Stay at the cutting edge, provide the best services

Disruptive technologies

- Rather than wait for others, develop our own

Catastrophic instrument failures

- Instrument maintenance contracts, staff training

Staff retention

- Space renewal, active training, competitive compensation packages, more time on science, less on instrument repair
- Loss of federal government funding, expanding our funding base through licensing, product sales, spin-offs, donors (corporate, private), other funding agencies

Decommissioning of TMIC

Should TMIC be de-funded by Genome Canada, the CFI and/or other major sponsors, and furthermore, if no alternative funders can be identified, TMIC will consider shutting down all external service operations. The decision to decommission TMIC will be made as a recommendation from the Board to the University of Alberta, in consultation with the Nodes Committee, the University of Alberta and the partner universities. Should TMIC be decommissioned, all reasonable measures will be taken to ensure that the terms of any and all existing contracts, agreements and commitments are met. In the event that TMIC is decommissioned, equipment ownership will remain with the host institution, as all equipment in TMIC (excluding any commercially owned equipment) belongs to the University at which it is located.

Responsibility for equipment maintenance will fall to the individual (former) Node Leaders and/or their Institutions as prescribed by applicable legal agreements. The Node Leaders will assume responsibility through their own operating grants to ensure that all equipment is maintained. Should an individual PI be unable to maintain the equipment under his/her control, the equipment, which belongs to the University, will be taken over by the relevant institutional department/faculty or decommissioned until such time that another individual is identified to maintain the equipment. All interactions and dealings with TMIC personnel will comply with the policies, procedures and relevant staff and faculty collective agreements of the host institution. Relevant intellectual property will be handled in accordance with the policies and procedures of the host institution(s).

Appendix 1 – Detailed Terms of Reference for TMIC Committees

Board of Directors (the “Board”)

Reporting to the University of Alberta as the host institution, the Board’s principal duties and responsibilities are to advise the University of Alberta and other Member Institutions on the business affairs of TMIC.

Specific responsibilities are set out in TMIC’s Constitution.

Executive Committee

As per the Management Plan, the Executive Committee (EC) shall deal with matters delegated to the EC by the Board within the legal framework of the Affiliation Agreement and shall act on behalf of the Board in between meetings. Such authority shall not be used without need.

Critical matters shall be referred to the Board for final resolution either at the next scheduled meeting of the Board or at an emergency meeting of the Board, should timing be a primary consideration.

Finance & Audit Committee

Reporting to the Board the Finance Committee will monitor:

1. TMIC’s financial information and reporting
 - Review and discuss with management, all financial statements that require the Board’s consideration (and in turn recommendations to the UofA) in order to recommend to the Board that the statements are presented fairly, completely, and clearly; including,
 - a. The notes to the financial statements; and
 - b. Management’s discussion and analysis of operations contained in the annual report and its consistency with the financial statements.
2. Network funding and allocations
 - Review and recommend to the Board the allocation of funding among the Nodes should those allocations need to deviate from the proposed funding agency budget ; and
 - Monitor the performance of the Nodes in the context of their overall TMIC funding.
3. Risk management
 - Review and monitor TMIC’s major financial risks and risk management policies and the steps taken by management to mitigate those risks; and
 - Monitor the development and implementation of policies and practices to effectively mitigate against potential liabilities.
4. Compliance

- Recommend to the Board and through the Board to the University of Alberta procedures for the receipt and treatment of any complaint regarding accounting, or internal accounting controls including procedures for the confidential, anonymous submissions by employees of concerns regarding questionable accounting or auditing matters.

5. Investigations

- Recommend investigations or studies of matters that reflect on the financial reporting or financial position of TMIC or such other matters as deemed appropriate by the Board.

The Operations Committee

Reporting to the Board the Operations Committee is responsible for overseeing long range planning; the development and recommendation of annual operational plans and new policies and practices across the Nodes; evolution of TMIC's KPIs; annual and periodic review reporting to funders.

Specific responsibilities

1. Planning

- Review annual operational plans
- Revisit Strategic Plan bi-annually
- Monitor regular reviews of the Mission and Vision of TMIC

2. Reporting

- KPIs – ongoing attention to refinements and monitoring of progress
- Review annual reports
- Ensure responses to questions from funders are fully addressed
- Ongoing harmonization of reporting requirements

3. Operational

- Work with TMIC management to ensure budgets are aligned with funder expectations and eligible expenditures
- Identify priority needs and monitor the development of new policies and practices for TMIC
- Pursue administrative efficiencies, e.g. streamline service contracts at the University of Alberta Nodes and other sites

Nominating Committee

The Nominating Committee is responsible for advising the Board on candidates for Board membership, committee structure and appointments. Specific responsibilities are to:

- Periodically review the size, scope and terms of reference of the Board and the Board Committees and the terms of reference for the Board chair and recommend any changes;
- Recommend the establishment or disbanding of Board committee;
- Establish qualifications for members of the Board and develop and implement an appropriate process to solicit prospective Board interest, taking into consideration the desired composition of the Board; the strengths, skills and experience of current Co-Directors; expected retirement dates; and the strategic direction of the organization (succession planning);
- Recommend candidates for the Board, Board chair, Board committees and committee chair vacancies; and
- Advise the Board/identify when an issue of conflict or potential conflict arises which may result in the need for a Board member to abstain from Board discussion and decision making, or in the tendering of a resignation by a Scientific Co-Director.

The International Scientific Advisory Committee

The mandate of the International Scientific Advisory Committee (ISAC) is to evaluate TMIC's scientific progress. The ISAC provides advice and guidance to the Board and TMIC management Committee to help ensure that TMIC achieves its stated objectives and milestones.

The membership of the ISAC is independent from TMIC, composed of 3 or more members selected to have sufficient expertise to cover the breadth of TMIC activities. ISAC membership is determined by the TMIC Board, taking into consideration suggestions from the TMIC management.

To accomplish its mandate the ISAC:

1. Monitors and assesses TMIC's progress towards its scientific objectives and milestones, providing advice to the TMIC Management Committee;
2. Reviews major changes in scientific directions proposed by the TMIC management and advises the Board on their adoption;
3. Provides strategic advice to the Management Committee and the Board to aid TMIC in realizing benefits and achieving its long-term objectives, including providing advice on major trends in science and technology that are likely to have an impact on TMIC, as well as scientific challenges facing the facility;
4. Reviews the implementation of TMIC's Strategic Plan and, where appropriate, makes recommendations aimed at improving the plan; and
5. Identifies issues related to data release, intellectual property and translation of technologies that arise from TMIC, where appropriate.

The ISAC meets with the Management Committee and the Board twice each year, with at least one of these being a face-to-face meeting.

Appendix 2 – Membership of the Board and its Committees (Dec 2019)

The TMIC Board

- Matthias Ruth, Vice President (Research and Innovation), University of Alberta (Interim Chair)
- Lisa Kalynchuk, Vice President Research, University of Victoria
- Tony Brooks, CFO and VP, Entrepreneurship and Commercialization, Genome BC
- Gijs van Rooijen, Chief Scientific Officer, Genome Alberta
- Liang Li, Scientific Co-Director and Chair of the TMIC Management Committee (Ex officio, non-voting)
- Roger Foxall, Life Science Strategies; Former CEO Genome BC
- Marvin Fritzler, Professor Cumming School of Medicine, University of Calgary
- Board Member 1 TBD
- Board Member 2 TBD
- Board Member 3 TBD
- Board Member 4 TBD
- Operations Manager (Ex officio, non-voting)

Executive Committee

- Matthias Ruth, Vice President Research, University of Alberta (Chair)
- Liang Li, Scientific Co-Director, University of Alberta
- Member 1 Independent Director as appointed by Board
- Member 2 Independent Director as appointed by Board

Finance Committee

- UofA Finance or Operations Manager (*ex officio*)
- Tony Brooks, CFO and VP, Entrepreneurship and Commercialization, Genome BC
- Member 1 Independent Director as appointed by Board
- Member 2 Independent Director as appointed by Board

Operations Committee

- Marvin Fritzler, Professor Cumming School of Medicine, University of Calgary (Chair)
- Roger Foxall, Life Science Strategies; Former CEO Genome BC
- Liang Li, Scientific Co-Director, University of Alberta
- Gijs van Rooijen, Chief Scientific Officer, Genome Alberta

Nominating Committee

- Roger Foxall, Life Science Strategies; Former CEO Genome BC (Chair)
- Matthias Ruth, Vice President Research, University of Alberta

- Marvin Fritzier, Professor Cumming School of Medicine, University of Calgary
- Gijs van Rooijen, Chief Scientific Officer, Genome Alberta

International Scientific Advisory Committee

- Dr. Daina Avizonis (Chair) – Goodman Cancer Research Centre
- Dr. Oliver Fiehn – University of California, Davis
- Dr. Claudio Luchinat – University of Florence
- Dr. Reza Salek – International Agency for Research on Cancer (pending)

Appendix 3 – TMIC Management Committee (MC)

TMIC Scientific Co-Directors

The TMIC Scientific Co-Directors (i.e. members of the MC) are the scientific leads for TMIC, with overall responsibility for the attainment of TMIC scientific, service, business and operational goals and the vision for the future, in accordance with the strategies, policies, programs and performance requirements approved by the funders and the Board. The Scientific Co-Directors guide the organization to develop new and innovative ways of conducting scientific research, delivering metabolomic services and evolving business. The TMIC Scientific Co-Directors must have the scientific knowledge, stature and credibility to fulfill the requirements of the role.

Specific responsibilities include:

Planning and foresight

- Developing short-, medium- and long-term strategies and plans to achieve TMIC's vision and overall scientific, service, operational and financial objectives.
- Assessing scientific research, service or business opportunities of potential benefit to TMIC and identifying timely opportunities.
- Overseeing and preparing the Strategic and Management Plans and Annual Reports for recommendation by the Board;
- Overseeing and managing TMIC budget planning and preparation;
- Overseeing and preparing operating and infrastructure funding proposals for the platform; and
- Developing relationships and strategic partnerships with other agencies and partner organizations to create opportunities for collaboration in technology acquisition, technology development, services, translation and commercialization;
- Positioning TMIC effectively within the 'omics research ecosystem;

Leadership

- Leading interactions with funding agencies, reporting on performance, etc.;

- Nominating members for the ISAC and supporting the ISAC, including ensuring that there is a broad representation of expertise on the committee and that members are engaged on key matters related to science, technology and applications of metabolomics.
- Working collaboratively with the TMIC Nodes Committee, the team of Node Leaders who are collectively responsible for all scientific objectives that contribute to the success of TMIC.
- Leading discussions on the scientific and operational direction of TMIC Nodes.

Outreach

- Designing, managing and directing a suite of outreach activities.
- Leading initiatives to position TMIC as a major player in metabolomics services and capacity.
- Taking a leading role to brand and market TMIC through, for example:
 - Design and teaching TMIC-branded metabolomics courses/workshops, and
 - Presentations at conferences and outreach events on behalf of TMIC.
- Developing partnership and collaboration opportunities and strategies

Operations Manager

The Operations Manager is overseen by the Dean of Science at the University of Alberta and works closely with Scientific Co- Directors (through the TMIC Management Committee) and Node leaders (through the TMIC Nodes Committee and acts as the interface between TMIC's management and the Board. The Operations Manager has both a strategic role and an operational role and responsible for maintaining TMIC's relationships with the host institutions, government, funders, and partners in the public and private sectors. The Operations Manager provides administrative oversight and financial oversight/reporting for TMIC to ensure operations within TMIC run smoothly.

Specific Accountabilities are:

Strategic role

- Stewarding the relationship with The University of Alberta as TMIC's host institution and with the home institutions of the other TMIC Nodes;
- Stewarding the relationships with TMIC's federal and provincial funding agencies; and
- Exploring, adopting and implementing best practices in distributed platform governance and management.

Operational responsibilities

- Manages overall administrative oversight of all Nodes in the facility, and reporting to sponsor agencies.
- Manages node relationships through the coordination/initiation of management and team (multi-Node or AST) meetings

- Manages compliance oversight (funder, facility and institutional compliance) across the network, and performs node reporting (to the funding agencies). Performs financial reporting, budget development (planning and preparation) for TMIC and ensures that resources are in place TMIC operations.
- Oversees and manages budget preparation, financial reporting and analysis;
- Reconciliation of accounts and preparation of financial statements for the TMIC Board and TMIC funders.
- Ensures that the terms and conditions of its various funding agreements are met and that the associated key performance objectives are achieved;
- Ensures statutory, legal and regulatory compliance with University of Alberta policies and procedures;
- Monitors implementation of Board decisions on risk management, knowledge translation and communication plans;
- Leads interactions with University of Alberta senior administration regarding research funding agreements and compliance with institutional policies.