# NANOSYSTEMS ENGINEERING RESEARCH CENTER FOR DIRECTED MULTISCALE ASSEMBLY OF CELLULAR METAMATERIALS

### CENTER BYLAWS

WITH NANOSCALE PRECISION (CELL-MET)

The Nanosystems Engineering Research Center for Directed Multiscale Assembly of Cellular Metamaterials with Nanoscale Precision (referred to hereinafter as "CELL-MET" or "Center") has been established to develop methods to generate sophisticated, native-like tissue architectures with a high control of functionality with the ultimate goal of replacing diseased human organs. In addition to leading breakthrough research efforts, CELL-MET will create an innovation ecosystem that leverages the technological breakthroughs into commercial success, while training a pipeline of scientist and engineers that will be the future leaders in efforts to improve healthcare outcomes. CELL-MET is supported in part by the National Science Foundation (NSF) through award number: EEC-1647837 (the "NSF Contract").

#### **1 CENTER Constituency**

#### 1.1 Academic Members

- 1.1.1 Core Academic Members. The Core Academic Members include Boston University as the lead institution and the initial partner institutions. The initial partner institutions are the University of Michigan and Florida International University. Each of the Core Academic Members provide key research resources, a significant level of cost share, and contribute significantly to educational and outreach activities. The Dean of the Colleges of Engineering at each of the Core Academic Members will have a seat on the Council of Deans and have a key role in setting the vision and strategy for the CENTER.
  - 1.1.1.1 Additional institutions may be added to the Core Academic Members on approval by and invitation from the Council of Deans.
- 1.1.2 Non-Core Academic Members. The initial Non-Core Academic Members include: Harvard, Columbia, Argonne National Laboratory, EPFL and Instituto Balseiro. Each of the Non-Core Academic Members provide crucial technical expertise that complements the Core Academic Members and may offer educational programs and industrial networks that would strengthen the CENTER's mission. Non-Core Academic Members may be added by invitation from the Center Director.

- 1.2 Industry Members. CELL-MET industry membership is open to all for profit or non-profit corporations, foundations, government agencies, federally funded research and development corporations (FFRDC) and government owned contractor operated laboratories (all herein referred to as Company(ies)). Membership is also open to international corporations, including those without a US affiliate. Industry membership entitles Companies to a seat and/or participation in the Industry/Practitioner Advisory Board (IPAB). The IPAB will advise the Center leadership on strategy, research road-mapping, intellectual property management, education/training and other topics. Notwithstanding anything to the contrary contained herein, all membership benefits are explicitly conditioned on full and timely compliance with all applicable U.S. export laws and regulations.
  - 1.2.1 There are four classes of industry membership: Sustaining, Full, Associate and Affiliate. Sustaining, Full and Associate membership is open to all Companies. Membership as an Affiliate is only open to non-profit foundations and clinicians/healthcare providers. Sustaining is the top-tier of membership and Full, Associate and Affiliate levels are successively lower tiers. Rights and responsibilities of each membership tier is outlined in this section 1.2 through section 1.6.
    - 1.2.1.1 Sustaining Member. The annual membership fee for a Sustaining member is \$100,000. Membership entitles Company to one seat on the IPAB as well as the participation of observers in the IPAB. A Company may elect to have more than one Sustaining membership, but voting memberships is capped at three Sustaining memberships, and each additional Sustaining membership would entitle company to have an additional seat on the IPAB. Each Sustaining member seat on the IPAB is assigned ten full votes on any voting matters that come before the IPAB.
      - 1.2.1.1.1 Any Sustaining member is eligible to serve as the Chair of the IPAB and can participate and serve as the Chair of any IPAB sub-committee.
    - 1.2.1.2 Full Member. The annual membership fee for a Full member is \$25,000. Membership entitles Company to one seat on the IPAB and the participation of observers in the IPAB. A Company may elect to have more than one, but voting memberships is capped at three Full memberships, and each additional Full membership would entitle company to have an additional seat on the IPAB. Each Full member seat on the IPAB is assigned three full votes on any voting matters that come before the IPAB.

- 1.2.1.2.1 Any Full member can participate and serve as the Chair of any IPAB sub-committee.
- 1.2.1.3 Associate Member. The annual membership fee for an Associate member is \$1,000. Membership entitles Company to have one representative participate on IPAB discussions. An Associate member has no voting rights on the IPAB, but can influence the vote on any voting matters that come before the IPAB.
  - 1.2.1.3.1 Associate level membership is restricted to companies that have less than 100 employees or less than \$20 million in annual revenue.
  - 1.2.1.3.2 An Associate member can participate on any IPAB sub-committee.
- 1.2.1.4 Affiliate Member. Affiliate membership is limited to non-profits and clinical healthcare providers that can provide an invaluable contribution to the Center's strategy, research and ultimately clinical trials, commercialization and the Center's success. There will be no cash annual membership fee for an Affiliate member. Affiliate members are expected to be active members of the Center and although in-kind contributions are not mandatory, non-accountable in-kind contributions are considered valuable. Membership entitles Company to have one representative participate on IPAB discussions. An Affiliate member has no voting rights on the IPAB, but can influence the vote on any voting matters that come before the IPAB.
  - 1.2.1.4.1 An Affiliate member can participate and serve as the Chair of any IPAB sub-committee.
- 1.2.2 Center operates on a September 30<sup>th</sup> ending fiscal year. Initial membership will be pro-rated for the balance of the existing fiscal year and membership continues thereafter on an annual basis corresponding with the CENTER's fiscal year. Membership fees for subsequent years are due on October 1<sup>st</sup> of the new fiscal year. The membership continues by default in subsequent years, unless a Company decides to terminate membership by giving the university 180-day written notice prior to the termination date.
  - 1.2.2.1 An accountable "in-kind" membership is possible upon approval by the Center Senior Leadership Team. Equipment, supplies and production services are examples of accountable "in-kind" support as long as the support is relevant to the research priorities, fair value can be determined and will be in

compliance with Federal Uniform Guidance for Monitored Costs and no additional cost contribution (i.e. installing infrastructure for new capital, maintenance fees, equipment upgrades) is required by Academic or other Industry members. No more than 50% of a membership fee may be paid as accountable "in-kind" funds, the balance will be as cash. Accountable "in-kind" membership is only available to Sustaining and Full members, and Senior Leadership Team approval for accountable "in-kind" membership is required on an annual basis.

- 1.3 Academic and Industry Members are collectively referred to as "Members".
- 1.4 Benefits of membership in CELL-MET are outlined in ATTACHMENT A.
- 1.5 In addition to the benefits described in ATTACHMENT A, Industry Members, with the approval of the Director, have the option to support a Scientist/ Engineer-In-Residence at one or more agreeable Cell-MET Institutions. There will be an additional Center fee for an In-Residence appointment to cover the costs for office space, lab usage fees and services.. Residence may be continuous, periodic, or as directed. The additional fees and the term or period of the residency will be negotiated with the intended Academic Member. Each Industry Member with an In-Residence employee shall be responsible for providing all salary and benefits to its own employee, as well as worker's compensation, insurance coverages, and general comprehensive liability insurance covering its personnel while such personnel are working on-site at a Core Institution in accordance with the provisions of these Bylaws, and in accordance with the specific requirements of the hosting Academic Member.
  - 1.5.1 Recognizing the complexity of Intellectual Property issues that may arise, each In-Residence employee shall be required to execute the resident Academic Member's patent waiver, guest agreement, participating guest agreement, or the like, which effects an assignment of any and all Intellectual Property created by said In-Residence employee to the Academic Member. In this manner, all Members will have access to CELL-MET Intellectual Property.
- 1.6 Sustaining and Full Members will also be able to fund related Project Research that does not overlap with Core Research or Seed Project Research (as defined in Section 8) under a separate Sponsored Research Agreement (SRA). There are no obligations associated with CELL-MET bylaws or membership agreement under a separate SRA.

REV. 1.4

1.7 CELL-MET and Members shall be governed by these "Bylaws" described herein. These Bylaws and the MEMBERSHIP AGREEMENT are the full governing documents for Members.

#### 2 Organizational Structure

- 2.1 The organizational structure of CELL-MET consists of a CENTER Director who reports to the Council of Deans formed by engineering deans from Boston University and other Core Academic Members. The Center Director will be advised by an Industrial/Practitioner Advisory Board, a Scientific Advisory Board, an Academic Policy Board and a Workforce Development Board. The Center Director will also be assisted by a supporting staff, including, but not limited to a Deputy Director, an Administrative Director, Technical Thrust Leads, a Diversity Director, an Industry Liaison Officer and a Workforce Development Director. The organizational structure is included as ATTACHMENT B.
- 2.2 Center Director: The Director is responsible for the overall activities of CELL-MET, including financial and personnel resources, technology licensing and transfer, workshops and symposia, mentoring and education, space, research, and their implementation and will report to the Council of Deans. The initial Director is Dr. David Bishop of Boston University, who will continue to serve in that capacity at the discretion of the Council of Deans. Provisions should be made for succession of the Director and the Council of Deans may select a replacement for Dr. Bishop, within NSF guidelines and final approval by NSF.
- 2.3 The Research Program of the CENTER will be managed jointly by the Director, Deputy Director and Thrust Leads for each of the four technical thrusts (Nanomanufacturing, Scaffolds, Cell Engineering and Imaging).
- 2.4 CELL-MET will have an Industry Membership Program and manage an Innovation Ecosystem with the objective of executing an effective technology transfer process and commercializing the output of research. These programs will be managed by the Industrial Liaison Officer and assisted by the Industry/Practitioner Advisory Board and the Technology Transfer offices of Core and Non-Core Academic Members.
- 2.5 The Workforce Development Component of CELL-MET includes programs in education development and assessment at the pre-college, community college and university levels, as well as creation and dissemination of online learning modules. These programs are managed by the Workforce Development co-Directors and will be advised by the Student Leadership Council.
- 2.6 Diversity and the Culture of Inclusion is led by the Diversity Director and has an objective to increase underrepresented minority participation in STEM fields and to develop a culture of inclusion for CELL-MET.

REV. 1.4

#### 3 Advisory Boards and Senior Leadership Team

- 3.1 CELL-MET will have a CENTER Senior Leadership Team formed by the CENTER Director, Deputy Director, Administrative Director, Thrust Leads, the IPAB Chair and the IPAB Vice-Chair.
- 3.2 Industrial/Practitioner Advisory Board (IPAB). The IPAB provides strategic review and counsel to the Director, Deputy Director and Thrust Leaders on (a) the research activities of the Center, (b) the apportionment of resources to these activities, and Center operating procedures. Specifically, the IPAB:
  - Reviews annual reports from the Center.
  - Makes policy recommendations.
  - Reviews Core Research and Seed Project Research and recommends priorities and adjustments to research direction.
  - Forms sub-committees as necessary to advise the Center. One such subcommittee on Intellectual Policy will be a standing committee and will make recommendations on commercial potential of inventions created by Core Research and Seed Project Research.
  - Attends annual meetings and provides feedback on progress reports.
  - Prepare a Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis and present in an annual meeting with the NSF site visit team.
  - Elects the IPAB Chair who will serve a two-year term and coordinate the IPAB meetings. A Vice-Chair will also be elected, who will fill in for the Chair in case of absence and will become the Chair at the end of his/her term. Elections shall occur at the Annual meeting or as required to fill vacancies.
  - The IPAB Chair or Vice-Chair will serve as non-voting ex-officio members on the CENTER Senior Leadership Team.
  - Advise on use of funds associated with membership fees. Such use may be for seed project funding, student fellowships, creation of a patent protection fund and other topics deemed appropriate by the IPAB.
  - 3.2.1 Quorum and Voting Rights. A quorum for an IPAB meeting shall consist of one half of the Full and Sustaining IPAB members. The IPAB shall follow majority rules, meaning that more than half of the votes of total possible votes cast are required to approve a motion. Sustaining and Full members are considered voting members with Sustaining members having ten votes per membership and Full members having three votes per membership.. Associate and Affiliate members can influence the direction of a vote by attendance at IPAB meetings, but will not have voting rights
  - 3.3 Scientific Advisory Board (SAB). The SAB is to provide independent external peer evaluation and assessment of scientific research conducted by the CENTER. The SAB members consist of external individuals from organizations that are not Members of CELL-MET, but with knowledge of the

topic and ability to devote sufficient attention to ensure a rigorous research agenda. The SAB appointment will be by invitation from the Center Director. The SAB will convene at least twice per year to evaluate the Center's research direction.

- 3.4 Academic Policy Board (APB). The APB will provide a general review and counsel to the Center Director on matters related to educational activities. The APB will be comprised of pedagogy experts from an Academic Member or non-member institution. The APB composition will be by invitation from the Center Director. The APB will convene at least once per year to evaluate the Center's education activities.
- 3.5 Workforce Development Advisory Board (WDAB). The WDAB will be comprised of experts in workforce development (education) and broadening participation selected by the Senior Leadership Team from outside the academic members. The WDAB will meet at least once a year with the Center and once each year with NSF to discuss matters related to workforce development such as educational and internship opportunities.
- 3.6 Student Leadership Council (SLC). The SLC is a Center-wide body that provides review and counsel to the Director and Thrust Leaders on (a) student involvement in Center programs; (b) the CELL-MET strategic plan and (c) collaboration among the Center Members. The members of the SLC are elected among the students participating in Center research. The SLC will convene as needed to conduct business relevant to student research and educational outreach and report at the annual site visit.

#### 4 Confidentiality Policy

- 4.1 For the purpose of Sections 4 herein, the following terms shall have the following meanings:
  - 4.1.1 "Disclosing Party" means a Member, its employees, faculty, staff and students, furnishing Confidential Information.
  - 4.1.2 "Receiving Party" means a Member, its employees, faculty, staff and students, receiving Confidential Information.
- 4.2 For the purpose of this Article 4, "Confidential Information" includes, but is not limited to, all technical, corporate, financial, economic, legal or other information or knowledge generally concerning a Member or any of its affiliates, whether disclosed orally, or in the form of written material, computer data or programs, and including information respecting models, mechanisms, processes, photographs, intellectual property, inventions, invention disclosures, know-how, or otherwise, howsoever obtained, and which is clearly and obviously identified as confidential in writing at the time of

disclosure by an appropriate legend, marking, stamp or other positive written identification on the face of the document or item, or if oral, which is confirmed as confidential by a writing submitted by the Disclosing Party to the Receiving Party within thirty (30) days of the disclosure except information that:

- 4.2.1 is disclosed lawfully to the Receiving Party by a third party who has no obligation of confidentiality to the Disclosing Party with respect to the disclosed information;
- 4.2.2 is, or becomes, generally known to the public, other than by a breach by a Receiving Party of its obligations hereunder;
- 4.2.3 is already known by the Receiving Party before disclosure by the Disclosing Party hereunder as can be proved by evidence of the Receiving Member, and which is not the subject of a previous confidentiality agreement between the Disclosing Party and the Receiving Party;
- 4.2.4 is developed by the Receiving Party independently of the disclosure by the Disclosing Party; or
- 4.2.5 is required to be disclosed by a subpoena, Court Order or other law, regulation or ordinance.
- 4.3 For a period of three (3) years after the disclosure of any given item of Confidential Information, the Receiving Party shall maintain each such item of Confidential Information in strict confidence and shall not disclose that information, except to the extent necessary for the performance of a Core Research Program, to any third party, except with the prior written consent of the Disclosing Party. The obligations of this Article 4 shall continue with respect to any Confidential Information for said three (3) year period, regardless of the termination or expiration of an Industrial Member's membership.
- 4.4 In the course of carrying out the work of the Center, the Center does not expect to receive any confidential information other than invention disclosures from Industry Members. If, to benefit the Core Research program of the CENTER, it becomes necessary for an Industry Member to divulge proprietary information to any member of the staff of the CENTER (including students), such divulgence shall be made in writing, or if made orally, confirmed in written summary within thirty (30) days of disclosure. It will be the responsibility of the individual(s) involved in such transaction to keep the information confidential.

#### 5 Publications and Presentations

- 5.1 Each Member recognizes that the results of Core Research and Seed Project Research in the CENTER will be published and that researchers engaged in Core Research shall be permitted to present at symposia and international, national or regional professional meetings, and to publish in journals, the Internet, theses, or dissertations, or otherwise of their own choosing, the methods and results of Core Research. Publication and presentation materials will be subject to the standard internal review consistent with the practices and policies of the Core Academic Members technology transfer office.
- 5.2 All publications arising from CENTER research shall contain an acknowledgment that the work was funded in part by the NSF Cooperative Agreement.

#### 6 Compliance with United States Antitrust and Competition Laws.

6.1 The CENTER includes among its members parties who are business competitors. It is the policy of the CENTER to comply with United States antitrust and competition laws that apply to each of its members and to encourage its members to do so as well. Accordingly, in connection with any meeting or activity sponsored by the CENTER, no members shall reach any agreement or exchange any information concerning cost or pricing information, sales or marketing strategies, terms and conditions of purchase or sale, the allocation of customers or territories. All members shall avoid even the appearance of such agreements or exchanges of information. If discussions prohibited by this rule take place in any such meeting or activity, all members should cease participation immediately. In order to minimize the likelihood of such an occurrence, all meetings and activities sponsored by the CENTER shall be conducted in accordance with a published agenda.

#### 7 Export Controls.

7.1 It is understood by all members of the CENTER that the research conducted by the CENTER and the individual Core Academic Members is anticipated to be of the type which qualifies for the Fundamental Research Exclusion under applicable U.S. export laws and regulations (including the Arms Export Control Act, as amended, and companion regulations, the International Traffic in Arms Regulations, the Export Administration Act of 1979, and companion regulations, the Export Administration Regulations). Notwithstanding the foregoing, all members of the CENTER shall abide by all applicable laws and regulations concerning the export or re-export of technical data, computer software, laboratory prototypes and other commodities.

#### 8 Intellectual Property Policy

8.1 Nothing in these Bylaws shall be deemed to supersede the intellectual property and/or technology transfer policies of any Academic Member. In the event of a conflict between these Bylaws and such policies, Academic Member policy shall control.

#### 8.2 Definitions.

- 8.2.1 "Core Research" means research and research related activities that are: (a) conducted by a Member and (b) financially supported by the CENTER.
- 8.2.2 "Project Research" means research and research related activities that are: (a) not Core Research, (b) conducted by a Member, and (c) financially supported solely by funds provided by one or more Industry Members (excluding Membership Fees) and initiated via a separate sponsored research agreement.
- 8.2.3 "Seed Project Research" means research and research related activities that are: (a) not Core Research and (b) financially supported by the Center and initiated via a separate subcontract.
- 8.2.4 "CENTER Intellectual Property" (CENTER IP) means any intellectual property, including inventions, discoveries, software, that is conceived created, discovered, developed, or otherwise generated in the performance of Core Research ("Core Research IP") or Seed Project Research ("Seed Project Research IP").
- 8.3 Right, title, and interest in and to CENTER IP shall be determined in accordance with appropriate US law, and pursuant to appropriate Member(s) intellectual property policy and/or employee agreements.
- 8.4 CENTER IP created, discovered, developed, or otherwise generated by two or more Members shall be jointly owned by such Members, and such joint ownership shall be determined in accordance with U.S. law. The joint owners shall create an inter-institutional agreement to determine the control of the preparation, filing, prosecution of patent applications, and licensing concerning such jointly owned Intellectual Property. The Academic Member that employs the lead academic inventor shall normally be the lead institution in the inter-institutional agreement.
- 8.5 Members shall solicit disclosure of new Center IP through their existing technology transfer or other administrative department ("TTO") via existing invention disclosure processes. Within four months of Member's TTO accepting a complete disclosure of new CENTER IP, that Member ("Disclosing Member") shall notify the CENTER ("Disclosure") of such CENTER IP ("Disclosed IP"). The CENTER shall treat the Disclosure as confidential information. The CENTER sub-committee on intellectual property will review the Disclosure and make recommendations regarding

- protection of the Disclosed IP. The CENTER will subsequently notify ("IP Notification") all Members of the Disclosed IP.
- 8.6 Disclosing Members agree not to grant any commercial rights to the Disclosed IP for a period of six months (6) months from IP Notification ("Reservation Period").
- 8.7 During the Reservation Period, any Member(s) may inform the CENTER of their interest ("Reservation") in either (i) a royalty-bearing exclusive or nonexclusive license to the Disclosed IP ("Commercial License"), or (ii) a nonexclusive, royalty-free, license to the Disclosed IP for non-commercial, internal research use only, for the term of said Member's membership, and upon other terms to be negotiated ("Internal Use License"), provided that for both (i) and (ii) above, such Disclosed IP was conceived, created, discovered, developed, or otherwise generated during the Member's membership in the CENTER. Faculty initiated start-up companies may join CENTER and make a Reservation during the Reservation Period. Reservations must be made in writing to the Industry Liaison Officer. Upon termination of the Reservation Period, the CENTER will notify the Disclosing Member of all Members who made a Reservation as well as the CENTER's licensing recommendation for the Disclosed IP. If there are no Reservations, then the Disclosing Member is free to seek commercial license opportunities with any Member or any third-party entity as provided in Section 8.10 below.
- 8.8 The Reservation Period will be followed by two separate option periods the Primary Option Period and the Secondary Option Period, as further defined below. Sustaining Industry Members who made a Reservation and who have paid their annual membership fees ("Primary Optionees") will be given a first opportunity to negotiate a license to the Disclosed IP ("Primary **Option**"). The Primary Option will begin upon termination of the Reservation Period and continue for six (6) months or until negotiations with all Primary Optionees (if any) is concluded whichever is sooner ("Primary Option Period"). For clarification, if there are no Primary Optionees, the Primary Option Period will terminate immediately. During the Primary Option Period, Primary Optionees will work directly with the Disclosing Member to negotiate a license or licenses to the Disclosed IP. During the Primary Option Period, the Primary Optionees shall bear the cost of any patent prosecution on the Disclosed IP. Disclosing Member may conclude license(s) with any number of Primary Optionees, including none at all, based on the CENTER's licensing recommendation and the Disclosing Member's discretion.
- 8.9 Upon termination of the Primary Option Period, if any commercial rights to the Disclosed IP remain unlicensed (e.g. non-exclusive, field-limited, geographic), any Members who made a Reservation and who have paid their annual membership fees, including Primary Optionees that did not successfully negotiate a license under the Primary Option, ("Secondary

**Optionees**") will then be given the opportunity to negotiate a license to the Disclosed IP ("**Secondary Option**"). The Secondary Option will begin upon termination of the Primary Option Period and continue for six (6) months or until negotiations with all Secondary Optionees (if any) is concluded whichever is sooner ("**Secondary Option Period**"). For clarification, if there are no Secondary Optionees, the Secondary Option Period will terminate immediately. During the Secondary Option Period, Secondary Optionees will work directly with the Disclosing Member to negotiate a license or licenses to the Disclosed IP. During the Secondary Option Period, the Secondary Optionees shall bear the cost of any patent prosecution on the Disclosed IP that is not covered under an obligation under any license(s) concluded under the Primary Option. Disclosing Member may conclude license(s) with any number of Secondary Optionees, including none at all, Based on the CENTER's licensing recommendation and the Disclosing Member's discretion.

- 8.10 Upon termination of the Secondary Option Period, if any commercial rights to the Disclosed IP remain unlicensed (e.g. non-exclusive, field-limited, geographic), the Disclosing Member is free to seek commercial license opportunities with any Member or any third-party entity.
- 8.11 All policies in this Article 8 that apply to the filing, prosecution, maintenance and licensing of patents in the U.S. also apply to filing, prosecution, maintenance and licensing of patents in any other country on a country-by-country basis.
- 8.12 All CENTER Industry Members acknowledge and agree that their respective rights under this Article 8 shall be subject to the CENTER's and Core Academic Members' obligations to and the rights of the United States Government, if any, as subject to the provisions of 35 U.S.C. 200, et seq., 37 C.F.R. Part 401, and including but not limited to NSF award guidelines and other applicable laws and regulations.
- 8.13 Academic Members shall handle distribution of licensing revenue from CENTER IP to their inventors, academic groups, supporting centers, and main institution per their respective existing policies and procedures regarding distribution of revenue from the commercialization of intellectual property. Within such internal guidelines, Academic Members are encouraged to include the CENTER as a supporting entity when determining distribution of such revenue in order to support continued CENTER activity. The recommended minimum for the CENTER's share of distribution is one-sixth (1/6) or 16½ % of the total revenue received by the Academic Member for the licensing of the CENTER IP after deducting the cost of any unreimbursed expenses for the protection of such CENTER IP.

#### 9 Communications, Meetings and Information Dissemination

- 9.1 The CENTER will maintain a web presence so that knowledge generated can be provided to the public. Members agree the CENTER will use Member names on the CENTER website and in marketing materials. The CENTER will use primarily emails to exchange information with Members. The CENTER may also publish electronic newsletters to highlight the latest accomplishments of the CENTER. The CENTER will establish a secure portal for exchanging any sensitive information among Members.
- 9.2 The annual NSF site visit and CENTER annual event will be hosted by Boston University or on another Core Academic Member's campus. The site visit will present an executive summary of the year's accomplishments. Scientific results from the CENTER are included in presentations, posters, testbeds and lab tours. Graduate students, postdoctoral fellows and research associates will be utilized as appropriate.

#### 9.3 Schedule of Center Meetings

- 9.3.1 The Director shall convene the Industrial/Practitioner Advisory Board (IPAB) to meet at least semi-annually to review the CELL-MET's research programs and mechanisms for technology transfer, as well as assignments for action, disposition and recommendations of IPAB sub-committees.
- 9.3.2 The Director shall convene the Science Advisory Board (SAB) to meet at least twice annually to review CELL-MET's research programs for overall scientific direction and potential impact on scientific capabilities.
- 9.3.3 The Director shall convene the Academic Policy Board (APB) to meet at least annually to rate CELL-MET's educational programs.
- 9.3.4 The Director shall convene the Workforce Development Advisory Board (WDAB) to meet at least twice annually to review CELL-MET's workforce development programs.
- 9.4 Research Reports. The Director shall prepare an Annual Research Report summarizing each research project conducted by the CELL-MET, and include a list of all available technical publications detailing CELL-MET research. This report shall be provided to all Members.

#### 10.0 Amendment of Bylaws.

10.1 Except as provided elsewhere herein, the Center's Senior Leadership Team may by simple majority vote, to adopt, amend or repeal the Bylaws of CELL-MET (an "Amendment").

#### 11.0 Termination.

11.1 The Director, in consultation with the Council of Deans, may terminate the CENTER upon written notice to the Core Academic Members, Other Academic Members and all Industrial Members if the NSF award is terminated or if conditions otherwise preclude continuation of the CENTER, and in such case, uncommitted fees shall be returned to the Industrial Members on a pro rata basis. Articles 4, 5, 6, 7 and 8 of these Bylaws shall survive the termination of the CENTER and/or the expiration or termination of any agreement which, by reference or otherwise, incorporates these Bylaws.

## **IPAB** Structure



	SUSTAINING	FULL	ASSOCIATE	AFFILIATE
Benefits:				
Facilitated access to students & faculty	Yes	Yes	Yes	Yes
Pre-publication research access	Yes	Yes	Yes	Yes
Acknowledgement in Manuscripts	Yes	Yes	Yes	Yes
Opportunity for joint authorship	Yes	Yes	Yes	Yes
Participation in Center networking events & meetings	Yes	Yes	Yes	Yes

# **IPAB** Structure



	SUSTAINING	FULL	ASSOCIATE	AFFILIATE
Member IP Rights:				
Review Research Make Rcmd.	Yes	Yes	Yes	Yes
Advise on IP protection	Yes	Yes	Yes	Yes
NERF for non- commercial internal research use only	Yes	Yes	Yes	Yes
Royalty bearing commercial license	1 <sup>st</sup> Option	2 <sup>nd</sup> Option	2 <sup>nd</sup> Option	Open Option Period

## **IPAB** Structure



	SUSTAINING	FULL	ASSOCIATE	AFFILIATE
Membership Fee	\$100K	\$25K	\$1K	"In-kind"
IPAB Seat	1 per membership, Observer(s)	1 per membership, Observer(s)	1 per member	No
IPAB Chair	Yes	No	No	No
Sub-Committee Participant	Yes	Yes	Yes	Yes
Sub- Committee Chair	Yes	Yes	Yes	Yes
Voting	1 seat = 10 vote	1 seat = 3 votes	None (can influence vote)	None (can influence vote)
# Voting Memberships	Up to 3	Up to 3	1	1
Option for Scientist in Residence	Yes	Yes	No	No
Option for Project Research	Yes	Yes	No	No

### **Organization Chart**



### **Council of Deans**

Kenneth Lutchen (BU), Alec Gallimore (UM), John Volakis (FIU)

Scientific Advisory Board Director: David Bishop Industrial/Practitioner Advisory Board Deputy Director: *Christopher Chen* **Academic Policy Board** Workforce Development Adv Board **TA 1 Diversity CELL-MET Test Bed Nanomanufacturing** Helen Fawcett Christopher Chen Stephen Forrest TA 2 **Innovation Ecosystem Scaffolds** Thomas Dudley Alice White **TA 3 Workforce Development Student Leadership Cell Engineering** Sarah Hokanson Council Christopher Chen Stormy Attaway **TA 4 Administration Imaging** Robert Schaejbe Thomas Bifano ATTACHMENT B