

BYLAWS

Precision Engineering Consortium (PEC)

North Carolina State University

Effective Date: 01/01/2017

SCOPE

These Bylaws are made a part of the **Precision Engineering Consortium** (PEC) membership agreement and shall govern the organization and operation of the Consortium with respect to administration, membership, reports, confidentiality of information, and rights in research results. Any changes to these Bylaws shall be consistent with the University's policies for research contracting and must be approved by the Consortium Faculty and two-thirds of the Consortium members in good standing at the time the proposal for change is made. Such changes to the Bylaws require approval by the Associate Dean of Research of the College of Engineering (COE), and the Vice Chancellor for Research, Innovation and Economic Development.

Definitions

University:	North Carolina State University (NC State)
Consortium	Organization in which the Member, University and Precision Engineering Consortium Faculty, Staff and Students operate.
Member	Individual company which has joined the consortium.
Consortium Faculty:	University faculty which are involved in Precision Engineering Consortium research activities and work within the framework of these bylaws.

PURPOSE

The purpose of this Consortium is to promote innovation and advances in precision fabrication, control and metrology using and developing the most advanced technology and creating a collaborative platform involving leading companies, national laboratories, industry participants worldwide and NC State University. The Consortium's objectives include:

1. Provide Members with first access, without additional charge, to research results generated from Consortium funded seed projects and results of research funded by government sources.
2. Provide Members with opportunities to utilize University know-how, techniques, computer software and technology developed by the participating **Precision Engineering Consortium** Faculty and staff.
3. Introduce Consortium Members to faculty, staff and graduate students working at the PEC facility.
4. Provide Members with opportunities to hear the results of research initiatives proposed by Consortium researchers and to propose research ideas to be carried out by PEC.
5. Inform Members about new research proposals and results of work performed by Consortium Faculty with governmental funding.
6. Provide Members with opportunities of interaction with faculty, staff, students and postdoctoral associates in the Consortium program.
7. Provide Members with opportunities for first access to intellectual property generated by projects funded with membership dues.

MEMBERSHIP

Membership in the Consortium shall be open to all U.S.-based companies and foreign companies with U.S. based subsidiaries engaged in the manufacture and/or measurement of systems requiring high accuracy and repeatability or U.S. government organizations which have an interest in precision engineering.

A Member may leave the Consortium at any time unless bound by specific contractual agreement or proprietary arrangement. Upon leaving the Consortium, the Member shall have no further right to share in the research results generated under the Consortium or in any intellectual property resulting therefrom. Members that leave the Consortium and subsequently rejoin will not have access to research results generated or in any intellectual property resulting therefrom while not a Member.

Members shall be entitled to use, for their own internal research purposes, all research results that have been made available to the members by way of oral or written presentation by the Precision Engineering Consortium Faculty.

PEC membership annual cycle is January 1 through December 31.

There are two categories of membership in PEC: Full member and Associate member. Each category has different rights and privileges as described below.

FULL MEMBER

FULL MEMBER of the Consortium pays an annual fee of \$30,000 and obtains the rights to:

1. Send a representative to the Industry Advisory Board (IAB) with full voting rights (3 votes) pertaining to technical and financial aspects of the Consortium research.
2. Attend meetings of the Consortium where results of the research program are reported.
3. Receive an annual report from the Consortium.
4. Support Enhancement projects at reduced overhead.
5. Receive up to 60 hours of faculty and staff time for consulting on fabrication and metrology projects per year.
6. Negotiate, under a separate agreement, the use of the research facilities of the Consortium for R&D activities, based on availability, at rates mutually agreed upon by the IAB, the Consortium and the COE administration.

ASSOCIATE MEMBER

ASSOCIATE MEMBER of the Consortium pays an annual fee of \$10,000 and obtains the rights to:

1. Send a representative to the IAB with limited voting rights (1 vote).
2. Attend meetings of the Consortium where results of the research program are reported.
3. Receive an annual report from the Consortium.
4. Negotiate, under a separate agreement, the use of the research facilities of the Consortium for R&D activities, based on availability, at fees mutually agreed upon by the IAB, the Consortium and the COE administration.

5. Receive up to 20 hours of faculty and staff time for consulting on fabrication and metrology projects per year.

CONSORTIUM PROJECTS

Members of the Consortium share equally in the results and intellectual property generated from all Core projects funded by membership dues and of any Enhancement projects funded by members in addition to their membership dues. Two types of Membership projects are described below:

1. Core Projects

Core projects are funded from pooled membership dues paid by Consortium members, and require IAB approval. Core projects to be funded for the next year normally are approved at the annual meeting of the IAB. A reduced overhead rate of 10% will be assessed on the membership fees used to fund the Core Projects.

When, between IAB meetings, members decide to fund a project that was not considered or selected as a Core project at the previous annual meeting, the new project must have IAB approval. The approval of new projects may be obtained by e-mail balloting between IAB meetings, and if approved, the new project would become an additional Core project.

2. Enhancement Projects

When one or several members want to provide additional funds specifically to enhance or accelerate a currently-funded Core project they may do so as an Enhancement project by signing a short Enhancement Project Agreement (see Exhibit 1). Only members in good standing (current on payment of their annual dues) are eligible to fund an Enhancement project. A reduced overhead rate of 10% will be assessed on additional funds provided by members to support Enhancement Projects. Period of performance on the Enhancement project cannot go beyond the end date of the sponsoring member's membership agreement.

Specific Proprietary (Non-Core) Projects

If, in the course of interaction between a member and Consortium faculty/staff, a specific topic arises that goes beyond the shared activities of the PEC membership, it can be funded as a separate Proprietary Non-Core Project. The scientific scope and budget of each sponsored project will be negotiated by the involved parties following the University's policies for research sponsored projects. Member Companies may support as many sponsored projects as they wish. These projects are independent of the Consortium membership fee and purposes and the results of Non-Core projects need not be shared with other members.

A Member Company interested in sponsoring a specific proprietary project will work with the Consortium Director and the appropriate Consortium faculty to develop a mutually acceptable research proposal and project budget to be processed and established as provided in the

University's standard policies for sponsored research and be subject to the full university overhead rate.

If non-member companies seek to support research by any Consortium Faculty, the practice will be to encourage them to join the Consortium. However, companies choosing not to join the Consortium may sponsor research but will not have the rights granted to Members. Principal investigators will be entitled to seek research support for their laboratories from any source if the funding arrangement is consistent with policies and procedures established by the University and does not adversely affect the rights to intellectual property or confidentiality granted to the Member companies under the terms of the Consortium and these Bylaws.

ADMINISTRATION

The Consortium will be administered through the Department of Mechanical and Aerospace Engineering (MAE) in the COE of North Carolina State University. The functions and responsibilities of individuals and committees in the Consortium are as follows:

1. CONSORTIUM DIRECTOR

The principal officer of the Consortium will be the Consortium Director. The Director is appointed by the Consortium Faculty and approved by the Head of the MAE Department and by the Associate Dean of Research of the COE. The primary responsibilities of the Director are to oversee the day-to-day administrative operations of the Consortium, work to add companies to the Consortium and cooperate with the Consortium Faculty to generate new research. The Director is responsible for oversight of research, for protection of intellectual property and for filing of invention disclosures and patents as required by University policies and contracts.

2. INDUSTRY ADVISORY BOARD (IAB)

The Industry Advisory Board (IAB) will consist of one representative and an alternate from each Member company. The responsibility of the representative and the alternate is to communicate results from the work of the Consortium to their companies and to represent their companies in the Consortium. IAB representatives will also advise the Consortium Faculty about the needs of their company and the industry in general as they relate to the proposed research of the Consortium. Members of IAB are expected to attend the Annual Meeting. A company may send additional representatives to attend the annual meeting provided that the Director is notified.

The IAB may recommend modifications of the Bylaws to the Consortium Director. Modifications to the Bylaws can only be proposed by the Director, and must be ratified by two thirds of the Industrial Members. The revised bylaws must be approved by the Head of the Department of Mechanical and Aerospace Engineering, the Associate Dean of Research of the College of Engineering and by the Vice Chancellor for Research, Innovation and Economic Development.

All IAB members will have the opportunity to review proposed projects, provide advice on the relative merits and economic potential of the projects and select via voting the projects to be funded from the membership dues (called Core research projects) on an annual basis. The IAB may also

recommend additional projects not originated by the Consortium Faculty and provide advice regarding potential sources of funding for specific projects.

3. CONSORTIUM FACULTY

All faculty members of the University are eligible to become Consortium faculty. Faculty members involved in any Consortium project as Principal Investigator (PI) or Co-Investigator (Co-I) are considered members of the Consortium Faculty. In addition, the Director may invite additional faculty to become Consortium Faculty.

4. GRADUATE STUDENTS

Graduate students come with diverse backgrounds from many countries and with many kinds of support for their graduate studies. The University's obligation to its graduate students is to provide the best training and research experience possible. Their primary obligation is to carry out their academic programs leading to a Masters or Ph.D. degree. Funding support for graduate education may come in part from Consortium membership dues or, in most cases, from other resources, as long as the academic objectives of graduate education at the University and the intellectual property rights of Member Companies are respected. In addition, Export Control Laws must be satisfied.

ANNUAL REVIEW MEETING

The annual review meeting will serve as a forum for Members to become familiar with the on-going research projects of the Consortium Faculty. Such projects provide Members access to novel non-proprietary technologies/protocols and the opportunity to extend results into new proprietary projects with Consortium Faculty. Preliminary results generated from membership dues (seed grants) and their proposed use in new proposals will also be presented. Preliminary results may also lead to the initiation of new Member-specific proprietary projects. New non-proprietary and proprietary research proposals/initiatives may also be presented in the annual review meeting. Any proprietary or confidential information presented at the annual review meeting will be identified as being proprietary and will be subject to the confidentiality obligations detailed in the Membership Agreement.

REPORTING

A confidential written report detailing all activities and research results generated involving the use of Membership dues during the previous year will be furnished to all Consortium Members before the annual review meeting.

PUBLICATIONS

Publications are the major evidence of productive work for academic scientists and students. Prompt publication of results in high quality peer reviewed journals is encouraged for all scientists

in the Consortium. However, some conditions on the time of publication may be imposed for protection of intellectual property and under conditions of specific contracts made between the Consortium Members and the University. These conditions are outlined in detail in the Membership Agreement.

**PRECISION ENGINEERING CONSORTIUM
ENHANCEMENT PROJECT AGREEMENT**

NC STATE File No. _____

This Agreement is entered into by and between North Carolina State University (UNIVERSITY) and _____(SPONSOR).

Whereas SPONSOR is a MEMBER in good standing of the **Precision Engineering Consortium** at UNIVERSITY and the Enhancement Project contemplated by this Agreement is of mutual interest and benefit to the UNIVERSITY and SPONSOR, and will further the instructional, research, and public service objectives of the UNIVERSITY in a manner consistent with its status as a public educational institution.

1. **Scope of Work.** The UNIVERSITY will use its best efforts to perform activities as described in its Enhancement Project entitled _____, which is attached hereto as Appendix A and hereby made a part of this Agreement.
2. **Term.** The activities of this project shall be conducted during the period beginning [start date] through [end date], subject to SPONSOR’S “member-in-good-standing” status with **Precision Engineering Consortium**.
3. **Payment.** SPONSOR agrees to support the UNIVERSITY’s costs incurred conducting the activities as stated in Appendix A, in the amount of \$ _____. This amount shall not be exceeded by the UNIVERSITY without the written authorization of the SPONSOR. Payment shall be made upon receipt of the UNIVERSITY’s invoice in accordance with the following schedule:

fifty (50) % of the total costs upon execution of this Agreement
fifty (50) % upon submission to the SPONSOR of the Final Technical Report due in thirty (30) days after the end date of the project
[these are the typical payment terms though they may be changed based on the mutual agreement]

UNIVERSITY shall send SPONSOR invoices to the following individual using the contact information provided below:

Company Name
ATTN: First and Last Name
Street Address
City, State Zip Code

Phone: _____

Email: _____

For payment by check, the UNIVERSITY's remittance address is shown below. For payment by electronic funds transfer or financial questions, please contact a Contracts & Grants Authorized Representative using the contact information provided below.

North Carolina State University
Office of Contracts and Grants
2701 Sullivan Drive, Suite 240
Campus Box 7214
Raleigh, NC 27695-7214
United States of America

Phone: 919-515-2153

Email: cnghelpdesk@ncsu.edu

4. **Termination.** Performance under this Agreement may be terminated by SPONSOR at any time upon sixty (60) days written notice to UNIVERSITY. Upon receipt of notification, UNIVERSITY must proceed in an orderly fashion to limit or terminate any outstanding commitments and/or to conclude the project. UNIVERSITY must be reimbursed by SPONSOR for all costs and noncancelable commitments incurred in performance of the work prior to receipt of termination notice. UNIVERSITY may terminate performance if circumstances beyond its control preclude the continuation of the Research. If UNIVERSITY terminates, UNIVERSITY must reimburse SPONSOR all unexpended funds, except for those funds needed to pay for noncancelable commitments.
5. **Remaining Funds.** Any residual funds left upon completion of an enhancement project will be transferred back into a pool membership dues account.
6. **Controlling Terms and Conditions.** The terms and conditions set forth in the Precision Engineering Consortium Membership Agreement and Bylaws shall govern this project.

In witness whereof, the parties hereto have executed this Agreement effective as of the last hereinafter written.

SPONSOR

UNIVERSITY

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____