

CENTER BYLAWS

ARTICLE I - INTRODUCTION

- 1.1 The following Bylaws will be used to govern the Center for Friction Stir Processing (CFSP), an Industry/University Cooperative Research Center (I/UCRC).
- 1.2 The Bylaws are approved by the Directors' Board (consisting of the Center Director and the Site Directors for each site) and the Industrial Advisory Board (IAB). The bylaws can be amended at any time by an affirmative vote of two thirds of the Directors' Board and two thirds of the members of the Industrial Advisory Board.
- 1.3 The CFSP is a university consortium comprised of the following affiliated sites/participating universities:

South Dakota School of Mines and Technology, Rapid City SD

Brigham Young University, Provo UT

University of South Carolina, Columbia SC

Missouri University of Science and Technology, Rolla MO

Wichita State University, Wichita, KS
- 1.4 These Bylaws form a part of the Membership Agreement with participating Sponsors. If there are any inconsistencies between the Bylaws and the Membership Agreement, the terms and conditions outlined in the Membership Agreement takes precedence over the Bylaws provided the inconsistent terms of the Membership Agreement have been approved by two thirds of the Directors' Board and two thirds of the IAB.

ARTICLE II - PURPOSE

Vision Statement

- 2.1 The CFSP is designed to provide a forum for industry/university cooperative research on the development and validation of emerging technologies involving solid-state materials joining and processing known as Friction Stir Processing.

Mission Statement

- 2.2 The mission of the Center for Friction Stir Processing is:

- To advance, develop and promote research into the principles and technology of friction stir

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processing science and engineering through research, development, education, and technology exchange among academic, industry, and government entities;

- To increase the quantity and quality of professionals prepared to work in this area;
- To involve the faculty of the Consortium University(s) in research in areas of common interest to Sponsors and the University(s);
- To perform research that will promote the global competitiveness of Sponsor friction stir processing facilities.

Research Focus

2.3 CFSP research topics will be focused on the needs of the Sponsors and the capabilities of the university(s). Areas of research will include:

- Friction Stir Joining
- Friction Stir Microstructural Modification
- Friction Stir Post-Processing
- Friction Stir Structural Designs and Applications
- Friction Stir Intelligent Controllers and Efficient Tooling
- Friction Stir Cost Benefits Analysis

ARTICLE III - SPONSORSHIP

- 3.1 The CFSP sponsorship (membership) fees are \$35,000 per year for the first five years and will be used to support Center research.
- 3.2 A Company, Corporation, or Organization may support the Center with two or more sponsorships at \$30,000 for each additional sponsorship.
- 3.3 A participating university that receives and uses sponsorship (membership) fees will provide a 25% cost share match in connection with the sponsor's cash fees to support Center research in accordance with the requirements of the National Science Foundation I/UCRC Program Solicitation NSF01116.
- 3.4 An "In-Kind" sponsorship (membership) is possible upon approval by the Center Director, all University Site Directors, and two thirds of the IAB. A member Organization that provides "In-Kind" membership fees in lieu of cash payments will provide a listing of categorized items to be considered as its "In-Kind" support for approval.
- 3.5 All Sponsors (members) will sign the same Membership Agreement unless otherwise approved by the Center Director, all University Site Directors, and two thirds of the representatives of the IAB.

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ARTICLE IV- ORGANIZATION

- 4.1 Although individual Sponsors of the Center join the Center through one of the University Sites, there is only one IAB for the Center. The IAB will select a Chairperson for a two-year term at the Inaugural IAB meeting on October 6-7, 2004 and no less than every two years thereafter.
- 4.2 Sponsors paying membership fees and the Sponsors providing "In-Kind" sponsorship will have one representative on the IAB. An Organization may have more than one Center sponsor and will be entitled to have one voting representative on the IAB for every paid up sponsorship.
- 4.3 All Sponsors will participate in the strategic planning of the Center. The IAB will assist the participating faculty in identifying pre-competitive, generic, industry-related, research problems in friction stir welding and processing; recommend research projects for future work; assist in identifying appropriate industrial internship opportunities for graduate students and postdoctoral students; assist the Center Director and Site Directors in identifying new sponsors; review the research and educational accomplishments of the Center; and recommend restructuring and/or redirecting of on-going programs to meet IAB needs and concerns.
- 4.4 The Center Director is chosen by the Directors' Board in accordance with NSF policies at the time of selection, and is confirmed by the University Policy Committee. The Lead University is the University at which the Center Director is employed. The Center Director will be responsible for all Center activities and will report directly to the Vice President for Research at the Lead University and the IAB.
- 4.5 The Site Directors at the Lead and Affiliated Universities will be responsible for Center activities at their university and will report directly to their respective appropriate university administrators and to the Center Director. The Site Directors will provide liaison between the Center and the appropriate academic departments of the member universities.
- 4.6 Project Principal Investigators will manage specific research projects funded by the Center and will report directly to the appropriate Site Director, the appropriate university administrators, and to the Sponsors supporting the project. Project Principal Investigators will be identified in specific project proposals.
- 4.7 Site Directors are chosen by the participating university, subject to approval by the Directors' Board.
- 4.8 A Center External Evaluator, appointed by the National Science Foundation, will assist the Center Director, Site Directors, and the Industrial Advisory Board to organize the Center and provide an independent assessment of the operation. The Center External Evaluator will report directly to the I/UCRC Program Manager at the National Science Foundation. Travel expenses for the Center External Evaluator will be paid by the participating universities from I/UCRC sources and shall be limited to travel to the IAB meetings and one program review trip to each participating university per calendar year. The participating university hosting the IAB meeting will incur the cost of the Center External Evaluator travel expenses for that meeting.

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- 4.9 University Policy Committee: The Center will form a multi-university administrative oversight and policy committee consisting of the Vice President or Provost of Research (or his/her designee) at each university to resolve any and all Center administrative issues, including review of academic standards, recruitment strategies, retention issues, funding issues, space requirements, and equipment requirements related to the Center. This committee will assure faculty recognition for participation in the Center in tenure and promotion decisions, and to assure that the research is appropriate for graduate education.
- 4.10 Administrative Support Staff: The Lead University and each Participating University will provide a reasonable level of clerical and accounting support for the operation of the Center.

ARTICLE V- ADMINISTRATION

- 5.1 The Center Director and Site Directors will work with the Industrial Advisory Board on strategic plans for the Center and on recruiting new Sponsors.
- 5.2 The Center Director in cooperation with the Site Directors will submit an annual operating and research budget to the IAB for review and recommendations. This will be available for review prior to the Spring IAB Meeting each year.
- 5.3 The Site Directors, upon recommendation of the Industrial Advisory Board and the Center Director, will authorize the use of membership fees by the Project Principal Investigators in support of Center research.
- 5.4 The Site Directors will work with the appropriate departments on recruiting graduate students for the Center and will set standards for student participation; monitor student progress towards a degree; set goals for recruiting students (especially minority and women); promote multidisciplinary nature of the research program; and, help students to organize industrial internships. The Site Director will develop a strategy to integrate the technologies of the CFSP into the academic curriculum at each participating university to the maximum extent possible.
- 5.5 Each CFSP graduate student will have a Center faculty mentor and, if available, at least one Center industrial advisor. The faculty mentor is responsible for advising the student on university, departmental, and Center policies.

ARTICLE VI- REPORTS

- 6.1 The Center Director shall provide a semiannual report to the Sponsors and to the National Science Foundation.
- 6.2 The Site Directors and Principal Investigators shall provide interim reports to the Center Director and to the Sponsors as necessary at the completion of major research tasks. These interim reports will be distributed via the Center web site and email notification to all sponsors once posted.

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- 6.3 All administrative issues, concerns or conflicts regarding the activities of research and reporting are responsibilities of the Center Director.

ARTICLE VII- MEETINGS

- 7.1 The Center Director, Site Directors and the IAB Chairperson will establish the schedule of activities and meetings for the Center as well as the agenda for the semiannual research review meetings.
- 7.2 The participating universities and IAB members for the CFSP will meet twice a year (spring and fall). The participating universities will host the Spring Center meeting on a rotating basis with the date and location determined at the previous IAB meeting.
- 7.3 The IAB will meet twice a year to review research results, select projects, review budgets, and discuss the strategic plans for the Center. The IAB review meetings will coincide with the semiannual CFSP meetings. A Sponsor may send more than one representative to the IAB meetings, but may only have one voting representative per paid membership.
- 7.4 The University Policy Committee will meet as necessary during the annual Center Meeting to discuss and resolve Center program and management issues.
- 7.5 Center meetings are closed to the public, because of proprietary Center information that will be discussed. Attendance is limited to faculty, staff, and students affiliated with the Center; representatives of Center Sponsors; and the Center Evaluator and other NSF personnel.

ARTICLE VIII- RESEARCH PROJECT SELECTION PROCEDURE

- 8.1 An algorithm for selecting projects will be developed and adopted by the members of the Industrial Advisory Board.
- 8.2 During the start-up period of the Center (September 2004 to August 2005), commitment of membership fees to Project Principal Investigators will be made as first-year membership fee Sponsors join the Center. The Center Director, Site Directors, and the IAB will jointly approve first-year start-up projects in support of the Center mission with special consideration given to first year sponsor research needs. This interim provision will be replaced by a strategy described below as amended and approved by the Industrial Advisory Board.
- 8.3 A CFSP research project will usually require two or more industrial sponsors. Therefore, membership fees from several Sponsors may be used to support individual projects of common interest to the Sponsors. The CFSP research projects will be conducted by students (undergraduate, graduate, and/or postdoctoral) at one or more of the Participating Universities.
- 8.4 All Center Members (Sponsors) may participate in the selection and evaluation of research projects. Individual organizations may acquire multiple Center memberships, and therefore will have a corresponding number of voting representatives on the IAB.
- 8.5 Typically, individual Sponsors will propose general industry-oriented research topics of interest to their organization. A portfolio of relevant research topics will be compiled based on the

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interest of the Sponsors. These research topics will be posted on the Center web site (restricted) and will form the basis for cooperative discussions among the faculty and the industrial members. Each participating university will develop a set of pre-proposals consistent with the goals of their group, the interest of the Sponsors, and the mission of the Center. The pre-proposals will be posted on the Center web site prior to the Fall IAB meeting. At the research review meeting, faculty/student teams will discuss their proposals with IAB members.

- 8.6 Sponsors will have an opportunity to fund one or more projects at different universities or at the same university. Members of the IAB will recommend funding of projects and will cooperate with the Center Director to establish an annual budget for each project.

ARTICLE IX- PUBLICITY

- 9.1 A Sponsor shall not use the name of any University in the Consortium in any publicity, advertising or news release without the prior written approval of an authorized representative of the affected University. Likewise, no Consortium University may use the name of a Sponsor in any publicity without the prior written approval of the Sponsor. Press releases will be coordinated between the Center Director and participating university press office. Notwithstanding the foregoing the parties may satisfy any reporting requirements of their respective organizations.
- 9.2 Subject to the recommendations of the IAB, the Center Director shall post the descriptions of all CFSP research projects on the Center web site. The descriptions shall not contain confidential or proprietary information and may be published freely.

ARTICLE X- PUBLICATIONS

- 10.1 Researchers engaged in CFSP research shall be permitted to disclose the methods and results of their research after a review by the Sponsors for proprietary materials as outlined in the Membership Agreement.
- 10.2 At any time a Site Director or an employee of a Sponsor may request permission to publish Center information presented in summaries, semiannual reports, annual reports, or final reports; or arising out of or resulting from research projects; in the form of abstracts, presentations, or manuscripts. To receive permission, the requestor shall submit a "Request for Permission to Publish" containing the information to be published in the form in which publication will be sought to the Sponsors. The Request will be sent by email to the primary contact for each Sponsor with read receipt requested and posted to the Center website. It shall be incumbent upon the requestor to obtain documented evidence that the primary contact for each sponsor company has received the Request. The information in the Request may be published in a substantial form (as submitted with the Request) if within thirty (30) days after obtaining evidence that all Sponsors have received the Request, no Sponsor has objected in writing to the publication of such information. A Sponsor may object if the publication contains patentable subject matter that requires protection and/or the publication contains Sponsor's confidential information. In such cases, publication will be delayed up to ninety (90) days to allow for patent applications to be filed or confidential information to be removed.

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- 10.3 At least 30 days prior to the defense of a thesis or dissertation supported in whole or in part by the Center, the Site Director shall submit the Abstract of the thesis or dissertation to the members of the IAB. The Abstract will be sent by email to the primary contact for each Sponsor with read receipt requested and posted to the Center website. It shall be incumbent upon the Site Director to obtain documented evidence that the primary contact for each sponsor company has received the Abstract. Upon request, a draft of the thesis or dissertation will be provided to an individual Sponsor. The thesis or dissertation may be submitted normally if within thirty (30) days after obtaining evidence that all Sponsors have received the Abstract, no Sponsor has objected in writing to the publication of the thesis or dissertation. A Sponsor may object if the publication contains patentable subject matter that requires protection and/or the publication contains Sponsor's confidential information. If the objection is due to the inclusion of a Sponsor's confidential information, the confidential information shall be removed. If the objection is due to patentable subject matter, the thesis or dissertation shall be submitted to the University under terms that will prevent its public release for up to one year in order to protect patent rights. This policy has been established to avoid unreasonable delay in the normal academic progress of a graduate student of participating University with respect to preparation and submission of a graduate thesis or dissertation.
- 10.4 Any confidential information provided by Sponsors to a Project Principal Investigator or other members of the Center shall be provided under the protection of an independent confidentiality agreement between the Sponsor and the appropriate university.
- 10.5 Center data that have been approved for publication may be used in additional publications or forums without additional permission.

ARTICLE XI- BENEFITS

- 11.1 All Sponsors will have non-exclusive rights to the entire CFSP research portfolio under the conditions outlined in the Membership Agreement.
- 11.2 All Sponsors will have an opportunity to directly contribute to CFSP research and education programs by serving as industrial mentors and/or thesis committee members as appropriate and consistent with the policies and procedures of participating Universities.
- 11.3 All Sponsors will have an opportunity to propose case study problems, specific research problems, and focus areas for research. The case study problems will be used to train CFSP students on the use of current FSP technologies.
- 11.4 All Sponsors will have an opportunity to host postdoctoral research associates and/or graduate students as industrial interns.
- 11.5 Technology transfer between the faculty/student research teams and Sponsors will be promoted by:
- Pre-doctoral and post-doctoral industrial internships;
 - The direct involvement of the industrial advisor on the research team;

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- Web based submission of reports; and,
- Semiannual research retreats.

11.6 Each Sponsor that joins the Center by paying a cash membership fee will vote on the selection of research projects supported by membership fees. They will also be eligible to vote on all other Center matters and participate in the evaluation and discussion of research projects.

11.7 Each Sponsor that joins the Center on an approved In-Kind basis will vote on the selection of research projects funded by membership fees if approved by two-thirds of the cash paying membership. In-Kind Sponsors will be eligible to vote on all other Center matters and participate in the evaluation and discussion of research projects.

ARTICLE XII- NEW UNIVERSITY AFFILIATES AND INDUSTRIAL SPONSORS

12.1 From time to time, new universities may request membership into the CFSP as an affiliated site. Each new university requesting membership shall initially obtain concurrence from the Center Director, Site Directors, and the I/UCRC Program Manager at the National Science Foundation prior to submitting a “Letter of Intent” to join to the CFSP. Universities requesting membership as an affiliated site must demonstrate their ability to perform synergistic research within the focused research areas of the Center and their willingness to work within the structure, policies and procedures of the CFSP. Upon concurrence by the Center, the new university requesting membership as an affiliated site may continue application per the applicable procedures of the current National Science Foundation I/UCRC program solicitation.

12.2 A new university requesting membership into the CFSP shall review their research objectives and program plans, and, obtain and submit within their Planning Grant Proposal a “Letter of Support” from the Site Director at each of the current Center university members.

12.3 From time to time, new Companies, Corporations, or Organizations may request, or be requested, to join a university affiliated site of the CFSP as a Sponsor (member). These new Companies, Corporations, or Organizations may join the CFSP upon signature of the existing consortium Membership Agreement, acceptance of the current Bylaws, and payment of the NON-PRORATED annual membership fee. Application of these new membership fees shall be made to existing research programs at the affiliated site unless a new “interim” research program is otherwise approved by the Center Director, Site Directors, and the Chairman of the IAB. Continued funding of the “interim” research program is subject to IAB approval at the next annual IAB meeting under the terms of these Bylaws.

ARTICLE XIII- OUTREACH AND BROADER IMPACTS

13.1 The Center Director and Site Directors at each university will develop a Broader Impacts Plan to ensure that the CFSP promotes collaborations within the community through local, regional, national and international participation in the center activities. Teaming arrangements between the participating universities and minority, Native American, and community technical colleges for the purpose of technology transfer and collaborative educational opportunities are to be

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encouraged. This plan shall include solicitation of National Science Foundation, Sponsor, university, and state funding in support in these broader impact activities.

- 13.2 The Center Director and Site Directors at each university will develop within the Broader Impacts Plan a strategy to ensure that the CFSP promotes collaborations within the community through extensive K-12 involvement. This plan may take the form of technology demonstrations, tours, and student research projects at the K-12 level. This plan will promote development of collaborative educational opportunities for K-12 faculty and students through establishment of summer internship programs at the CFSP. This plan shall include solicitation of National Science Foundation, Sponsor, university, and state funding in support in these broader impact activities. The site directors shall report on their annual progress of the activities required to be performed under this bylaw, as part of their project progress reports delivered at the Spring IAB meeting.