

Research Participation Agreement UTA07-

THIS AGREEMENT is made by and between The University of Texas at Austin (hereinafter "UNIVERSITY"), whose address is The University of Texas at Austin, Austin, Texas, 78712, an agency of the State of Texas governed by the Regents of The University of Texas System, (hereinafter "SYSTEM") and _____ whose address is _____ (hereinafter "PARTICIPANT"). UNIVERSITY and PARTICIPANT may hereinafter be referred to collectively as "Parties" or individually as "Party".

WHEREAS, UNIVERSITY is engaged in a long-term, multiple-participant research program as hereinafter defined;

WHEREAS, PARTICIPANT desires to participate in and support such research program during the participation period hereinafter defined;

WHEREAS, PARTICIPANT desires to obtain certain rights to Intellectual Property and related technology and information developed during the period of and funded by its participation; and

NOW THEREFORE, in consideration of the mutual covenants and promises herein contained, the UNIVERSITY and PARTICIPANT agree as follows:

I. EFFECTIVE DATE

This Agreement shall be effective as of January 1, 2008.

II. DEFINITIONS

As used in this Agreement, including its Appendices, the following terms shall have the stated meanings:

2.1 "Research Program" shall mean a continuing, multiple-sponsor research program as described in the attached Appendix A.

2.2 "Program Year" shall mean any twelve (12) month period beginning on January 1st of a year and ending December 31st of the same year in which the Research Program will be conducted.

2.3 "Participation Period" shall mean two Program Years supported by PARTICIPANT. The first Participation Period shall be January 1, 2008 to December 31, 2009.

2.4 "Affiliate" shall mean any business entity more than 50% owned by PARTICIPANT, any business entity which owns more than 50% of PARTICIPANT, or any business entity that is more than 50% owned by a business entity that owns more than 50% of PARTICIPANT.

2.5 "Intellectual Property" shall mean inventions, disclosure documents, trademarks or trade names (whether common-law or registered), service marks, mask works, patents, and patent applications (including divisions, continuations, continuations-in-part, reissued patents, certificates of re-examination and the like), copyrights, trade secrets, know-how, and all software source code and object code and related documentation and materials, proprietary information and transferable rights under written license agreements relating to the Research Program.

2.6 “Other Participants” shall mean the member companies of the Research Program but excluding PARTICIPANT.

2.7 “All Participants” shall mean the PARTICIPANT and the OTHER PARTICIPANTS.

2.8 “Member Company” or “Member Companies” shall mean PARTICIPANT and/or OTHER PARTICIPANTS”.

2.9 “Internal Operations” shall mean any of a Party’s operations, which are presently or may become part of a Party’s or its Affiliate’s business, including but not limited to research activities and operations where such Party or Affiliate is the operator, or a technical consultant to the operator.

2.10 “PSTC” shall mean the Process Science and Technology Center as described in Appendices to this Agreement.

2.11 “BOM” shall mean the Board of Management of the PSTC as described in Appendix C.

2.12 “Management Organization” shall mean The University of Texas, with responsibilities set forth in this Agreement and its Appendices.

III. RESEARCH PROGRAM

3.1 UNIVERSITY will use its best efforts to conduct, with due skill, diligence and in a timely manner the Research Program during the first and subsequent Participation Periods and will furnish or make available the facilities necessary to carry out such Research Program. The Research Program will be under the direction of a lead researcher (hereinafter referred to as the “Principal Investigator”) and will be conducted with The University of Texas at Austin, Austin, Texas. The Principal Investigator will collaborate with other entities to ensure that the Research Program is run in the most efficient manner. Additional detail on Research Program collaboration is shown in Appendix B.

3.2 UNIVERSITY will serve as the Management Organization of the Research Program, wherein UNIVERSITY shall administer the Research Program with oversight from the Process Science and Technology Center (PSTC) Board of Management (BOM). Additional detail on the governance of this program and the roles and responsibilities of the Management Organization and BOM can be found in Appendix C.

3.3 PARTICIPANT shall support the Research Program as set forth in this Agreement and shall accrue certain rights as hereinafter defined to Intellectual Property during the Participation Period.

3.4 The Principal Investigator and Project Managers shall conduct research in areas that the PARTICIPANT, OTHER PARTICIPANTS and the BOM have identified. The manner of performance of any particular research topic under the Research Program shall be determined by the Principal Investigator and Project Managers. The performance of the program will be measured on an annual basis. The Research Program will be designed in order to facilitate overall success, as determined by ALL PARTICIPANTS.

3.5 PARTICIPANT understands that UNIVERSITY’s primary mission is education and the advancement of knowledge, and consequently, the Research Program will be designed to carry out that mission, so long that it does not violate any rights or obligations within this Agreement.

3.6 UNIVERSITY will keep accurate financial and scientific records relating to the Research Program, including each specific research project funded therein, and will make such records available, upon reasonable notice, to PARTICIPANT or its authorized representative during the term of the Research Program.

3.7 UNIVERSITY shall not apply funds provided by PARTICIPANT to research supported by a nonparticipant to this Research Program unless agreed to by the BOM.

3.8 Nonexclusivity. Nothing in this Agreement is intended to limit the ability of any Party to conduct research or development activities alone or with others, concerning any subject whatever.

IV. FUNDING

4.1 In consideration of UNIVERSITY's exerting its best efforts to carry out the Research Program, PARTICIPANT upon execution of this Agreement and receipt of an invoice from UNIVERSITY:

4.1.1 shall initially pay UNIVERSITY the sum of \$15,000 for its initial Program Year of participation (Fund Level A, Appendix D).

4.1.2 may also elect to pay UNIVERSITY an *additional* sum of \$25,000 for each Program Year of participation which UNIVERSITY shall use to fund a specific project of a UNIVERSITY Project Manager as described and listed in Appendix A. Therein, PARTICIPANT shall gain the right to designate a PARTICIPANT representative to the Process Science and Technology Center's (PSTC) Board of Management as described in Appendix C and a PSTC focus area steering subcommittee of PARTICIPANT's choice (Fund Level B, Appendix D).

4.1.3 may further elect to pay UNIVERSITY an additional sum of \$25,000 for each Program Year of participation per focus area steering subcommittee (Fund Level B, Appendix D). Therein, PARTICIPANT shall gain the right of membership to each focus area steering subcommittee it remits payment for.

4.2 Pursuant to 4.1 and in all cases, payment shall be for each Program Year of participation, with a PARTICIPANT initial commitment of two (2) Program Years for each funding level described in 4.1. Payment for each subsequent Program Years shall be made by January 1st following an annual receipt of an invoice from UNIVERSITY at least thirty (30) days in advance of said January 1st.

Additional detail on funding and budget are shown in Appendix D.

In no event will PARTICIPANT be liable to pay UNIVERSITY any amount in excess of the sums set forth in Sections 4.1.1 and additional rights PARTICIPANT elects to gain in 4.1.2 and 4.1.3 and per 4.2 without its prior written consent.

4.3 UNIVERSITY shall maintain all Research Program funds in a separate account and shall expend such funds for wages, supplies, equipment, travel, and other operating or facilities expenses in connection with each specific research project of the Research Program. Title to all equipment purchased for the Research Program shall reside in UNIVERSITY. Indirect costs at the approved government audited percentage (for off-campus programs) of modified total direct costs of the Research Program are authorized for allocation to UNIVERSITY's indirect (overhead) costs in carrying on the Research Program. However, for this Research Program:

- a.) the Vice President for Research has authorized a UNIVERSITY overhead reduction for the cost's associated with program management and reduction of the UNIVERSITY overhead associated with subcontracts.

4.4 PARTICIPANT agrees that any funds for the cost of research for a specific research project that are not used in a particular year may be used in subsequent years for that for specific research project's continuation of the Research Program. If PARTICIPANT or if one of the OTHER

PARTICIPANTS goes out of business or is acquired during a funding period, all funds of the PARTICIPANT that goes out of business or is acquired will remain with the UNIVERSITY.

V. CONSULTATION AND REPORTS

5.1 UNIVERSITY shall sponsor two (2) research review meetings per year to keep ALL PARTICIPANTS fully informed as to the progress of the various topics of research being addressed in the Research Program.

5.2 During the period of this Agreement, PARTICIPANT's representatives may consult with UNIVERSITY's representatives regarding the Research Program, both personally and by telephone. Access to work carried out in UNIVERSITY facilities in the course of these investigations shall be entirely under the control of UNIVERSITY personnel and made available on a reasonable basis. Additional details on UNIVERSITY staffing are shown in Appendix E.

5.3 At the end of each Program Year, UNIVERSITY shall provide to PARTICIPANT a written report summarizing the work of the Research Program for the Program Year, as determined by the BOM. Notwithstanding anything to the contrary, UNIVERSITY will furnish to PARTICIPANT at least one (1) tangible copy, which includes electronic format, of any and all inventions as defined Section 9.1 of this Agreement, or any part thereof upon request by PARTICIPANT; and at least one (1) tangible copy of any and all inventions at the end of each Program Year.

VI. PUBLICITY

No press release or other written statements in connection with work performed under this Agreement intended for use in the public media, having or containing any reference to any PARTICIPANT, OTHER PARTICIPANTS or UNIVERSITY shall be made by either Party, except as required by law, without approval of the other Party and the PSTC's BOM. UNIVERSITY, however, shall have the right to acknowledge PARTICIPANT's support of the investigations under this Agreement in scientific publications and other scientific communications. In any other statements, the Parties shall describe the scope and nature of their participation accurately and appropriately.

VII. PUBLICATIONS

PARTICIPANT and UNIVERSITY acknowledge the importance to each other of maintaining confidentiality, and agree that a draft of any proposed publication or other disclosure will be provided to the PARTICIPANT at least forty-five (45) days in advance of any submission for publication or other disclosure. Each Party receiving the request shall have a period of forty-five (45) days from receipt to review the proposed publication or disclosure to determine whether the publication or disclosure includes Confidential Information (pursuant to Section VIII) or patentable information and may within the stated time request in writing that submission for publication or other disclosure be delayed in order to protect the commercial exploitation of the results. However, in no event shall the delay exceed ninety (90) days from the date of UNIVERSITY's forward of any proposed publication. UNIVERSITY shall have final authority to determine the scope and content of any UNIVERSITY publications, subject to its obligations not to disclose the Participant's Confidential Information. UNIVERSITY shall provide a copy of all publications to the PARTICIPANT.

VIII. CONFIDENTIAL INFORMATION

8.1 Confidentiality Obligations. For the purposes of this Agreement, "Confidential Information" means all information of a confidential nature disclosed (in writing and identified with language adequate to provide notice that the disclosure is intended to be kept confidential) by one party ("the Disclosing Party") to the other party ("the Receiving Party") during the term of this Agreement including, without limitation, information developed under the Research Program and any information relating to the Disclosing Party's background intellectual property and its operations and processes.

PARTICIPANT has no obligation to contribute Confidential Information but to the extent it elects to do so, PARTICIPANT agrees to grant use rights to the OTHER PARTICIPANTS to the extent necessary to exploit the research results received from the Research Program, subject to the confidentiality obligations set forth in this Article VIII. Likewise, PARTICIPANT shall have the right to use any Confidential Information contributed by any of the OTHER PARTICIPANTS to the extent necessary to exploit the research results received from the Research Program, subject to the confidentiality obligations set forth in this Article VIII.

8.2 Confidentiality Obligations

8.2.1 As regards to the data and other information a Disclosing Party provides to the Research Program as Confidential Information, the Receiving Party shall not disclose such data and information to any third party, other than an Affiliate who shall undertake an obligation of confidentiality not less restrictive than the obligation of this Agreement. Confidential Information shall not include data or information which:

- (1) the Receiving Party is required to provide by law or under a court or other administrative agency ruling,
- (2) is known to the Receiving Party as of the date of disclosure, are independently developed by the Receiving Party, or lawfully come into its possession from another source,
- (3) is already or becomes a part of the public domain, except where an act or omission of the Receiving Party or its representative(s) breached this Agreement
- (4) is acquired independently from a third party that has the right to disseminate such information at the time it is acquired, or
- (5) have been published in patent applications, as provided in Section 8.5., or
- (6) are not disclosed in writing with language adequate to provide notice that the disclosure is intended to be kept confidential, or reduced to such writing within thirty (30) days of disclosure.

8.2.2 Such Confidential Information may be disclosed to a consultant, agent or contractor of a Receiving Party, so long as the Receiving Party ensures that such consultant, agent or contractor undertakes an obligation of confidentiality not less restrictive than the obligation of this Agreement. The obligation of Confidentiality as to any such Confidential Information shall terminate five (5) years from the date of receipt of such Confidential Information or three (3) years from the termination date of this Agreement, whichever is later.

8.2.3 It is the responsibility of the Receiving Party to ensure adequate training and education of their employees regarding the terms of these confidentiality provisions.

8.3 No Exchange of Unrelated Information. No information shall be exchanged among the Parties pursuant to this Agreement except information that is reasonably related to and necessary for the accomplishment of the Research Program, with the understanding that PARTICIPANT shall not be under any obligation to disclose to UNIVERSITY any information which it considers to be proprietary.

8.4. Disclosure of Information Limited to Appropriate Persons. No Confidential Information of any Party of OTHER PARTICIPANTS, shall be disclosed to any employees of any other Party of OTHER PARTICIPANTS, except those who need to have access to such information in order to carry out the Research Program. The Parties shall take all appropriate steps to insure that their employees are made aware of their obligation not to disclose information to persons except those who need to have access to it in order to carry out the Research Program.

8.5. Disclosure of Information for Patent Filings. If a decision is made by PARTICIPANT or UNIVERSITY to file a patent application on an invention in which PARTICIPANT or UNIVERSITY's employee is an inventor and which is not an Invention owned by the other Party pursuant to Section 9.1,

nothing included in this Article VIII shall preclude the filing Party from disclosing Confidential Information reasonably necessary to satisfy the best mode or enablement standards set forth in the U.S. patent laws.

IX. INVENTIONS AND PATENTS

9.1 Any Inventions (as defined hereinafter) by UNIVERSITY and patents resulting therefrom, software, or copyrights, other than copyrights to written scholarly works that are the property of the authors, in work made during the course of the Research Program and any other information generating from the Research Program shall be the property of UNIVERSITY, even if made jointly with PARTICIPANT personnel. Inventions made solely by PARTICIPANT or its personnel shall not be the property of the UNIVERSITY. An Invention is made during the Research Program if it is conceived or reduced to practice during, and is the result of such Research Program. The term "Invention(s)" shall mean any discoveries, concepts, ideas, information, data, know-how and other knowledge, in any form and whether or not patentable or copyrightable, including but not limited to processes, methods, software, formulas, methodologies and techniques, improvements thereof, and know-how relating hereto that is generated by either the UNIVERSITY or ALL PARTICIPANTS individually, or jointly by any of the foregoing, in the course of and within the scope of conducting the Research Program. The term "Patents" means United States and foreign patents and United States and foreign patent application covering any and all Inventions.

9.2 UNIVERSITY's Principal Investigator and Project Managers will bring any Inventions reasonably expected to be patentable, made during the Research Program, to the attention of the UNIVERSITY's Office of Technology & Commercialization (OTC), PARTICIPANTS and the BOM. Thereafter, OTC will notify PARTICIPANT of said Inventions.

9.3 The choice to secure patent protection Inventions will be made as a common decision by the BOM of the Research Program via BOM meetings. ALL PARTICIPANTS intend that patents will be filed on commercially important Inventions. ALL PARTICIPANTS of the BOM will vote to determine which of the Inventions of the Research Program would like to patent. If the Invention receives a simple majority in favor of patenting, UNIVERSITY will prepare and file appropriate United States and Foreign patent applications thereon. The cost of such applications shall be borne equally by ALL PARTICIPANTS of the BOM currently in the research program under the Research Program funds. If a majority of ALL PARTICIPANTS of the BOM choose not to secure patent protection on a particular Invention, the UNIVERSITY still holds the right to pay for and secure a patent on such Invention on its own with no continuing obligations to ALL PARTICIPANTS or the BOM, except that any PARTICIPANT within ALL PARTICIPANTS who pays a proportionate (100 percent divided by the then-number of PARTICIPANTS electing to secure patent protection in the program) share of said patenting costs shall receive rights under said Invention and patents pursuant to Section 10.1. The decision to patent an Invention or not patent an Invention must be made within one hundred and twenty (120) days from the time the Invention is identified, per section 9.1.

9.4 If a majority of ALL PARTICIPANTS of the BOM choose not to secure patent protection on a particular Invention pursuant to Section 9.3 and the UNIVERSITY elects not to exercise its right to pay for and secure a patent on such Invention on its own, one or more PARTICIPANTS may independently secure patent protection on that particular Invention and prepare and file appropriate patent applications thereon in any county in which such PARTICIPANT(S) may choose. Such Inventions and related patents are not subject to the Grant of Rights provisions of Article X, except that UNIVERSITY retains its rights in 10.3 to use any Invention or patent generated in the performance of the Research Program for research, teaching, or other UNIVERSITY or SYSTEM non-commercial purposes.

X. GRANT OF RIGHTS

10.1 UNIVERSITY, as authorized by SYSTEM, hereby grants to PARTICIPANT, an irrevocable, worldwide, royalty free, perpetual, paid-up, non-exclusive license;

- (a) to use or have used any Invention made solely by UNIVERSITY or made jointly with PARTICIPANT personnel or OTHER PARTICIPANT personnel during the Research Program for PARTICIPANT'S Internal Operations; and
- (b) subject to payment of patenting costs pursuant to Section 9.3 above, make, have made, use, have used, sell and have sold any patented Inventions made during the Research Program; provided, however, in any event PARTICIPANT may use any patented Inventions made during the Research Program for PARTICIPANT'S Internal Operations.

Such license shall be extendable to Affiliates.

PARTICIPANT shall further have the right to extend such license to non-Affiliated third parties on a royalty-bearing basis. The amount of the royalty fees to be paid by PARTICIPANT to the UNIVERSITY for such extension of license to non-Affiliated third parties shall be the subject of a separate written agreement between PARTICIPANT and the UNIVERSITY. The royalties from this licensing would be shared between the UNIVERSITY and all PARTICIPANTs, who elected to pursue patent protection and therein paid associated costs, at a reasonable rate to be negotiated among them.

10.2 The license granted above applies only to results developed, including Inventions made during the particular Participation Period engaged in by PARTICIPANT as well as any previous work generated during the Research Program for which PARTICIPANT has paid, but it expressly does not apply to any such information and rights generated in subsequent years of the Research Program that are not within Participation Period engaged in by PARTICIPANT and that have not been paid for by PARTICIPANT.

10.3 Notwithstanding any other rights granted under other provisions hereof, and not in any limitation of UNIVERSITY's and SYSTEM's rights, UNIVERSITY and SYSTEM shall retain the right to use any Invention as to which a license is granted hereunder for research, teaching, or other UNIVERSITY or SYSTEM purposes. The UNIVERSITY, with approval of the BOM, shall have the right to license such Inventions on a royalty-bearing basis. The royalties from this licensing would be shared between the UNIVERSITY and PARTICIPANTs, who elected to pursue patent protection and therein paid associated costs, at a reasonable rate to be negotiated among them. The approval to license will not be unreasonably withheld by the BOM.

10.4 Except as otherwise set forth herein, nothing in this Agreement shall be construed to grant rights to any pre-existing patents and technology or other proprietary rights belonging to PARTICIPANT, OTHER PARTICIPANTS, SYSTEM, or UNIVERSITY, and the license granted hereunder is specifically made subject to such other pre-existing patent rights and any future grant of rights are subject to negotiation and execution of a separable agreement amongst the affected parties.

10.5 In addition, if any funding is provided for a Research Program by the Government of the United States of America, the Government may have certain rights relative thereto and this Agreement is explicitly made subject to the Government's rights under any agreement and any applicable law or regulation. If there is a conflict between such Government agreement, applicable law or regulation and the Agreement, the terms of the Government agreement, applicable law or regulation will prevail.

10.6 It is understood that the UNIVERSITY's Principal Investigator and Project Managers shall be free to discuss the research being performed under this Agreement with other investigators, and in the event any joint Inventions result, UNIVERSITY shall grant to PARTICIPANT the rights outlined in

this Agreement, to the extent these are not in conflict with obligations to another party as a result of the involvement of the other investigator(s). In this latter case, UNIVERSITY shall exercise good faith efforts to enable PARTICIPANT to obtain rights to the joint Invention.

10.7 PARTICIPANTs understand that UNIVERSITY or SYSTEM may be involved in similar research through researchers on behalf of itself and others. UNIVERSITY or SYSTEM shall be free to continue such research provided that it is conducted separately from the Research Program herein defined, and PARTICIPANTs shall not gain any rights via this Agreement to such other research.

10.8 UNIVERSITY shall transfer to PARTICIPANT, at PARTICIPANT's request, information, know-how, or technology in written or other tangible form, developed in the Research Program during a Participation Period. PARTICIPANT shall pay the actual cost of reproduction for extensive or costly transfers, such as computer tapes. PARTICIPANT shall receive a license under UNIVERSITY's or SYSTEM's copyright in said tangibles to make a reasonable number of copies thereof for PARTICIPANT'S Internal Operations. Such license shall be extendable to Affiliates of a PARTICIPANT.

XI. LIABILITY

11.1 UNIVERSITY shall, *to the extent authorized under the Constitution and laws of the State of Texas*, indemnify and hold PARTICIPANT harmless from liability resulting from the negligent acts or omissions of UNIVERSITY, its agents or employees pertaining to the activities to be carried out pursuant to the obligations of this Agreement; provided, however, that UNIVERSITY shall not hold PARTICIPANT harmless from claims arising out of the negligence or willful malfeasance of PARTICIPANT, its officers, agents, or employees, or any person or entity not subject to UNIVERSITY's supervision or control.

11.2 PARTICIPANT shall indemnify and hold SYSTEM, UNIVERSITY, their Regents, officers, agents and employees harmless from any liability or loss resulting from judgments or claims against them arising out of the PARTICIPANT's activities to be carried out pursuant to the obligations of this Agreement, including but not limited to the use by PARTICIPANT of the results of the Research Program; provided, however, that the following is excluded from PARTICIPANT's obligation to indemnify and hold harmless:

- a. the negligent failure of UNIVERSITY to substantially comply with any applicable governmental requirements; or
- b. the negligence or willful malfeasance by a Regent, officer, agent, or employee of UNIVERSITY or SYSTEM.

XII. INDEPENDENT CONTRACTOR

For the purposes of this Agreement and all services to be provided hereunder, the Parties hereto shall be, and shall be deemed to be, independent contractors and not agents or employees of the other party. Neither Party shall have authority to make statements, representations or commitments of any kind, or to take any action which shall be binding on the other Party, except as may be explicitly provided for herein or authorized in writing.

XIII. TERM AND TERMINATION

13.1 This Agreement shall commence with the Effective Date hereof and extend until the end of PARTICIPANT's Participation Period, unless sooner terminated in accordance with the provisions of this Section. This Agreement will remain in effect through subsequent Participation Periods by mutual

agreement between the Parties, as indicated by PARTICIPANT paying for each additional Program Year as specified in Article 4.2, without requiring an executed amendment to this Agreement.

13.2 UNIVERSITY may cancel this Agreement upon written notice if by unanimous agreement of ALL PARTICIPANTS, the Research Program is terminated, the Research Program is dissolved for lack of membership or by unanimous agreement the UNIVERSITY is no longer authorized to manage the Research Program on behalf of ALL PARTICIPANTS.

13.3 Subject to 4.2, including PARTICIPANT's commitment to fund the Research Program for an initial two (2) year Participation Period and remit annual Program Year payments therein, PARTICIPANT may terminate its individual participation under the Research Program without prior written notice to UNIVERSITY by virtue of not remitting payment to UNIVERSITY for any subsequent Program Year after the initial two (2) year Participation Period.

13.4 The PSTC may be terminated upon unanimous agreement of the Members. A change of Management Organization can occur with unanimous agreement of the Members. If the PSTC is terminated or a change of Management Organization occurs, the Research Participation Agreement with ALL PARTICIPANTS will be terminated. Intellectual property rights will be negotiated in good faith between all the parties. The Management Organization retains all infrastructure and assets that it brought to the PSTC.

13.5 In the event that either Party shall be in material default of any of its obligations under this Agreement and shall fail to remedy such default within sixty (60) days after receipt of written notice thereof, the Party not in default shall have the option of terminating this Agreement by giving written notice thereof.

13.6 Termination or cancellation of this Agreement shall not affect the rights and obligations of the Parties accrued prior to termination. Accordingly, upon the termination of this Agreement, PARTICIPANT shall not be refunded any funds theretofore paid for participation.

13.7 One year following termination of the Research Program, and subject to the provisions of Section X hereof, UNIVERSITY or SYSTEM are free to license to any party, including non-PARTICIPANTS, the right to use any or all Inventions into which UNIVERSITY has rights in accordance with Section IX hereof under any or all of its intellectual property rights, e.g., patents, copyrights, trade secrets, etc., under terms and conditions of its own choosing without accounting to PARTICIPANT. This right comprehends the furnishing of tangibles containing information covered by such rights.

XIV. GENERAL

14.1 This Agreement may not be assigned by either Party without the prior written consent of the other Party; provided, however, that PARTICIPANT may assign this Agreement to any purchaser or transferee of all or substantially all of PARTICIPANT's related business upon prior written notice to UNIVERSITY.

14.2 This Agreement constitutes the entire and only agreement between the Parties relating to the Research Program, and all prior negotiations, representations, agreements and understandings are superseded hereby. No agreements altering or supplementing the terms hereof may be made except by means of a written document signed by the duly authorized representatives of the Parties.

14.3 Notices and other communications regarding the day-to-day administration and operations of this Agreement shall be mailed or delivered, addressed in the case of UNIVERSITY to:

The University of Texas at Austin
Office of Sponsored Projects

P.O. Box 7726
Austin, Texas 78713-7726
Attn: Associate Vice President for Research
Phone: (512) 471-6424
FAX: (512) 471-6564

with a copy to

Dr. R. Bruce Eldridge
Department of Chemical Engineering, College of Engineering
The University of Texas at Austin
1 University Station C0400
Austin, Texas 78712
Phone: (512) 232-1407
FAX: (512) 471-7060

or in the case of PARTICIPANT to

Attn: _____
Phone: _____
FAX: _____

Any notice required by paragraphs IX, X, XI or XIII shall be given by prepaid, first class, certified mail, return receipt requested, addressed in the case of UNIVERSITY to:

Vice President for Research
The University of Texas at Austin
Main Building, Room 302
Austin, Texas 78712
Attention: Technology Licensing Specialist
Phone: (512) 471-2995
FAX: (512) 475-6894

with a copy to

The University of Texas System
Office of General Counsel
201 West 7th Street
Austin, Texas 78701
Attn: Intellectual Property Section

or in the case of PARTICIPANT to

Attn: _____
Phone: _____
FAX: _____

or at such other addresses as may be given from time to time in accordance with the terms of this notice provision.

14.4 The Parties acknowledge that this Agreement and the performance thereof are subject to compliance with any and all applicable United States laws, regulations, or orders, including those that may relate to the export of technical data, and the Parties agree to comply with all such laws, regulations and orders, including, if applicable, all requirements of the International Traffic in Arms Regulations and/or the Export Administration Act, as may be amended. Each Party further agrees that if the export laws are applicable, it will not disclose or re-export any technical data received under this Agreement to any countries for which the United States government requires an export license or other supporting documentation at the time of export or transfer, unless the Party has obtained prior written authorization from the U.S. Office of Export Control or other authority responsible for such matters.

Generally, each Party agrees that in the event that export controlled information/technology is disclosed, disclosing party shall provide receiving party with sufficient and appropriate information including Export Control Classification Numbers (ECCNs) and/or the Munitions List categories to allow receiving party to properly comply with the export controls regulations. PARTICIPANT maintains an export management system adequate to ensure compliance. PARTICIPANT agrees that it will not at any time take any action which would cause UNIVERSITY or SYSTEM to be in violation of any such laws, orders and regulations.

14.5 This Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of Texas.

14.6 Any controversy or claim arising out of or relating to this contract, or the breach thereof, shall be settled by non-binding arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. If after non-binding arbitration occurs, the dispute is not resolved, the Parties are free to exercise all other legal and equitable rights. Whereas, the UNIVERSITY is a state agency and an educational institution, the applicable constitutional provisions or statutes that govern sovereign immunity shall dictate the appropriate forum and law governing substantive issues.

XV. ORDER OF PRECEDENCE

In the event of any inconsistencies, unless otherwise provided herein, inconsistencies shall be resolved by giving precedence in the following order:

- A. The Research Participation Agreement - Articles I through XIV
- B. Appendices A through F

PARTICIPANT

THE UNIVERSITY OF TEXAS AT AUSTIN

Name: _____

Name: _____

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

APPENDIX A –Scope of Work and Technical Expertise

Extensive analysis and Member Company input have identified three technical focus areas:

- Separations technology development
- Process optimization, control, and safety
- Energy and environmental research

Separations Technology Development

The research will extend and enhance the previous activities of the Separations Research Program as administered by The University of Texas at Austin's (UT-Austin) Center for Energy and Environmental Resources (CEER). New separations technologies will be developed along with models with enhanced predictive capability. Areas of investigation will include distillation, liquid-liquid extraction, adsorption, separations based on chemical complexation, membrane technology, and complex fluid behavior. World-class expertise exists within the host institutions with significant experimental equipment available. The pilot plant facilities at UT-Austin provide unique experimental capabilities which can be utilized for a broad cross-section of research activities.

Process Optimization, Control, and Safety

The effort benefits greatly from the expertise of investigators who combine a fundamental understanding of process technology with advanced computational and model development expertise. State-of-the-art research will promote the development of processes which maximize both profitability and safety. The pilot plant equipment at UT-Austin features state-of-the-art process control capability which permits a wide range of research. The research programs will benefit from interaction with two world-class centers, the Mary Kay O'Connor Process Safety Center at Texas A&M and The Texas-Wisconsin Modeling and Control Consortium. Both organizations are leaders in the development of technologies which enhanced the control and safe operation of chemical processes.

Energy and Environmental Research

Projects will be undertaken which address energy consumption in a variety of processes. The host institutions are leaders in energy research with historically high levels of funding from the US Department of Energy. Research programs targeted at reducing both energy consumption and environmental impact for CO₂ recovery, water purification, and distillation processes are on-going. Initial efforts are also under way for developing novel methods of producing fuels and chemicals from renewable resources. Projects will be determined via the proposal process as described in Appendix F.

Project Managers:

<i>Manager</i>	<i>Area of Expertise</i>
Benny Freeman	Membrane technology for liquid and gas separations
Bruce Eldridge	Vapor-liquid process development and modeling
Carl Laird	Nonlinear programming, optimal process design and operation
Dan Shantz	Inorganic-organic composite membranes for reverse-selective separations
Doug Lloyd	Membrane material development for liquid separations
Frank Seibert	Extraction and distillation experimentation and model development
Gary Rochelle	Separations involving chemical reactions / CO ₂ recovery
Jim Ritter	Adsorption cycle modeling / adsorbent material development
Juergen Hahn	Process modeling, control, and optimization
Keith Johnston	Complex fluid thermodynamics / green solvent development
Ken Hall	Thermophysical fluid property investigation

Kerry Kinney	Biological conversion of contaminants/molecular biology/biofiltration
Mahmoud El-Halwagi	Integrated process design / environmental impact minimization
Sam Mannan	Process safety / risk assessment
Tom Edgar	Advanced process control and optimization

APPENDIX B – Collaboration

Considerable collaboration across disciplines and industries is required for the success of the Process Science and Technology Center (PSTC). The PSTC represents a sharing of Member Company resources to achieve a common set of objectives. Under the consensus direction-setting of the Member Companies, the PSTC design will result in collaboration with key researchers in Texas universities and non-Texas universities, public and private research institutes and labs in the United States and the world, national labs, and other third-party research and development (R&D) providers. Collaboration is a bilateral relationship. The PSTC anticipates that all parties will bring value to the activity and will leverage the resources and funding provided by various sources.

New invention is a given. The technology R&D collaboration of the PSTC is constrained to “pre-competitive” programs. Pre-competitive is literally research outside of – before or after – the competitive space. Collaboration can be short-term and project specific or long-term and strategic.

The University of Texas at Austin, Texas A&M University, and the University of South Carolina (USC) have established a strong working relationship. Furthermore, they share complementary strengths and interests. It is clear that collaboration between these institutions will benefit the PSTC.

The participating institutions will partner with the PSTC, via the execution of subcontracts between UT-Austin and the respective institution, to manage and conduct the technical aspects of the program. Together the partners will seek out other global leaders to be involved in the key technical aspects of the PSTC.

The participating institutions have developed, at the highest levels in each university, the following scenario that will leverage the strengths of each organization. The highlights of this collaboration include the following structure:

- UT-Austin will hold the prime contract for the PSTC and will serve as the Management Organization.
- UT-Austin, Texas A&M, and the USC will collaborate and jointly lead the technical aspects of the PSTC.
- Administrative Office and lab space will be sited in Austin utilizing existing Center for Energy and Environment Resources facilities.
- Additional laboratory space will be made available at Texas A&M and USC.

APPENDIX C – Governance

The structure of the PSTC is an industry-driven organization with technical direction provided by a Member Company **Board of Management (BOM)** and hosted by a university-based **Management Organization**. The PSTC is not a legal entity. Contracts with the PSTC are, in fact, contracts with the Management Organization, and the employees of the PSTC are employees of the Management Organization. Each Member Company of the PSTC will sign a Research Participation Agreement documenting its rights and obligations. A common contract will be executed between each Member Company and the Management Organization; it is the intent of the member companies to work together.

This structure provides a flexible configuration for the PSTC. It allows for scaling of the program set, program funding, and technical scope. With a Management Organization, there is no significant delay or cost in establishing business processes. Because the Management Organization will be a university entity, there will be a broad ability to leverage external funding from the State or Federal government without interfering with the independence of the PSTC. *Nothing in this configuration or the participation agreements will prevent the Members of the PSTC from forming a legal entity or entities external to, or in place of, the Management Organization, and such action will not require approval of the Management Organization.*

Technical direction of the PSTC will be vested in a Board of Management (BOM) comprising one representative from each Member Company participating at the Level B funding level. *The BOM provides the overall vision and technical program direction for each technical program area of the consortium, establishes advisory bodies as necessary, approves strategic and annual technology plans, and reviews progress of PSTC activities.* Although the BOM will strive for consensus decision-making, voting ultimately determines a BOM decision or position. Each BOM member will have one equal vote. The BOM will work closely with the Management Organization, whose Principal Investigator will serve as a non-voting member on the BOM. A table defining voting criteria is shown below;

<i>Voting Topic</i>	<i>Decision Criteria</i>
Adding Project Managers	Two thirds majority
Addition of a Technical Area Focus Area/Subcommittee	Two thirds majority
Change of Project Term Requirement	Simple majority
Project proposal solicitation deadlines	Simple majority
Membership dues increases	Two thirds majority
BOM Chairman and Vice-Chairman	Simple majority
Dissolution of PSTC	Unanimous
PSTC inventions that PSTC should pay to patent	Simple majority

Responsibilities of the Board of Management

- BOM conducts operations as follows:
 - o Each Member Company selects one individual (plus an alternate) to participate on the BOM.
 - o All Members have an equal vote (one vote per Member Company).
 - o Principal Investigator (PI) of Management Organization serves as an exofficio non-voting member of the BOM.
 - o A Chairman and Vice-Chairman of the BOM are elected for a one-year term, with the Vice-Chairman becoming Chairman in the subsequent year to ensure continuity.
 - o BOM meetings will be set by the BOM.
- Provides overall technical guidance for the PSTC.
- Sets technical program direction, establishes advisory bodies, and reviews progress of PSTC activities.
- Reviews and oversees research goals and/or targets and strategic/annual technology plans prepared by the Management Organization.

- Maintains close communication and provides input to the Management Organization.
- Reviews and decides on patent applications for UNIVERSITY filing.
- Provides oversight of program deliverables and accomplishments, access to member technical data and information necessary for project success, and technology exchange between the PSTC and Member Companies.
- Overseas operation of technical focus area subcommittees.
- Reviews and decides on changes to project term requirements.
- Reviews and decides on UNIVERSITY's proposed changes to membership dues.

Management

The University of Texas at Austin will serve as the **Management Organization** to host the PSTC. The **Principal Investigator** will manage PSTC operations. The **Project Managers** will direct and manage research programs. The Principal Investigator will be an employee of the Management Organization. The Principal Investigator will be selected by the Management Organization and is responsible for all ongoing program and project management activities, budgets, contracts, purchases, and operations.

Principal Investigator:

- Manages all technical program activities, as well as the financial and institutional operations
 - o Principal Investigator (PI) is responsible to the BOM for all PSTC technical activity and serves as an exofficio non-voting member on the BOM. Convenes and facilitates BOM meetings.
 - o Project Managers report to the PI and are responsible for all aspects of the technical execution of a program, including definition, budget, deliverables, and technology transfer. Project Managers should have explicit technical competency within the domain of their projects.
- With approval of the Management Organization, the Principal Investigator
 - o Has authority to initiate and manage program contracts, purchases, and payment obligations.
 - o Has authority to initiate spending for facilities, equipment, and other program support infrastructure.
 - o Provides regular reporting of PSTC operations to Members.
 - o Manages all business operational activities associated with the PSTC, including finances and human resources, travel, meetings, and workshops, publication of the annual report, IT, including a PSTC Web site, technology transfer, and the like.
 - o Files patent applications in accordance with BOM vote.
 - o Propose external funding initiatives
 - o Administer subcontracts with collaborating institutions.
- Proposes changes to project term requirements to BOM.
- Proposes changes to membership dues to BOM.

APPENDIX D – Budget and Dues

The baseline budget of the PSTC will be established every year by the Management Organization as a function of program needs. The technical program and operational costs will be accommodated by the baseline budget. The PSTC has a strategic goal to provide all Members with leverage on their investment through the collaborative effect of the combined dues.

The Management Organization, in collaboration with the BOM, will set the dues level. The dues are for a twelve month period and payable annually on January 1 to the Management Organization. Initially, two dues levels will be available to member companies with associated rights.

Level A - A minimum contractual payment of \$ 15,000 will be required to participate in the center activities. This entry fee will be directed by the sponsoring organization to one of the three focus areas. At this level of participation and as per Articles of the Research Participation Agreement, the sponsor receives rights to participate in all areas of the program and to receive all technical information generated by all the program researchers.

Level B – In addition to the rights of the Level A participants – an additional contractual contribution of \$ 25,000 to a specific Program Manager or project entitles the participating organization to have a representative on the BOM and the focus area steering subcommittee of their choice. Further contributions of \$ 25,000 will permit membership on additional focus group steering subcommittees.

The Member Companies will commit to the PSTC collaboration for an initial period of two years. This initial commitment will ensure smooth start-up and realistic measurement of the consortium's success.

The BOM will formally review PSTC continuation after the initial program year, with any necessary remediation occurring in the second year. The exit of a single company does not terminate the PSTC. The BOM may vote to change the term requirements.

APPENDIX E – Staffing

The Management Organization of the PSTC is responsible for staffing the PSTC. Salary levels will be established within the Management Organization. While the PSTC will require some non-technical staff positions, it is anticipated that a portion of the administrative workload will be leveraged from within the Management Organization.

A significant portion of PSTC project work will be performed through subcontracts with other universities and other public or private research institutions. These contract researchers are not considered employees or staff of the PSTC, and the costs associated with their employment in their respective institutions are covered by both the contract payments and potential in-kind (leveraged) contributions from those institutions.

APPENDIX F –Proposal Process

Pre-competitive Research Proposals

The PSTC will conduct and sponsor leading-edge, pre-competitive research and development to drive advanced technology improvements to enhance the productivity and competitiveness of process technology industries. The initial focus of the PSTC will be on separations technology development; process optimization, control, and safety; and energy and environmental research. By definition, these areas of pre-competitive research require cross-disciplinary, cross-industry collaboration and new invention. As such, a vital first step will be to solicit ideas and proposals from leading thinkers.

Proposals

The PSTC will invite applications for innovative project proposals from the Center's Project Managers. Critical to success will be cross-disciplinary, inter-institutional collaborations among investigators. Project funding is intended to catalyze the formation of many new *high-risk exploratory projects* and to advance previously unfunded interdisciplinary collaborations toward achieving extended funding through additional, external resources. Project managers submit project proposals to PSTC one month in advance of the Technical Area Subcommittees meeting date. Proposals are distributed to the subcommittee members via E-mail and are posted on the PSTC web site.

Proposal Guidelines

The PSTC encourages proposals to be prepared under the following guidelines. The total page limit is 10 pages using Arial 11-point font with one-inch margins. Submit the application as a single document, preferably in PDF format.

1. **Title and Affiliations:** Provide the name, title, and affiliation of those involved in the proposal
2. **Abstract:** Prepare a one-paragraph abstract that describes the project
3. **Budget:** Identify the total budget required to perform the work and any leveraged funding
4. **Project Plan:** Identify the specific aims of the project, and describe preliminary research that has already occurred
5. **Resources:** List the equipment, laboratories, and people that are available to be used within your proposal
6. **Resumes:** Provide the resume of main project contributors (not included in page limit; however, each resume cannot exceed 2 pages)
7. **References:** Identify appropriate references

Proposal Evaluation Criteria

Responders to the solicitation will be evaluated against the following criteria, in descending order of importance:

1. Technical approach
2. Potential contribution and relevance to the PSTC mission
3. Relevant experience in developing systems
4. Management approach
5. Cost

Because no common work statement exists, each proposal will be evaluated on its own merit as it relates to the program.

The PSTC, through the Technical Focus Area Subcommittees, intends to issue awards on the basis of the optimal combination of proposals that offers the best overall value to the PSTC sponsors. The PSTC reserves the right to award without discussion. The PSTC further reserves the right to select for award some portion(s) of the proposals received in response to this solicitation. In that event, the PSTC may select for negotiation all, or portions, of a given proposal. The PSTC may incrementally fund any award issued under this solicitation.

Proposal Review Structure and Process

The PSTC has developed a structure and process that will be used for each solicitation. The major components of the process are as follows:

1. Technical Area Focus Subcommittees:
 - a. In accordance with Article IV of the Research Participation Agreement, each BOM Member Company electing payment per 4.1.2. and 4.1.3. selects one individual (plus an alternate) to participate on one of the Technical Area Focus Subcommittees.
 - b. Principal Investigator (PI) of Management Organization serves as an exofficio non-voting member of each Subcommittee.
 - c. A Chairman and Vice-Chairman of the Subcommittees are elected for a one-year term, with the Vice-Chairman becoming Chairman in the subsequent year to ensure continuity.
 - d. Subcommittee meetings will be set by the BOM.
2. Review/Selection Process:
 - a. Each company representative receives 100 points to allocate to proposed projects.
 - b. Available Technical Area Focus Subcommittee funds are allocated to proposals based on total Technical Area Focus Subcommittee point allocations.

Intellectual Property Rights

To the extent a Project proposal is funded by the PSTC in accordance with the process set forth above, it is understood that UNIVERSITY and ALL PARTICIPANTS shall have rights in and to the project deliverables. In consideration of the funds granted to the recipient, UNIVERSITY and ALL PARTICIPANTS shall have license rights as granted in Article X of the Research Participation Agreement and in the case of UNIVERSITY publication rights as granted in Article VII.