

**Single Laboratory Single Participant
ChemCatBio CRADA**

**STEVENSON-WYDLER (15 U.S.C. 3710a)
COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT
(hereinafter “CRADA”) No. _____
between**

**as Operator of _____ Laboratory
under its U. S. Department of Energy Contract
No. DE- _____
(hereinafter “Contractor”)
and**

**<Participant>
<Address>
<City, State, Zip>
(hereinafter “Participant”),**

both being hereinafter jointly referred to as the “Parties.”

ARTICLE I: DEFINITIONS

- A. “Background Intellectual Property” means the Intellectual Property identified by the Parties in Annex C, Background Intellectual Property, which was in existence prior to or is first produced outside of this CRADA, except that in the case of inventions in those identified items, the inventions must have been conceived outside of this CRADA and not first actually reduced to practice under this CRADA to qualify as Background Intellectual Property.
- B. “Computer Software” means (i) computer programs that comprise a series of instructions, rules, routines, or statements, regardless of the media in which recorded, that allow or cause a computer to perform a specific operation or series of operations; and (ii) recorded information comprising source code listings, design details, algorithms, processes, flow charts, formulas, and related material that would enable the computer program to be produced, created, or compiled.
- C. “Contracting Officer” means the DOE employee administering the Contractor’s DOE contract.
- D. “DOE” means the Department of Energy, an agency of the Federal Government.

E. “Foreign Interest” is defined as any of the following: A foreign government or foreign government agency; Any form of business enterprise organized under the laws of any country other than the United States or its possessions; Any form of business enterprise organized or incorporated under the laws of the United States, or a State or other jurisdiction within the United States, which is owned, controlled, or influenced by a foreign government, agency, firm, corporation or person; or Any person who is not a U.S. citizen.

F. “Foreign ownership, control, or influence (FOCI)” means the situation where the degree of ownership, control, or influence over a Participant by a foreign interest is such that a

reasonable basis exists for concluding that compromise of classified information or special nuclear material, as defined in 10 CFR Part 710.5, may result.

- G. “Generated Information” means information including data, produced in the performance of this CRADA.
- H. “Government” means the Federal Government of the United States of America and agencies thereof.
- I. “Intellectual Property” means patents, trademarks, copyrights, mask works, Protected CRADA Information, and other forms of comparable property rights protected by Federal law and foreign counterparts, except trade secrets.
- J. “Proprietary Information” means information, including data, which is developed at private expense outside of this CRADA, is marked as Proprietary Information, and embodies (i) trade secrets or (ii) commercial or financial information which is privileged or confidential under the Freedom of Information Act (5 U.S.C. 552(b)(4)).
- K. “Protected CRADA Information” means Generated Information which is marked as being Protected CRADA Information by a Party to this CRADA and which would have been Proprietary Information had it been obtained from a non-Federal entity.
- L. “Subject Invention” means any invention of a Party conceived or first actually reduced to practice in the performance of work under this CRADA.
- M. “Contractor” means [include relevant ChemCatBio lab members and their respective information] under U. S. Department of Energy Contract No(s).

ARTICLE II: STATEMENT OF WORK, TERM, FUNDING AND COSTS

- A. Annex A, the Statement of Work is an integral part of this CRADA.
- B. Notices: The names, postal addresses, telephone and email addresses for the Parties are provided in the Statement of Work. Any communications required by this CRADA, if given by postage prepaid first class U.S. Mail or other verifiable means addressed to the Party to receive the communication, shall be deemed made as of the day of receipt of such communication by the addressee, or on the date given if by email. Address changes shall be made by written notice and shall be effective thereafter. All such communications, to be considered effective, shall include the number of this CRADA.
- C. The effective date of this CRADA shall be the latter date of (1) the date on which it is signed by the last of the Parties, or (2) the date on which it is approved by DOE. The work to be performed under this CRADA shall be completed within _____ months/years from the effective date.
- D. The Participant's estimated contribution is \$ _____. The Government's total estimated contribution, which is provided through the Contractor's contract with DOE, is \$ _____, subject to available funding. An estimated breakdown of costs is set forth in Annex A, Statement of Work. For CRADAs which include funding on a funds-in basis, sufficient advance funds shall be obtained to maintain approximately a 90-day advance of funds during the entire period of work covered by the funds provided by the Participant under the CRADA. No work will begin before the receipt of a cash advance and all required DOE approvals. Failure of Participant to provide the necessary advance funding is cause for termination of the CRADA in accordance with the Termination article of the CRADA.

- E. No Party shall have an obligation to continue or complete performance of its work at a contribution in excess of its estimated contribution as contained in Article II.D., above, including any subsequent amendment.

ARTICLE III: PERSONAL PROPERTY

All tangible personal property produced or acquired under this CRADA (specifically excluding Intellectual Property rights, Background Intellectual Property, and Proprietary Information) shall become the property of the Participant or the Government, depending upon whose funds were used to obtain it. Personal property shall be disposed of as directed by the owner at the owner's expense. There shall not be any jointly funded property under this CRADA except by the mutual agreement of the Parties. The Participant shall maintain records of receipts, expenditures, and the disposition of all Government property in its custody related to the CRADA.

ARTICLE IV: DISCLAIMER

THE GOVERNMENT, THE PARTICIPANT, AND THE CONTRACTOR MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE CONDITIONS OF THE RESEARCH OR ANY INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DEVELOPED UNDER THIS CRADA, OR THE OWNERSHIP, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THE RESEARCH OR RESULTING PRODUCT. ALL WORK PERFORMED HEREUNDER BY EITHER PARTY IS PROVIDED "AS-IS" WITH ALL FAULTS, ERRORS AND OMISSIONS. NEITHER THE GOVERNMENT, THE PARTICIPANT, NOR THE CONTRACTOR SHALL BE LIABLE FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ATTRIBUTED TO SUCH RESEARCH OR RESULTING PRODUCT, INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DEVELOPED UNDER THIS CRADA.

ARTICLE V: PRODUCT LIABILITY

Except for any liability resulting from any negligent acts, willful misconduct or omissions of the Contractor, the Participant indemnifies the Government and the Contractor for all damages, costs, and expenses, including attorney's fees, arising from personal injury or property damage occurring as a result of the making, using, or selling of a product, process, or service by or on behalf of the Participant, its assignees, or licensees, which was derived from the work performed under this CRADA. In respect to this article, neither the Government nor the Contractor shall be considered assignees or licensees of the Participant, as a result of reserved Government and Contractor rights. The indemnity set forth in this paragraph shall apply only if the Participant shall have been informed as soon and as completely as practical by the Contractor and/or the Government of the action alleging such claim and shall have been given an opportunity, to the maximum extent afforded by applicable laws, rules, or regulations, to participate in and control its defense, and the Contractor and/or the Government shall have provided all reasonably available information and reasonable assistance requested by the Participant. No settlement for which the Participant would be responsible shall be made without the Participant's consent unless required by final decree of a court of competent jurisdiction.

ARTICLE VI: RIGHTS IN SUBJECT INVENTIONS

Wherein DOE has granted the Participant and the Contractor the right to elect to retain title to their respective Subject Inventions, and wherein the Participant has the option to choose an exclusive license, for reasonable compensation, for a pre-negotiated field of use to the Contractor's Subject Inventions,

- A. Each Party shall have the first option to elect to retain title to any of its Subject Inventions and that election shall be made:
- (1) for the Participant, within 12 months of disclosure of the Subject Invention to DOE or
 - (2) for the Contractor, within the time period specified in its prime contract for electing to retain title to Subject Inventions.

However, such election shall occur not later than 60 days prior to the time when any statutory bar might foreclose filing of a U.S. Patent application. The electing Party has one year to file a patent application after such election unless any statutory bar exists. If a Party elects not to retain title to any of its Subject Inventions or fails to timely file a patent application, the other Party shall have the second option to elect to obtain such title. The other Party shall have the second option to elect to obtain title to such Subject Invention within one year of notification and file a patent application within one year after such election and no less than 30 days prior to a statutory bar, if any. For Subject Inventions that are joint Subject Inventions of the Contractor and the Participant, title to such Subject Inventions shall be jointly owned by the Contractor and the Participant.

B. The Parties agree to assign to DOE, as requested by DOE, the entire right, title and interest in any country to each Subject Invention where the Parties

- (1) do not elect pursuant to this article to retain/obtain such rights, or
- (2) elect to retain/obtain title to a Subject Invention but fail to have a patent application filed in that country on the Subject Invention or decide not to continue prosecution or not to pay any maintenance fees covering the Subject Invention.

If DOE is granted a patent on Participant's Subject Invention, the Participant may request a non-exclusive license and DOE will determine whether to grant such license pursuant to statutory authority.

C. The Parties acknowledge that the Government retains a nonexclusive, nontransferable, irrevocable, paid-up license to practice or to have practiced for or on behalf of the United States every Subject Invention under this CRADA throughout the world. The Parties agree to execute a Confirmatory License to affirm the Government's retained license.

D. The Parties agree to disclose to each other each Subject Invention which may be patentable or otherwise protectable under U.S. patent law. The Parties agree that the Contractor and the Participant will disclose their respective Subject Inventions to DOE and each other within two (2) months after the inventor first discloses the Subject Invention in writing to the person(s) responsible for patent matters of the disclosing Party.

These disclosures should be in sufficiently complete technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose, and operation of the Subject Invention. The disclosure shall also identify any known actual or potential statutory bars, e.g., printed publications describing the Subject Invention or the public use or "on sale" of the Subject Invention. The Parties further agree to disclose to each other any subsequently known actual or potential statutory bar that occurs for a Subject Invention disclosed but for which a patent application has not been filed. All Subject Invention disclosures shall be marked as confidential under 35 U.S.C. 205.

E. The Parties agree to include within the beginning of the specification of any U.S. patent applications and any patent issuing thereon (including non-U.S. patents) covering a Subject Invention, the following statement: "This invention was made under a CRADA (identify CRADA number) between (name the Participant) and (name the laboratory) operated for the United States Department of Energy. The Government has certain rights in this invention."

F. The Parties acknowledge that DOE has certain march-in rights to any Subject Inventions in accordance with 48 CFR 27.304-1(g) and 15 U.S.C. 3710a(b)(1)(B) and (C).

G. The Participant agrees to submit, for a period of five (5) years from the date of termination or completion of this CRADA and upon the request of DOE, a nonproprietary report no more frequently than annually on efforts to utilize any Intellectual Property arising under the CRADA including information regarding compliance with the U.S. Competitiveness provision of this CRADA.

H. For a period of 6 months after a Contractor Subject Invention is disclosed to the Participant, the Participant shall have the opportunity, pursuant to 15 U.S.C. 3710a, to obtain a license to Contractor's Subject

Inventions. In particular, the Participant shall have the option to obtain, up to and including, an exclusive license to Contractor's Subject Inventions within a defined field of use on agreed-upon reasonable terms and conditions, including the payment of negotiated license fees and royalties.

- I. Each Party may use the other Party's Background Intellectual Property identified in Annex C of this CRADA solely in performance of research under the Statement of Work. This CRADA does not grant to either Party any option, grant, or license to commercialize, or otherwise use the other Party's Background Intellectual Property. Licensing of Background Intellectual Property, if agreed to by the Parties, shall be the subject of the separate licensing agreements between the Parties. Each Party has used reasonable efforts to list all relevant Background Intellectual Property, but Background Intellectual Property may exist that is not identified. Neither Party shall be liable to the other Party because of failure to list Background Intellectual Property.

ARTICLE VII: RIGHTS IN DATA

- A. The Parties agree that they shall have no obligations of nondisclosure or limitations on their use of, and the Government shall have unlimited rights in, all Generated Information produced and information provided by the Parties under this CRADA, except for restrictions on data provided for in this Article or data disclosed in a Subject Invention disclosure being considered for Patent protection.
- B. **PROPRIETARY INFORMATION**: Each Party agrees to not disclose Proprietary Information provided by the other Party to anyone other than the CRADA Participant, Contractor, and their respective subcontractors, agents, and consultants (if any) authorized to perform work under this CRADA without written approval of the providing Party, except to Government employees who are subject to the statutory provisions against disclosure of confidential information set forth in the Trade Secrets Act (18 U.S.C. 1905). Government employees shall not be required to sign non-disclosure agreements due to the provisions of the above-cited statute.

If Proprietary Information is orally disclosed to a Party, it shall be identified as such, orally, at the time of disclosure and confirmed in a written summary thereof, appropriately marked by the disclosing Party, within thirty (30) days as being Proprietary Information. All Proprietary Information shall be protected for a period of five (5) years from the effective date of this CRADA, unless such Proprietary Information becomes publicly known without the fault of the recipient, shall come into recipient's possession without breach by the recipient of any of the obligations set forth herein, can be demonstrated by the recipient by written record that it is known prior to receipt from disclosing party, is disclosed by operation of law, or is independently developed by recipient's employees who did not have access to such Proprietary Information.

Upon request, Proprietary Information in tangible form shall be returned to the disclosing Party at the disclosing Party's expense or destroyed with a certificate of destruction submitted to the disclosing Party upon termination or expiration of this CRADA, or during the term of this CRADA upon request by the disclosing Party, except that the receiving Party may keep an archival copy of the Proprietary Information for the sole purpose of verifying the receiving Party's compliance with this Agreement.

- C. **PROTECTED CRADA INFORMATION**: Except where a Participant's Federal funding agreement prohibits such protection, each Party may designate and mark as Protected CRADA Information any Generated Information produced by its employees, which meets the definition in Article I and, with the agreement of the other Party, so designate any Generated Information produced by the other Party's employees which meets the definition in Article I. All such designated Protected CRADA Information shall be appropriately marked.

For a period of five (5) years from the date Protected CRADA Information is produced, the Parties agree not to further disclose such information and to use the same degree of care and discretion, but no less than reasonable care and discretion, to avoid disclosure, publication or dissemination of such information to a third party, as the Party employs for similar protection of its own information which it does not desire to disclose, publish, or disseminate except:

- (1) as necessary to perform this CRADA;
- (2) as published in a patent application or an issued patent before the protection period expires;
- (3) as provided in Article X [REPORTS AND PUBLICATIONS];
- (4) as requested by the DOE Contracting Officer to be provided to other DOE facilities for use only at those DOE facilities solely for Government use only with the same protection in place and marked accordingly.
- (5) when a specific maximum time period for delaying the public release of data is authorized in the terms of a Government funding agreement used to fund this CRADA and that maximum period is shorter than the time period set forth in this Article for protecting Protected CRADA Information;
- (6) to existing or potential licensees, affiliates, customers, or suppliers of the Parties in support of the commercialization of the technology with the same protection in place. Disclosure of the Participant's Protected CRADA Information under this subparagraph shall only be done with the Participant's consent; or
- (7) as mutually agreed to by the Parties in advance.

The obligations of this paragraph shall end sooner for any Protected CRADA Information which shall become publicly known without fault of either Party, shall come into a Party's possession without breach by that Party of the obligations of paragraph above, or shall be independently developed by a Party's employees who did not have access to the Protected CRADA Information. Federal Government employees who are subject to 18 USC 1905 may have access to Protected CRADA Information and shall not be required to sign non-disclosure agreements due to the provisions of the statute.

- D. **COPYRIGHT**: The Parties may assert Copyright in any of their Generated Information. Assertion of Copyright generally means to enforce or give an indication of an intent or right to enforce such as by marking or securing Federal registration. Copyrights in co-authored works by employees of the Parties shall be held jointly, and use by either Party shall be without accounting.
- E. **COMPUTER SOFTWARE**: For all Computer Software produced in the performance of this CRADA, the Parties shall provide an Announcement Notice, AN 241.4 Software Announcement Notice as set forth in Annex B, along with providing the source code, the executable object code and the minimum support documentation needed by a competent user to understand and use the Computer Software to DOE's Energy Science and Technology Software Center (ESTSC) via www.osti.gov/estsc. The source code of the Computer Software may be marked as Protected CRADA Information in accordance with this Article; however, the Government's use of the executable object code is governed by the applicable license below.

For Generated Information that is Copyrighted Computer Software produced by a Party, the Party shall inform DOE's ESTSC when it abandons or no longer commercializes the Copyrighted Computer Software. Until such notice to ESTSC, the Government has for itself and others acting in its behalf, a royalty-free, nontransferable, nonexclusive, irrevocable worldwide copyright license to reproduce, prepare derivative works, and perform publicly and display publicly, by or on behalf of the Government. (narrow license) After the Party owning the Copyrighted Computer Software abandons or no longer commercializes the Copyrighted Computer Software, the Government has for itself and others acting on its behalf, a royalty-free, nontransferable, nonexclusive, irrevocable worldwide copyright license to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government. (broad license)

For all other Generated Information where a Party asserts copyright in copyrightable works produced in the performance of this CRADA, the Government has for itself and others acting on its behalf, a royalty-free, nontransferable, nonexclusive, irrevocable worldwide copyright license to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government, subject to the restrictions this Article places on publication of Proprietary Information and Protected CRADA Information.

The Parties agree to place Copyright and other notices, as appropriate for the protection of Copyright, in human-readable form onto all physical media, and in digitally encoded form in the header of machine-readable information recorded on such media such that the notice will appear in human-readable form when the digital data are off loaded or the data are accessed for display or printout.

ARTICLE VIII: U.S. COMPETITIVENESS

The Parties agree that a purpose of this CRADA is to provide substantial benefit to the U.S. economy.

- A. In exchange for the benefits received under this CRADA, the Participant therefore agrees to the following:
- (1) Products embodying Intellectual Property developed under this CRADA shall be substantially manufactured in the United States, and
 - (2) Processes, services, and improvements thereof which are covered by Intellectual Property developed under this CRADA shall be incorporated into the Participant's manufacturing facilities in the United States either prior to or simultaneously with implementation outside the United States. Such processes, services and improvements, when implemented outside the United States, shall not result in reduction of the use of the same processes, services or improvements in the United States.
- B. The Contractor agrees to a U.S. Industrial Competitiveness clause in accordance with its prime contract with respect to any licensing and assignments of its Intellectual Property arising from this CRADA, except that any licensing or assignment of its intellectual property rights to the Participant shall be in accordance with the terms of paragraph A of this Article.
- C. If the Participant later finds that it cannot meet the requirements of Paragraph A above, the Participant will submit a plan for providing net benefit to the US economy to DOE. If such plan is approved by DOE, it shall be incorporated into this CRADA by an amendment to be executed by the Parties. If the CRADA is completed or terminated and DOE approves of the plan, the DOE Contracting Officer shall issue an approval letter.

ARTICLE IX: EXPORT CONTROL

THE PARTIES UNDERSTAND THAT MATERIALS AND INFORMATION RESULTING FROM THE PERFORMANCE OF THIS CRADA MAY BE SUBJECT TO EXPORT CONTROL LAWS AND THAT EACH PARTY IS RESPONSIBLE FOR ITS OWN COMPLIANCE WITH SUCH LAWS. EXPORT LICENSES OR OTHER AUTHORIZATIONS FROM THE U.S. GOVERNMENT MAY BE REQUIRED FOR THE EXPORT OF GOODS, TECHNICAL DATA OR SERVICES UNDER THIS AGREEMENT. THE PARTIES ACKNOWLEDGE THAT EXPORT CONTROL REQUIREMENTS MAY CHANGE AND THAT THE EXPORT OF GOODS, TECHNICAL DATA OR SERVICES FROM THE U.S. WITHOUT AN EXPORT LICENSE OR OTHER APPROPRIATE GOVERNMENTAL AUTHORIZATION MAY RESULT IN CRIMINAL LIABILITY.

The Participant has a continuing obligation to provide the Contractor written notice of any changes in the nature and extent of Foreign Ownership, Control or Influence over the Participant which would affect the Participant's answers to the previously completed FOCI certification.

ARTICLE X: REPORTS AND PUBLICATIONS

- A. The Parties agree to produce the following deliverables to DOE Office of Scientific and Technical Information (OSTI):
- (1) an initial abstract suitable for public release at the time the CRADA is executed;
 - (2) a final report, upon completion or termination of this CRADA, to include a list of Subject Inventions;
- and

- (3) other scientific and technical information in any format or medium that is produced as a result of this CRADA that is useful to the Government or the public as specified by and upon request from DOE no later than two years from submission of the final report to OSTI.

The Parties acknowledge that the Contractor has the responsibility to timely provide the above information to OSTI. Furthermore, item (2) above should also be provided to the DOE field office.

- B. The Parties agree to secure pre-publication review from each other wherein the nonpublishing Party shall provide within 30 days any written objections to be considered by the publishing Party.
- C. The Parties agree that neither will use the name of the other Party or its employees in any promotional activity, such as advertisements, with reference to any product or service resulting from this CRADA, without prior written approval of the other Party.

ARTICLE XI: FORCE MAJEURE

No failure or omission by the Contractor or the Participant in the performance of any obligation under this CRADA shall be deemed a breach of this CRADA or create any liability if the same shall arise from any cause or causes beyond the control of the Contractor or the Participant, including but not limited to the following, which, for the purpose of this CRADA, shall be regarded as beyond the control of the Party in question: Acts of God, acts or omissions of any government or agency thereof, compliance with requirements, rules, regulations, or orders of any governmental authority or any office, department, agency, or instrumentality thereof, fire, storm, flood, earthquake, accident, acts of the public enemy, war, rebellion, insurrection, riot, sabotage, invasion, quarantine, restriction, transportation embargoes, or failures or delays in transportation.

ARTICLE XII: DISPUTES

The Parties shall attempt to jointly resolve all disputes arising from this CRADA. In the event a dispute arises under this CRADA, the Participant is encouraged to contact the Contractor's Technology Partnerships Ombudsman in order to further resolve such dispute before pursuing third-party mediation or other remedies. If the Parties are unable to jointly resolve a dispute within 60 days, they agree to submit the dispute to a third-party mediation process that is mutually agreed upon by the Parties. To the extent that there is no applicable U.S. Federal law, this CRADA and performance thereunder shall be governed by the state laws of the locale of a court of competent jurisdiction, without reference to that state's conflict of laws provisions.

ARTICLE XIII: ENTIRE CRADA, MODIFICATIONS, ADMINISTRATION AND TERMINATION

- A. This CRADA with its annexes contains the entire agreement between the Parties with respect to the subject matter hereof, and all prior representations or agreements relating hereto have been merged into this document and are thus superseded in totality by this CRADA.
- B. Any agreement to materially change any terms or conditions of this CRADA or the annexes shall be valid only if the change is made in writing, executed by the Parties hereto, and approved by DOE.
- C. The Contractor enters into this CRADA under the authority of its prime contract with DOE. The Contractor is authorized to and will administer this CRADA in all respects unless otherwise specifically provided for herein. Administration of this CRADA may be transferred from the Contractor to DOE or its designee with notice of such transfer to the Participant, and the Contractor shall have no further responsibilities except for the confidentiality, use and/or nondisclosure obligations of this CRADA.
- D. This CRADA may be terminated by either Party upon thirty (30) days written notice to the other Party. If Article II provides for advance funding, the Contractor may also terminate its participation in this CRADA in the event of failure by the Participant to provide the necessary advance funding.

In the event of termination by either Party, each Party shall be responsible for its share of the costs incurred through the effective date of termination, as well as its share of the costs incurred after the effective date of termination, and which are related to the termination.

The confidentiality, use, and/or non-disclosure obligations of this CRADA shall survive any termination of this CRADA, as well as provisions of this CRADA which would naturally survive termination or expiration of this CRADA.

Approval:

FOR CONTRACTOR:

FOR PARTICIPANT:

BY _____

BY _____

NAME _____

NAME _____

TITLE _____

TITLE _____

DATE _____

DATE _____

[Remove DOE signature line if using MSW process]

DOE APPROVAL FOR NREL TO ENTER
INTO THE AGREEMENT:

BY _____

NAME _____

TITLE _____

DATE _____

ANNEX A

STATEMENT OF WORK

A. NON-PROPRIETARY ABSTRACT

(Please provide a brief non-proprietary, non-sensitive description of work to be performed under this CRADA for reporting to OSTI. This should not exceed 800 characters)

B. PURPOSE

(A one or two sentence statement of project purpose.)

Reasons for Cooperation:

(Briefly describe each party's interests and strengths and how they are complementary with respect to developing the CRADA technology.)

C. SCOPE OF WORK

Technical Objective:

(Describe the technical goals of the project.)

Phases/Tasks of the Project, Duration, and Responsible Parties:

(Describe the phases/tasks of the project, if appropriate. Identify the individual tasks within each phase (if applicable) in table format. Subtasks may also be included. Subtasks should provide enough detail so that progress can be easily tracked. (See suggested table layout below.) The duration and responsible party for each task/subtask should be listed. In the section following the table, provide a discussion of the objective of the task and the deliverable that will be produced as a result of the task.)

Phase No.	Task No.	Task Name	Duration (Months)		Responsible Party
			(Start)	(Finish)	

Task Descriptions and Deliverables:

Task 1:

Discussion:

Contractor Deliverables:

Participant Deliverables:

Task 2:

Discussion:

Contractor Deliverables:

Participant Deliverables:

CRADA (Consortium) –

ChemCatBio SingleLab SingleParticipant (10-8-2020)

Task 3:

Discussion:

Contractor Deliverables:

Participant Deliverables:

Task 4:

Discussion:

Contractor Deliverables:

Participant Deliverables:

Task 5:

Discussion:

Contractor Deliverables:

Participant Deliverables:

Final Deliverable from both Parties is a report addressing objectives and deliverables. Contractor will deliver report to OSTI.

Duration of Entire Project:

(Express, in months, the proposed length of the project from start to finish.)

D. PROPERTY

List any tangible property to be produced or purchased, who will pay for it and who will own it as required under Article III of the CRADA.

Contractor:

Participant:

Note: If any materials or equipment will be transferred out from Contractor(s) to the Participant, a list of all equipment, identify piece, and identifying numbers (serial, etc.) must be identified in the Statement of Work. Contractor Property Management needs to be notified with a copy of the Statement of Work.

Any questions concerning the government property provided, acquired, or used in the performance of this CRADA should be addressed to the following e-mail address and/or telephone number:

_____. In addition, the Property Representative is authorized to take any action necessary to comply with the Federal Property Management Regulations, DOE Property Management Regulations, the Contractor Property Management Manual and the terms of the CRADA regarding the appropriate acquisition, use, loss, replacement, transfer or return of government-furnished property/CRADA-acquired property.

E. TERM, FUNDING AND COSTS

The Participant's estimated contribution is \$ _____. The Government's estimated contribution, which is provided through the Contractor's contract with DOE, is \$ _____, subject to available funding. The total value of this CRADA is estimated to be \$ _____.

F. FUNDING TABLE (all \$ in K)

Base CRADA

Funding	Project Year 1	Project Year 2	Project Year 3	Project Year 4	Project Year 5	TOTALS
Government						
DOE						
Other						
Total Govt.						
Participant						
In-Kind						
Funds-In						
FAC						
Total Participant						
TOTAL CRADA Value						

**G. SPECIAL CONSIDERATIONS
OFFICIAL AND TECHNICAL POINT OF CONTACT(S):**

Participant

Participant Official POC:

Name:

Address:

Telephone:

Wk:

Cell:

E-mail:

Participant Technical POC:

Name:

Address:

Telephone:

Wk:

Cell:

E-mail:

Contractor

Contractor Official POC:

Name:

Address:

Telephone:

Wk:

Cell:

E-mail:

Contractor Technical POC:

Name:

Address:

Telephone:

Wk:

Cell:

E-mail:

ANNEX B

DESCRIPTION OF EXPANDED ABSTRACT OF COPYRIGHTED COMPUTER SOFTWARE

Energy Science and Technology Software Center

(Note: The abstract submittal requirement will be in accordance with the current requirements and guidelines of the Energy Science and Technology Software Center. The following is the current abstract format.)

Abstract Format Description

(Character limit for any one field: 2,000)

(Character limit for all information: 9,000)

Text only, no diagrams or flowcharts

Due to the differences in size and complexity among software packages and the corresponding differences in their respective documentation requirements, a specific form for the required Abstract document has not been provided. Instead, this Abstract Format Description contains a listing of the data elements required for the Abstract and a brief description of each data element. Please note that each of the listed data elements is REQUIRED, and a response for each data element MUST be included in the completed abstract document.

1. **Identification.** Provide the following two fields to be used to uniquely identify the software. The software acronym plus the short or KWIC (keywords in context) title will be combined to be used as the identification of the software.

Software Acronym (limit 20 characters). The name given to the main or major segment of module packaged usually becomes the name of the code package. If an appropriate name is not obvious, invent one which is related to the contents.

Short or KWIC title (limit 80 characters). This title should tell something of the nature of the code system: calculational method, geometry, or any feature that distinguishes this code package from another. It should be telegraphic in style, with no extraneous descriptions, but rather a string of keywords and phrases. The word "code" (alone) and "program" do not belong in a description of a code "package."

2. **Author Name(s) and Affiliations.** List author(s) or contributor(s) names followed by the organizational affiliation. If more than one affiliation is applicable, please pair authors with their affiliations.
3. **Software Completion Date.** List approximate date(s) that the version of the executable module(s), which will be created by the submitted program modules, was first used in an application environment.
4. **Brief Description.** Briefly describe the purpose of the computer program, state the problem being solved, and summarize the program functions and capabilities. This will be the primary field used for announcement purposes.
5. **Method of Solution.** Provide a short summary of the mathematical methods, engineering principles, numerical algorithms, and procedures incorporated into the software.
6. **Computer(s) for which software is written.** List the computer(s), i.e., IBM3033, VAX6220, VAX, IBM PC, on which this submittal package will run.

7. **Operating System.** Indicate the operating system used, release number, and any deviations or exceptions, i.e., is the operating system "off the shelf" with no modifications, or has the operating system been modified/customized. If modified, note modifications in field 11.
8. **Programming Language(s) Used.** Indicate the programming language(s) in which the software is written along with the approximate percentage (in parentheses) of each used. For example, Fortran IV (95%); Assembler (5%).
9. **Software Limitations.** Provide a short paragraph on any restrictions implied by storage allocation, such as the maximum number of energy groups and mesh points, as well as those due to approximations used, such as implied argument-range limitations. Also to be used to indicate the maximum number of users, etc., or other limitations.
10. **Unique Features of the Software.** Highlight the advantages, distinguishing features, or special capabilities which may influence the user to select this package over a number of similar packages.
11. **Related and Auxiliary Software.** If the software supersedes or is an extension of earlier software, identify the original software here. Identify any programs not considered an integral part of this software but used in conjunction with it (e.g., for preparing input data, plotting results, or coupled through use of external data files). Note similar library software, when known.
12. **Other Programming or Operating Information Restrictions.** Indicate file naming conventions used, e.g., (filename).DOC (DOC is a filename extension normally used to indicate a documentation file), additional subroutines, function libraries, installation support software, or any special routines required for operation of this package other than the operating system and programming language requirements listed in other fields. If proprietary software is required, this should also be indicated.
13. **Hardware Requirements.** List hardware and installation environment requirements necessary for full utilization of the software. Include memory and RAM requirements, in addition to any nonstandard features.
14. **Time Requirements.** Include any timing requirements estimations, both wall clock and computer clock, necessary for the execution of the package. Give enough detail to enable the potential user to estimate the execution time for a given choice of program parameters (e.g., 5-10 min.).
15. **References.** List citations of pertinent publications. List (by author, title, report number, bar code or order number if available, and date). References are to be broken down into two groupings:

Reference documents that are provided with the submittal package.

Any additional background reference materials generally available.

16. Categorization and Keywords.

- a) **Subject Classification Code** - Chosen from the Subject Classification Guide (Appendix E of ESTSC--1), this one-letter code designation is to be supplied by the submitter.
- b) **Keywords** - Submitters should include keywords as taken from the ESTSC thesaurus listing (Appendix F of ESTSC--1). Keywords chosen that are not on the list will be subject to ESTSC approval before being added to the thesaurus. Subsequent revision lists will be available. ESTSC may also add additional keywords to aid in the indexing of the materials.
- *c) **EDB Subject Categories** - Energy-related categories (6 digit) to be assigned by ESTSC per the Energy Science and Technology Database (EDB) schema for a further breakdown of subject area.

***17. Sponsor.** This field, input by ESTSC from information provided on the Primary Submittal Form, represents the program office or division responsible for funding the software.

***18. Material Available.** This field, input by ESTSC, is taken from information provided on the submittal forms. It will be composed of:

a) Contents of the package available for distribution.

b) Computer media quantity.

***19. Status.** This field, input by ESTSC for submittals other than from SIACs, consist of a dialog of information concerning: when the package was announced; subsequent versions and dates; what level of testing has been performed at NESC, SIACs, or ESTSC, etc.

Note: The areas above indicated by asterisk (*) are data elements that will be determined by ESTSC, consisting of data extracted from other information provided within the submittal package.

ANNEX C
BACKGROUND INTELLECTUAL PROPERTY (BIP)

This CRADA does not grant to either Party any option, grant, or license to commercialize, or otherwise use the other Party's Background Intellectual Property. Licensing of Background Intellectual Property, if agreed to by the Parties, shall be the subject of the separate licensing agreements between the Parties. Each Party has used reasonable efforts to list all relevant Background Intellectual Property, but Background Intellectual Property may exist that is not identified. Neither Party shall be liable to the other Party because of failure to list Background Intellectual Property.

Relevant BIP to this CRADA includes but is not limited to the following listing, is subject to change, and includes Intellectual Property developed or owned by the Laboratory and Intellectual Property developed or owned by the CRADA Participant. CRADA Participants are cautioned that rights to the BIP may be limited by existing encumbrances.

LABORATORY:

LAB's final BIP review from the IPM/BIP Team is entered here.

PARTICIPANT:

If the CRADA Participant wishes to identify any BIP it should be listed here.