

**LEHIGH UNIVERSITY**  
**Center for Advanced Materials and Nanotechnology (CAMN)**  
**LIMITED COLLABORATION AGREEMENT**

*[For trial Industry Liaison activities and research/testing with limited scope]*

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Designated Representative: \_\_\_\_\_ Title: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-Mail: \_\_\_\_\_

**CAMN Contacts:** Gene Lucadamo, Industrial Liaison Officer, 610-758-4855, eal7@lehigh.edu  
Deanne Hoenscheid, Business Manager, 610-758-3863, dlh3@lehigh.edu

**Objectives of the Center for Advanced Materials and Nanotechnology (CAMN):**

*Lehigh University (“the University”) is a non-profit, tax-exempt institution. The CAMN furthers the University’s mission of education, research, and the advancement and dissemination of knowledge. The objectives of the CAMN are to identify, promote and engage in strategic areas of research and education in advanced materials and nanotechnology that meet the needs of industry, government and students through interdisciplinary collaborations, productive partnerships, dedicated expertise, accessible leading-edge facilities, and innovative educational programs.*

Interactions with Pennsylvania companies that meet the objectives of the PA Materials Research Science and Engineering Center (MRSEC) program, as agreed upon by the PA Ben Franklin Technology Development Authority, will be used as match for the PA MRSEC award.

1. **Research and Testing Plan:** The research and testing to be conducted under this Agreement consists of the tasks, schedule, and deliverables described in Appendix A. University research facilities and equipment are non-profit, tax-exempt resources and are therefore not available for direct use or rental by Company, Industrial Liaison Members or others for commercial purposes. University shall retain title to all equipment, materials, and supplies purchased and/or fabricated by it under this Agreement.

2. **Terms and Fees:** The term of this Agreement is six (6) months, beginning \_\_\_\_\_ and ending \_\_\_\_\_. A non-refundable access fee of \$500 is required, payable by check to “Lehigh University” sent to: Center for Advanced Materials and Nanotechnology, Lehigh University, 5 E. Packer Avenue, Bethlehem, PA 18015, Attention: Deanne Hoenscheid. The access fee must accompany submission of this signed Agreement. An invoice can be provided upon request. Company will be invoiced monthly for activities associated with this Agreement, including actual costs incurred, plus a 41.28% administrative fee. Appendix B lists the rates for labor and CAMN equipment use. Any sums due and owing by Company to University shall bear interest at the rate of 18% per annum from the date due until paid. Company shall be liable for any and all costs and expenses incurred by University in enforcing this Agreement.

3. **Intellectual Property:** University shall retain all rights and title to all inventions, improvements and/or discoveries which, in performance of the research and testing, are conceived and/or made by faculty, staff or students of University, whether patentable, copyrightable or not. Company shall retain all rights and title to all inventions, improvements and/or discoveries which, in performance of the research and testing, are conceived and/or made solely by Company, whether patentable, copyrightable or not. Joint inventions improvements and/or discoveries which, in performance of the research and testing, are conceived and/or made jointly by University and Company, whether patentable, copyrightable or not, will be jointly owned.

4. **Disclaimer of Warranties; Indemnification:**

A. ANY AND ALL RESULTS OF THE RESEARCH AND TESTING, DELIVERABLES, COLLABORATION, INTELLECTUAL PROPERTY, OR OTHER MATERIALS PROVIDED BY UNIVERSITY UNDER THIS AGREEMENT ARE PROVIDED ON AN "AS IS" BASIS. UNIVERSITY MAKES NO WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, AS TO ANY MATTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, WARRANTIES WITH RESPECT TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PROJECT OR ANY DELIVERABLES. UNIVERSITY MAKES NO WARRANTY OF ANY KIND WITH RESPECT TO FREEDOM FROM PATENT, TRADEMARK, COPYRIGHT OR TRADE SECRET INFRINGEMENT ARISING FROM THE USE OF THE RESULTS OF THE RESEARCH AND TESTING, DELIVERABLES, COLLABORATION, INTELLECTUAL PROPERTY OR OTHER MATERIALS PROVIDED HEREUNDER. UNIVERSITY SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, OR OTHER DAMAGES SUFFERED BY COMPANY OR ANY OTHER PERSON RESULTING FROM THE USE OF ANY RESEARCH AND TESTING, DELIVERABLES OR OTHER MATERIALS. COMPANY AGREES THAT IT SHALL NOT MAKE ANY WARRANTY ON BEHALF OF UNIVERSITY, EXPRESS OR IMPLIED, TO ANY PERSON CONTAINING THE APPLICATION OF THE RESULTS OR ANY DELIVERABLES OF THE RESEARCH AND TESTING CONDUCTED UNDER THIS AGREEMENT.

B. Except and only to the extent that such claims or liabilities are proved to result from the sole negligence of the University, Company agrees to defend, indemnify and hold harmless the CAMN, the University, its trustees, officers, faculty, students, employees, and agents from and against all claims, causes of action, damages, injuries (including bodily injury and death), losses, liabilities, and expenses (including attorney's fees) that may be sustained or claimed to be sustained by Company or any of its employees or agents as a result of activities related to this Agreement, presence at or use of University or CAMN facilities, use of the results or any reports or other materials, any breach of this Agreement, or any act or omission of Company, its employees, subsidiaries, affiliates, contractors, licensees or agents.

5. **Insurance:** Company shall carry the following insurance coverage with companies licensed to do insurance business in the Commonwealth of Pennsylvania and acceptable to University:

- **Commercial General Liability**, including Contractual Liability and Completed Operations/Products Liability coverage, at the minimum limit of \$1,000,000 per project/ per occurrence (depending on degree of risk, other limits may be appropriate) and \$2,000,000 aggregate;
- **Automobile Liability** at \$1,000,000 each accident.
- **Workers' Compensation** at statutory limits and Employer's Liability coverage at a minimum limit of \$1,000,000;
- **Professional Liability** – Whenever work under this Agreement involves professional services excluded from the COMPANY'S Commercial General Liability Insurance and/or it is standard practice in COMPANY'S profession to do so (e.g., Architectural, Engineering, Medical, Internet/Information Technology, etc.), COMPANY shall carry Professional Liability Insurance and/or Technology Errors and Omissions Insurance to protect the University from any liability arising out of the professional obligations performed pursuant to the requirement of the Agreement. COMPANY shall evidence Professional Liability Insurance and/or Technology Errors and Omissions Insurance with a limit of not less than \$1,000,000 per occurrence and \$3,000,000 aggregate (retroactive date prior to work; extended reporting period of 36 months).
- **Pollution Liability** – The University may require this coverage whenever work under this Agreement involves pollution risk to the environment. This coverage is to include sudden and gradual coverage for third-party liability including defense costs and completed operations.

**All policies of insurance described above shall be on a primary basis non-contributory with any other insurance coverages and/or self-insurance carried by the University.**

If the nature and/or scope of the Project justify it, University may require Company to provide evidence of higher coverage limits. The procuring of insurance required under this Article shall not relieve Company of any obligation or liability assumed under this Agreement nor of any obligation or liability imposed by operation of law.

Prior to the University's commencement of the Project pursuant to this Agreement, Company shall furnish University with proof of insurance, satisfactory to University in its sole discretion, evidenced by duly authenticated certificates of insurance, delivered to University, which certificates shall show the insurance type, amount, class of operations covered, effective dates, and dates of expiration of policies. **Such certificates shall evidence that Lehigh University has been named as an Additional Insured and Certificate Holder as Lehigh University CAMN, Whitaker Laboratory, 5 E. Packer Ave., Bethlehem, PA 18015** on all such policies except Workers' Compensation and Professional Liability and shall also contain the following statement or its substantial equivalent:

"The insurance covered by this certificate will not be canceled or materially altered, except after thirty (30) days written notice has been received by Lehigh University."

6. **Compliance with Laws and University Policies:** All research and testing and other activities occurring under this Agreement shall be conducted in such a manner that they comply with all applicable federal, state, and municipal laws and regulations, including but not limited to those applicable to the University as a non-profit, tax-exempt educational institution and as a recipient of federal and Commonwealth of Pennsylvania funding and grants. All research and testing and other activities occurring under this Agreement are also subject to compliance with University policies and procedures, and must be consistent with the University's educational and research missions. Company shall ensure that all of its activities and the activities of its employees and agents are in strict compliance with all applicable federal, state, and municipal laws and regulations, including but not limited to the Occupational Safety and Health Act of 1970 ("OSHA") and all University policies and procedures.

7. **Safety and Training:** While CAMN will inform Company regarding general safety policy prior to being allowed to use University facilities; Company assumes primary responsibility for the personal safety of its employees and agents. Company must operate all equipment in a safe and professional manner, consistent with the operating instructions and laboratory rules. Company represents that its employees and agents are qualified and possess the necessary knowledge and skill to safely use the University's facilities and operate its equipment. University shall have the right to prohibit use by any employee or agent of Company if University, in its sole discretion, believes that Company has breached this representation with regard to any particular employee or agent. If deemed necessary by CAMN, or requested by Company, training on laboratory equipment can be provided by University at rates shown in Appendix B.

8. **Publicity:** Company shall not use the name of University, the Project Manager, or any member of University's Project staff, in any publicity, advertising or news release without the prior written approval of the University's Director of the Office of Research and Sponsored Programs and the Vice President for University Relations or their authorized designees.

9. **Termination:** The Agreement may be terminated at any time by either Company or the University upon fifteen (15) days prior written notice to the other party. Company shall pay all costs and non-cancellable commitments incurred by University through the termination date. Termination of this Agreement by either party for any reason shall not affect the rights and obligations of the parties accrued prior to the termination effective date.

10. **Governing Law:** This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania, without regard to the conflicts of laws doctrine of such state.

11. **Entire Agreement:** This Agreement constitutes and expresses the entire agreement of the parties hereto with reference to the subject matter hereof, with all prior promises, undertakings, representations, agreements, understandings and arrangements relative thereto having been herein merged into this Agreement. Any agreement to change the terms of this Agreement in any way shall be valid only if the change is made in writing and signed by a duly authorized representative of each party hereto.

The parties, intending to be legally bound, have executed this Agreement by their duly authorized representatives on the date indicated below.

**Agreed:**

COMPANY \_\_\_\_\_

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Date: \_\_\_\_\_

LEHIGH UNIVERSITY CENTER FOR ADVANCED MATERIALS AND NANOTECHNOLOGY

Signature: \_\_\_\_\_

Name and Title: Martin P. Harmer, Director, CAMN, Lehigh University

Date: \_\_\_\_\_

**APPENDIX A**

**Research / Testing Tasks:**

**Deliverables:**

**Schedule / Due Date:**

**Cost Information (if applicable):**

**APPENDIX B**  
**To CAMN Limited Collaboration Agreement**

<b>CAMN Industrial Liaison Program</b>		
<b>Labor and Equipment Rates – Partial List</b>		
<i>An administrative fee of 41.28% will be added to these rates</i>		
<i>Rates Subject to Change</i>		
Description	External Rate	
<b>LABOR RATES (plus employee benefits charges of 0%-34.1%):</b>		
Students	25	
Technicians	50-60	
Research Scientists	50-75	
Faculty	100	
<b>EQUIPMENT RATES:</b>		
<b>SEM</b>		
Hitachi 4300 FEGSEM	400	
JEOL 6400F CL SEM	350	
FEI Strata DB 235 FIB	400	
JEOL 733 EPMA Microprobe	350	
FEI XL30 ESEM (Environmental)	400	
FEI 535 SEM	375	
<b>TEM</b>		
JEOL 2000FX TEM	350	
Philips EM 420 TEM	300	
JEOL 2200FS	500	
<b>STEM</b>		
VG HB 501 Scanning TEM	500	
VG HB 603 Scanning TEM	600	
GEMINI-LEO Electron Beam (Nanolithography) – <i>Sherman Fairchild Laboratory</i>	600	
<b>Specimen Prep</b>		
Ion Micro Mill (PIPS)	5/sample	
Evaporator	7	
Plasma Cleaner	1/sample	
Atomic Force Microscopy	150	
Profilometer	30/sample	

Scientia ESCA 300 (equipment time only)	160	
Laser Raman System	312.50 (or 2500/day)	
UV-Vis-NIR DRS Spectroscopy	312.50 (or 2500/day)	
Light Optical Microscopy supplies	30/sample	
Leco Microhardness tester	60	
Leco M400, Leco M100	60	
Light Optical Metallographs (Zeiss Axiomat, Reichert MeF3, Olympus Vanox)	30	
Hot Hardness tester (Nikon with hot stage and scope)	125	
Quantitative Scope (Nikon Microphet w/Digitalizing pad)	30	
Automatic Polishers	30/run	
LECO 2001	100	
Leco CM-20	6/cut	
Buehler Isomet	4/cut	
Struers Accuton-50	8/cut	
Bridge	25	
<b><u>Furnaces:</u></b>		
Fisher	12	
Lindberg	4	
Hevi-Duty	6	
L & L w/ Atmos	12	
L & L w/o Atmos	10	
Inducto	20	
X-Ray Facility	100	
Sputtering System	300/run	
TG/DTA Thermal Analysis (Dilatometer)	330/run	
Jar Mill	6	
High Speed Saw (Struers)	50/cut	
Particle Size Analyzer (LA 910)	100/sample	
Conductivity Furnace	5	
Tape Caster	10/casting	
Resistance Furnace	4	
Isopress	75/run	
HiTemp Furnace	75	
Cryostat	25	
MRC Mech Test Instron	15/test	
Vacuum Hot Press < 24 hrs	500/run (run=<24 hrs)	
Vacuum Hot Press > 24 hrs	20	
Diamond Saw	6	
Rheovibron	20	

Clean Room DI H2O system	50/gal	
Clean Room	120	
Dielectric Measurement	150/sample	
Polarization & Strain Measurement	75/sample	
UV Ozone Chamber	5	
Contact Angle Goniometer	50	
Inst Cap Rheometer	50	
Brabender Extruder	40	
Rotary Viscometer	40	
<b>Machine Shop</b>		
Lathe	8	
Vertical Mill	9	
Horiz Mill	9	
Surface Grinder	10	
Marvel Saw	12	
Band Saw	12	
Drill Press	8	
Welder	8	
FTIR-Whitaker	25	
Tetrahedron Press	42	
DSC/TGA	40	
DMA/TMA/DEA	40	
Flow Calorimetry	10/run	
Environmental Chambers	210/week	
C-SAM	75	
Met Mechanical Testing	60	
- w/extensometer	80	
Instron Fatigue w/computer	25	
Instron Fatigue w/o computer	15	
Izod Impact Tester	5/sample	
Lapmaster Lapping Machine	75/sample	