

**LINCOLN MEMORIAL UNIVERSITY-
DEBUSK COLLEGE OF OSTEOPATHIC
MEDICINE**

DEBUSK SUMMER RESEARCH SCHOLAR AWARD

Table of Contents

Application Checklist.....	3
Information for Applicants	3
Eligibility.....	4
Duration of Scholar award	4
Stipend.....	5
Application Process.....	5
Review Procedure	5
Choosing a Research Sponsor	5
Elements of the Application	6
Ethical Research Training Certificate (if applicable).....	6
Proposal.....	6
Itemized Budget	7
Sponsor’s Letter of Support	7
Confirmation of Good Standing.....	7
Post-Scholar award Scientific Presentation.....	7
Presentations	7
Research Forum Presentations	8
Appendix A: CITI Training Courses for LMU.....	9
Appendix B: Application.....	10
Appendix C: Itemized Budget Form	12
Appendix D: Application Evaluation Criteria	13

Application Checklist

Applications must be received by end of business, April 15th.

The completed application must contain:

- An application (see page 10).
- A proposal, completed by the student with help from the sponsor (see page 11).
- The Research Committee will contact the Associate Dean of Students, DCOM-Knoxville, and the Assistant Dean of Students, DCOM-Harrogate to confirm that the applicant meets the following eligibility criteria for engaging in research:
 - Must be passing all of their courses
 - Must have and maintain a cumulative GPA of 3.0 or higher
 - Must not be on probation for academic or professionalism reasons
 - Must be on schedule to take COMLEX exams
- A letter of support from the proposed sponsor on institutional letterhead.
- A certificate of completion from the appropriate online training program (Human Subjects or Animal Use or both; see page 9). **NOTE: THIS TRAINING MAY TAKE SEVERAL HOURS. PLEASE PLAN ACCORDINGLY.**
- A budget (see page 12). **Proposals that do not request funds will not be accepted.**

Return materials to:

Adam Gromley
DCOM Director of Research
Chair of the Research and Grants Committee
MANS 433
6965 Cumberland Gap Parkway
Harrogate, TN 37752
423.869.6698
adam.gromley@lmunet.edu

AND

Pam Nelson
Administrative Assistant for Anatomy/
Body Donation Coordinator
423-869-6745
pamela.nelson@lmunet.edu

Information for Applicants

The DeBusk Research Scholar Award provides an opportunity for LMU-DCOM medical students to spend the summer working with experienced investigators in an appropriate environment devoted to research. The goal of the program is to provide students with an experience that will produce better physicians by acquainting students with scientific methodology. Students may conduct short-term research projects in any area of basic or clinical sciences, including any branch of the basic or clinical sciences, medical education, and health policy related areas of inquiry. This program is administered by the Research and Grants Committee (RGC), and applications to the program are reviewed by the RGC.

Questions or help?

Please contact any of the individuals listed below.

Dr. Adam Gromley (Chair)	adam.gromley@lmunet.edu	X6698	MANS 433
Dr. Syed Quadri (Co-Chair)	syed.quadri@lmunet.edu	X5724	DCOMK 239
Dr. Debasis Mondal	debasis.mondal@lmunet.edu	X5715	DCOMK 238
Dr. Jan Zieren	jan.zieren@lmunet.edu	X7097	DCOM 121
Dr. Arshad Ahsanuddin	arshad.ahsanuddin@lmunet.edu	X5739	DCOMK 163

Eligibility

LMU-DCOM OMS-I medical students in good standing may apply. The applicant must be passing all of their courses, have a GPA of 3.0 or greater, not be on probation (for either academic or professionalism reasons), and be on schedule (not delayed) for taking the COMLEX exams. LMU Masters students that have been accepted to LMU-DCOM for Fall matriculation are NOT eligible to apply for this scholar award if the project will be conducted in the summer before matriculation. Scholar award training will be supported in an academic, research, commercial or industrial laboratory training settings. Students may apply to only one scholar award per year. **Note to faculty mentors: The number of students with scholar awards will be limited to 3 per faculty mentor.**

Duration of Scholar Award

The Scholar Award will be carried out during the summer break. The actual start and end date will be determined by the applicant and sponsor but must begin no earlier than the last exam of the Spring semester and end no later than the first day of the Fall semester of the funding year. It is expected that this experience will be a full-time commitment on the part of the applicant for the duration of the Scholar Award.

Stipend

The Scholar Award provides a stipend that may be used for the student's living expenses, with a maximum awarded amount of \$2,000. It is expected that the sponsor will provide costs of any reagents and supplies, equipment, or facilities needed to conduct the research. An itemized budget must be provided (Appendix C). **Funding for travel expenses will not be approved.**

Application Process

All materials **must** be submitted electronically to the LMU-DCOM RGC by end of business April 15. If April 15 falls on a weekend, the applications must be in by 8 am the following Monday. **APPLICATIONS RECEIVED AFTER THAT DATE WILL NOT BE CONSIDERED.**

The required materials are:

- An application (see page 10).
- A proposal, completed by the student with help from the sponsor (see page 11).
- The Research Committee will contact the Associate Dean of Students, DCOM-Knoxville, and the Assistant Dean of Students, DCOM-Harrogate to confirm that the applicant meets the following eligibility criteria for engaging in research:
 - Must be passing all of their courses
 - Must have and maintain a cumulative GPA of 3.0 or higher
 - Must not be on probation for academic or professionalism reasons
 - Must be on schedule to take COMLEX exams
- A letter of support from the proposed sponsor on institutional letterhead.
- A certificate of completion from the appropriate online training program (Human Subjects or Animal Use or both; see page 9). **NOTE: THIS TRAINING MAY TAKE SEVERAL HOURS. PLEASE PLAN ACCORDINGLY.**
- A budget (see page 12). **Proposals that do not request funds will not be accepted.**

Review Procedure

All applications are reviewed by the RGC following the April deadline of the funding year. The criteria used to review applications is attached as Appendix D. If the committee requests clarification from the applicant, the revised application must be received no later than April 22nd.

Applicants will be notified of decisions no later than May 1 of the funding year.

Choosing a Research Sponsor

To apply to the summer research scholar award, first select a sponsor. Summer research scholar awards may be carried out at the LMU-DeBusk College of Osteopathic Medicine under the direct supervision of a LMU-DCOM faculty member or under the supervision of a faculty member at another accredited institution.

A firm idea for a research project before the student contacts a potential sponsor is not required. The sponsor may suggest one or more projects. The student and the potential sponsor should also discuss who the student will be working with on a daily basis and how the project will relate to other work being done in the sponsor's laboratory or clinic. The student and the sponsor should work together to develop a feasible specific research plan.

The sponsor must be qualified to supervise the project and must provide a letter confirming support for the project and specifying the amount of time he/she expects to be available to spend with the student. Further, the sponsor must have all of the resources needed for the proposed project (e.g., supplies, lab space, or computer access) at the time the application is submitted and indicate this in the letter.

If the student plans to work with humans or other animals, the sponsor's project must have IRB or IACUC protocol approval. If the sponsor does not have these approvals, or the applicant does not provide information about the approvals on the application, the application will not be considered.

If you have specific questions about choosing a sponsor or writing a proposal, please contact the Chair of the RGC. If using email please put DEBUSK RESEARCH SCHOLAR AWARD in the subject line.

Elements of the Application

Ethical Research Training Certificate (if applicable)

Scholars are required to complete the CITI online research training modules prior to applying to the scholar award, available at <https://www.citiprogram.org/Default.asp>. A certificate of completion must be emailed to the Chair of the RGC. Scholars doing animal research must complete the animal care and use course on the CITI website. For instructions on accessing the online courses for human or other animal research see Appendix A. For any questions regarding CITI training, please contact your faculty sponsor.

Research involving the use of human subjects, or any data or material obtained from human subjects **must** have an Institutional Review Board (IRB) approval number. Research that involves the use of vertebrate animals **must** have an Institutional Animal Care and Use Committee (IACUC) protocol number. These approvals should be readily available from your sponsor at the Institution which is sponsoring the research. IACUC approval **must** be submitted to RGC before the research project can begin. If any research activities occur in the absence of appropriate IRB or IACUC approvals, the funding will be withdrawn immediately, and the student may be required to repay the expended amount of the scholar award. See Appendix A for information about these protocols.

Proposal

The proposal must not exceed 1,000 typewritten words in 12-point font, with 1-inch margins (approximately 4 double-spaced pages). The proposal must be written so that it can be understood by non-experts, so avoid jargon and nonstandard abbreviations. See Page 11.

The proposal should contain the following sections: I) Title Page that includes a project summary paragraph of approximately 200 words; II) Problem Statement; III) Project Design and Implementation; IV) Potential impact; V) Dissemination Plan.

Itemized Budget

The proposal must include an itemized budget (Appendix C). Sufficient explanation of the costs must be provided in the “description” column. Large categories or items should be broken down in the “calculation” column. Please ask a RG committee member if you have questions about the budget form.

Sponsor’s Letter of Support

The application must include a letter of support from the proposed sponsor written on institutional letterhead. This letter should outline the student’s level of participation in the study. Additional opportunities available to the applicant in the sponsor’s laboratory or institution, such as research seminars or grand rounds, may be noted. The letter should indicate whether the sponsor will directly supervise the applicant for the full period of the scholar award.

The sponsor's letter must indicate that all of the facilities necessary to the project are available to the student. This includes any necessary laboratory facilities, office space, specimens, access to study populations, computers, and any other facilities needed to complete the project. The student must be fluent in the primary language spoken at the site of the research project.

The sponsor's letter must indicate that the scope of the project is appropriate to the time available. If any advance preparations are in progress, or if any initial work has been done by the applicant, these should be noted.

Confirmation of Good Standing

The Research Committee will contact the Associate Dean of Students, DCOM- Knoxville, and the Assistant Dean of Students, DCOM-Harrogate to confirm that the applicant meets the following eligibility criteria for engaging in research:

- Must be passing all of their courses
- Must have and maintain a cumulative GPA of 3.0 or higher
- Must not be on probation for academic or professionalism reasons
- Must be on schedule to take COMLEX exams

Post-Scholar award Scientific Presentation

Presentations

Scholars must give a brief presentation on their research to students and faculty of LMU-DCOM. Scholars will also prepare a poster presentation of their research. This poster may be used by the medical school in venues it deems appropriate.

Research Forum Presentations

Scholars will also be encouraged to submit an abstract of their research to a scientific meeting and/or an appropriate scientific or professional journal. If the scholar is listed as the first author and the abstract is accepted for the meeting, the student is eligible to apply for funding to present the work. This funding will only be provided for meetings held within the contiguous United States. Funds for international travel MAY be considered on a case-by-case basis and requests for such travel will be reviewed by the research committee. In the event that approval is made to fund international travel, the scholar must, at their own expense, purchase personal international health insurance and international emergency evacuation insurance. Requests for funding of international travel must be made at least 60 days prior to the anticipated travel date. Only one meeting per year will be funded for each scholar.

Appendix A: CITI Training Courses for LMU

Instructions:

Go to the website: <https://www.citiprogram.org/>

On the right side, find the section 'Create an Account', click the REGISTER button

At 'Select your Organization Affiliation' enter Lincoln Memorial University

Click 'Continue to Step 2'

Enter your information

Click on Continue to Step 3

Enter your selected Username and Password

Click on Continue to Step 4

Continue to fill in the requested information on the subsequent pages. Course content will already be selected for you. There may be more available than is appropriate to your job function.

Appendix B: Application

LINCOLN MEMORIAL UNIVERSITY-DEBUSK COLLEGE OF OSTEOPATHIC MEDICINE APPLICATION FOR DEBUSK RESEARCH SCHOLAR AWARD

Applicant/Principal Investigator: _____

Project Title: _____

Anticipated start date of project: _____

Dollar amount of support requested: _____

Does applicant anticipate supporting this project entirely with internal funds?

YES _____

NO _____

a) total duration of project _____
(must end by August 1)

a) duration of support _____

b) amount of support requested _____

b) amount of external funding _____

Co-investigators (if any):

Approvals:

Most applications will require approval by one or more oversight committees, such as an Institutional Review Board (IRB) where human subjects are involved, the Institutional Animal Care and Use Committee (IACUC) for projects using animals, Safety Committee for projects in which biohazardous, toxic, or other controlled reagents/substances will be used. Provide information pertaining to these approvals below. SUPPORT CANNOT BEGIN UNTIL ALL REQUIRED CERTIFICATIONS ARE ON FILE.

<u>OVERSIGHT COMMITTEE</u>	<u>APPROVAL NEEDED</u>	<u>DATE OF APPROVAL</u>
----------------------------	------------------------	-------------------------

(attach copy of approval notice with Committee chair or other authorized signature)

	NO	YES	DATE OF APPROVAL
Institutional Review Board (IRB)	_____	_____	_____
Animal Welfare Committee (IACUC)	_____	_____	_____
Institutional Biological and Chemical Safety Committee (IBCSC)	_____	_____	_____
Online Training Certificate	_____	_____	_____
Other Committee (specify below)	_____	_____	_____

Project Description

Provide a brief overview of the proposed project. This narrative should be written so that it is understandable to any of the science or medical school faculty or sitting members of relevant oversight committees. Include a references cited page (not part of page limits). Do not exceed 1000 words (approximately 4 pages of double-spaced text 12-point font and 1-inch margins). Please include the following sections in your proposal and refer to the rubric in Appendix D for evaluation criteria:

I. Title Page

The title page should contain the project title, faculty sponsor information (name, title, contact information), student information, entities involved in the project (institutions, businesses, investigators, co-investigators), the total amount of funding requested, the estimated project dates, and a paragraph of approximately 200 words summarizing the proposed project.

II. Problem Statement

Be certain to include a clear statement of the specific aims of this project, including any hypothesis to be tested or research questions to be addressed and the contributions to the advancement of science or medicine that this study will make. Include a brief literature review and relate the research to work that has been done in the field already.

III. Project Design and Implementation

Provide a nontechnical overview of the most important methods to be used, the types of data you expect to generate, and the principal means for their evaluation. Address any limitations of the research. Include a timeline for completion of the research with relevant milestones.

IV. Potential Impact

State the importance of your research to the scientific discipline and its potential to advance the understanding of science or medicine.

V. Dissemination Plan

Include a plan for disseminating the research results to the scientific community (conference presentations, publications, extramural grant applications, etc.). If possible, state the specific conference and provide dates of the conference. You may specify short term and long term dissemination strategies if applicable.

VI. Optional Materials

You may wish to include the following as appendices: results of preliminary research, CV's of project personnel, etc.

Append text, on separate pages, to this application as needed

Appendix C: Itemized Budget Form

Itemized Budget Form

Use the following table as a format for preparing your itemized budget. You may add or omit categories as appropriate for your proposal, but make sure all items are described and a calculation is provided. The primary category used for the DeBusk Scholar award is the “Housing” category. **No travel expenses will be approved. NOTE: THE MAXIMUM AWARDED AMOUNT IS \$2000.00**

CATEGORY	DESCRIPTION	CALCULATION	TOTAL AMOUNT
RENT	Specify type of housing	Itemized amount paid for housing for duration of scholar award	
UTILITIES	electricity, water, gas (if not included in rent)	Itemized estimation of these expenses	
GROCERIES			
OTHER	PLEASE SPECIFY AND JUSTIFY EXPENSES IN THIS CATEGORY		
TOTAL BUDGET REQUEST:			

EXAMPLE:

CATEGORY	DESCRIPTION	CALCULATION	TOTAL AMOUNT
RENT	1 BR apartment	\$600/month x 3 months	\$1800

Appendix D: Application Evaluation Criteria

APPLICATION EVALUATION CRITERIA

1. Statement of the Problem (Understanding of the problem and its importance)—20%

- Clarity of problem statement and its importance to the field of study.
- Demonstrated connection between problem and proposed research.
- Awareness of the state of current research and/or technology (e.g. does the application include references to primary literature and relate the research to work that has been done in the area?).
- Identification of gaps in existing research.

2. Project Design and Implementation (Quality and technical merit)—40%

- Detailed and complete discussion of proposed research methods.
- Soundness of the research methods and appropriateness to the proposed study.
- Awareness of potential limitations of the research plan and proposed practical solutions.
- Overall feasibility of proposed project, *including timeline*.
- Innovation and creativity.

3. Potential Impact—15%

Potential for a scientific or clinical advance(s) that will improve medical practice, medical education, medical knowledge, or basic science knowledge such as:—

- Potential for important advances in the scientific or clinical understanding of the problem.
- Potential for advances in the field and the filling of key gaps in scientific knowledge related to medical practice, policy, or education in the United States.
- Potential to contribute useful basic science knowledge to the primary discipline.
- Relevance for improving clinical policy and practice, patient safety and/or quality of life, or medical education.
- Perceived potential for implementation of new technology, standards, or techniques (when applicable).
- Potential for innovative solution to address (all or a significant part of) the stated problem.

4. Capabilities/Competencies (Capabilities, demonstrated productivity, and experience of the applicant and proposed project staff)—20%

- Qualifications and experience of the researcher and/or research mentor (e.g., successful coursework completion, relevant work and/or research experience, leadership roles, mentoring experience, and record of publication).
- Applicant's record of accomplishment with respect to successful completion of previous research projects, grants, or contracts (if applicable).
- Applicant's record of accomplishment with respect to disseminating results of previous research projects, grants, or contracts (if applicable).
- Applicant's academic standing with the university (student applicants ONLY).

5. Plan for Dissemination to Broader Audiences (5%)

- Does the applicant include a plan for disseminating the research?
- Is the proposed method of disseminating project results effective and feasible?

- Does the plan include conference presentations at regional or national conferences? Published manuscripts?

6. Budget (unscored)

Peer reviewers will consider and may comment on the following additional items in the context of scientific and technical merit.

- Format of budget (e.g. is it itemized with descriptions and calculations of costs?)
- Total cost of the project relative to the perceived benefit (cost effectiveness).
- Appropriateness of the budget relative to the level of effort.
- Use of existing resources to conserve costs.
- Proposed budget alignment with proposed project activities.