KENT STATE UNIVERSITY

Date: 10/16/2017
To: College Curriculum Committee
From: Eric M. Mintz, Associate Dean, College of Arts & Sciences

Attached please find a proposal from the College of Arts & Sciences to rename and restructure the Liquid Crystal Institute into a new Advanced Materials and Liquid Crystal Institute. Additional letters of support from campus academic units will be forthcoming.

Sincerely,

Eric M. Mintz

Eric M. Mintz, Ph.D.
Professor of Biological Sciences
Associate Dean, College of Arts & Sciences

College of Arts & Sciences
P.O. Box 5190 · Kent, Ohio 44242-0001
330-672-8025 · http://www.kent.edu/CAS

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KENT STATE UNIVERSITY
CERTIFICATION OF CURRICULUM PROPOSAL

Preparation Date **11-Oct-17** Curriculum Bulletin ________

Effective Date **Spring 2018** Approved by EPC ________

Department

College **AS - Arts and Sciences**

Proposal **Revise Institute**

Proposal Name **Restructure the Liquid Crystal Institute and rename it the Advanced Materials and Liquid Crystal Institute**

Description of proposal:

In order to expand the operating mandate of the Liquid Crystal Institute into a more inclusive research institute devoted to the area of materials science, this proposal restructures the existing LCI and renames it the Advanced Materials and Liquid Crystal Institute.

Describe impact on other programs, policies or procedures (e.g., duplication issues; enrollment and staffing considerations; need, audience)

Because this is an already existing institute, it will not impact on other units in a negative way or duplicate efforts underway elsewhere.

Units consulted (other departments, programs or campuses affected by this proposal):

Dept. of Chemistry & Biochemistry, Dept. of Physics, Dept. of Mathematics, Dept. of Computer Science, Dept. of Biological Sciences, Chemical Physics Interdisciplinary Program, College of Architecture and Environmental Design, College of Aeronautics and Engineering, College of Public Health, College of Podiatric Medicine, School of Fashion Design and Merchandising.

REQUIRED ENDORSEMENTS

Department Chair / School Director — 10 / 16 / 2017

Campus Dean (for Regional Campuses proposals) — ___/___/___

College Dean (or designee) — 11 / 9 / 17

Dean of Graduate Studies (for graduate proposals) — ___/___/___

Senior Vice President for Academic Affairs and Provost (or designee) — ___/___/___

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Proposal Summary to Establish or Revise an Academic Administrative Structure

Restructure the Liquid Crystal Institute (LCI) and rename it the Advanced Materials and Liquid Crystal Institute.

The following is from 3343-2-03 *University Policy Regarding the Establishment or Revision of Academic Administrative Structures.*

Introduction

Recognizing the need to embrace the broad array of advanced materials research conducted at Kent State University we propose to rename the Liquid Crystal Institute as the Advanced Materials and Liquid Crystal Institute (AMLCI) while updating its administrative structure to reflect its new, broader mission to further enhance Kent State's strength in advanced materials research.

1. The quality of the faculty, students and programs.

More than 50 KSU faculty conduct research into the development and application of advanced materials. This faculty includes three state funded endowed chairs, 5 fellows of the American Physical Society and two fellows of the Society for Information Display. In the College of Arts and Sciences, active faculty comes from the departments of Physics, Chemistry & Biochemistry, Biological Sciences, Mathematics, Computer Science and the Chemical Physics Interdisciplinary Program. The Advanced Materials and Liquid Crystal Institute (AMLCI) will also include faculty from the College of the Arts, the College of Architecture and Environmental Design, the College of Aeronautics and Engineering, the College of Podiatric Medicine, and the College of Public Health. Kent State has a 60-year history of leading in diverse aspects of research into solid-state materials. Graduates from the associated advanced materials programs have secured prestigious positions in academia, industry and government. They hold prominent positions in industry such as forming the core cadre of display researchers at Apple. They are also are provosts and presidents of prestigious universities.

2. Centrality and coherence to the mission and strategic directions of the university and other academic units.

After extensive consultation with faculty, staff, students and community members, including two listening tours, President Warren announced her strategic roadmap for Kent State University. The establishment of the AMLCI is well aligned with the strategic direction of the university and its five priorities. For example, Priority 1 puts Students First. The AMLCI will offer students from many departments the opportunity to participate in Institute research. The interdisciplinary nature of the research will allow students, at both the undergraduate and graduate levels and from diverse backgrounds, to interact and engage to solve common problems. For example, previous experience in the Liquid Crystal Institute (LCI) has demonstrated how focusing on a common interdisciplinary problem such as detecting diabetic foot ulcers can engage students from Podiatric Medicine, The School of Fashion and the LCI in a single research project.

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Priority 2 supports A Distinctive Kent State. The AMLCI will support the campus' culture of research and innovation by joining some of our most prominent academic science and arts programs. While it will embrace the diversity of materials research on campus it will also maintain a unique mission making it distinctively Kent State. This was a great advantage for the LCI and will be continued with the AMLCI. The AMLCI will sustain and enhance the global reputation of the LCI. The external advisory board will assure the Institute enhances our regional impact, expanding our outreach to many more companies and preparing our students for successful careers in the region.

3. **Comparative advantage versus other structures.**

As stated in University Policy 2-03.1.B.6.A, institutes are "created to facilitate comprehensive research on a major problem or on a cluster of significant related topics or issues." In this case, the AMLCI will bring together researchers across campus with interested in basic research, applied research, productive development and application of advanced materials.

4. **What makes the unit particularly appropriate for Kent State University.**

AMLCI supports the university's culture of research and innovation by joining some of our most prominent faculty. KSU faculty conduct a wide array of materials research, as noted above. Often this research has gone unnoticed. At present, this research is sometimes impeded because of the lack of an over-arching structure that maximizes its impact and visibility. The AMLCI is designed to embrace the diversity of materials research on campus and to effectively utilize established research facilities. It will take a problem based approach to engage not only STEM units in which new materials are created, analyzed and optimized but also units in other colleges in which the vision and talent resides to develop new and exciting ways of using advanced materials. This will create a vibrant research culture essential for creativity. The AMLCI will exploit our unique materials research strengths and will emphasize research and collaborations that make it distinctively Kent State: areas where we can lead rather than follow.

The AMLCI will continue the LCI's tradition of moving technology quickly from the laboratory to the marketplace and in particular supporting local start-up companies that employ our graduates and provide direct economic reward to the region and the state. The prototyping and related resource facilities of the AMLCI will be utilized to demonstrate the applications of promising materials developed. Start-up companies licensing and utilizing AMLCI technologies will also have access to these unique facilities. As demonstrated with earlier start-ups, such as Kent Displays, AlphaMicron and Crystal Diagnostics, the facilities and support provided by the AMLCI will serve as an anchor, to keep these companies in the region.

5. **Demand for the unit and for the graduates of the unit.**

The Division of Research and Sponsored Program's Research Advisory Committee proposed five possible research initiatives to focus strategic research investment. KSU community feedback was sought. We received well over 100 responses to the survey inquiring about Research Institutes. This was about triple the typical response rate for university-wide surveys. While there were concerns about how the Institutes would be organized and supported, there was strong support for the AMLCI (as well as the other proposed Research Institutes). The AMLCI will build a more extensive and cohesive research community at Kent State University.

It will offer members ready access to the Institute's combined research facilities. This broader structure will create an attractive environment to secure extramural funding and to broaden our academic offerings and grow enrollments; both are essential for sustaining a fiscally sound institute. Participating faculty will conduct a wide range of research including bioanalytical chemistry, bioinorganic chemistry, biophotonics, nanomedicine, and molecular/cell biology and drug design, quantum materials, organic electronics, magnetism and superconductivity.

While not directly in the Institute, graduates of our advanced materials research programs have excelled. They form a core cadre of display researchers at Apple, and they are provosts and presidents of prestigious universities. Foxconn, a major supplier of displays for Apple and the entire display industry has announced plans to build an LCD manufacturing plant in the midwest. In their selection process they were particularly interested in the research conducted and services provided by the Liquid Crystal Institute and access to our graduates. They were also keen to utilize our established strengths in workforce training.

6. **Duplication and interrelatedness of the unit's program(s) within the university, state, and region**

Because the AMLCI will incorporate and utilize the facilities and administrative support of the current LCI it will not duplicate other programs on campus. It is designed to support the broader range of advanced materials research at Kent State. It will be important for the AMLCI to distinguish itself from the many other materials science programs across the region (for example the University of Akron's Center of Excellence in Polymers and Advanced Materials), the state (Ohio State University's Department of Materials Science and Engineering), and the nation (MIT's on responsive advanced materials, including liquid crystals).

The formation of the AMLCI will have the most direct impact on the LCI. As outlined above, the LCI will be incorporated into the AMLCI including all supported staff and facilities. It will maintain the reputation and world-wide recognition of the LCI while expanding its reach in the discipline. The most directly engaged departments are from the College of Arts and Sciences. Faculty from Biological Sciences, Chemistry & Biochemistry, Physics, Chemical Physics Interdisciplinary Program, Mathematics and Computer Science will be most directly involved in the development of new materials. We expect several faculty from the College of Aeronautics and Engineering to add their expertise in fuel cells and the mechanical properties of liquid crystals. Participation in the AMLCI will have relevance to faculty in the School of Fashion Design and Merchandising, the School of Art, the College of Architecture and Environmental Design, the College of Podiatric Medicine, and the College of Public Health.

7. **Efficiency and effectiveness of the unit in leveraging existing resources and expanding new resources.**

Because the AMLCI incorporates the current administrative structure, support and facilities of the LCI its establishment will not require additional funds. It will utilize additional funding provided for the new University Institutes to attract two new faculty. The AMLCI will assure the widest use of these facilities and investments.

8. **Administrative reporting structure.**

The AMLCI Director will hold tenure in one of the affiliated academic units. Their administrative appointment to Director will be made by the Vice President for Research. Their performance reviews will be done jointly with the appropriate academic unit chair and the VP for Research. The Director will report to the Vice President of Research and keep informed the Dean of the College of Arts and Sciences. The Director will be responsible for the budget and direction of the AMLCI. The Vice President for Research will appoint the internal and external advisory board members in consultation with the Director. The Director will chair meetings of the advisory boards. Working with these advisory boards and participating faculty the Director establishes and annually reevaluates the direction and goals for the AMLCI. The Director administers the budget for the AMLCI and oversees faculty and staff appointments within the Institute.

9. Space and capital budget needs.

Because the AMLCI will incorporate all the administrative support and facilities of the current LCI no additional space or capital budget requests are required to establish the AMLCI. Start-up packages and possibly facility modifications will be required to attract the planned two new faculty supported by establishment of the AMLCI. The new faculty will hold tenure in one of the associated departments.

10. A proposed operating budget with any one-time resource needs.

The new AMLCI will operate utilizing the current funding for the LCI, including endowment income. As noted above, this budget will be overseen by the new AMLCI director.

11. Evaluation procedures including academic assessment procedures.

AMLCI will report to the Vice President for Research and will be regularly reviewed following the policies and procedures outlined in the University Policy Register. This includes filing an annual report with the appropriate dean(s), with copies to the provost and the vice president for research. The annual report will include the evaluation of both internal and external advisory boards.

12. A timetable for proposal implementation.

We request that LCI be renamed the AMLCI during the Fall semester 2017. This will require the program be reviewed by the relevant committees on campus in the fall semester. Final approval for the renamed Institute will be obtained and a search begun for the new AMLCI director by the end of Fall Semester, 2017. Our goal will be to conduct the search and select the new director before the start of the Fall Semester 2018.

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KENT STATE
UNIVERSITY

October 16, 2017

Eric Mintz, Ph.D.
John West, Ph.D.
College of Arts & Sciences
Kent State University
Kent, Ohio

Dear Dr. Mintz and Dr. West,

The College of Public Health supports the proposal to rename the Liquid Crystal Institute as the Advanced Materials and Liquid Crystal Institute (AMLCI). We look forward to working with the new administrative structure and within the broader mission to further enhance Kent State's strength in advanced materials research.

Sincerely,

Sonia A. Alemagno
Sonia A. Alemagno
Dean, College of Public Health

College of Public Health
P.O. Box 5190 • Kent, Ohio 44242-0001
330-672-6500 • Fax: 330-672-6505 • publichealth@kent.edu • www.kent.edu/publichealth

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KENT STATE UNIVERSITY | College of Aeronautics and Engineering

October 16, 2017

Kent State University
College of Arts and Sciences
ATTN: Dr. Eric Mintz

Dear Dr. Mintz

The college of Aeronautic and Engineering fully support the restructuring of the Liquid Crystal Institute and renaming it the Advanced Materials and Liquid Crystal Institute. This move will directly support the strategic direction of this college.

Sincerely,

Robert G. Sines, Jr
Interim Dean

Office of the Dean

PO Box 5190 • Kent, Ohio 44242-0001 • 330-672-9780 • Fax 330-672-2894 • www.kent.edu/cae

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Kent State University

Memo

To: Eric Mintz

From: Laura Leff

cc:

Date: October 17, 2017

Re: Advanced Materials and Liquid Crystal Institute

I have shared the Advanced Materials and Liquid Crystal Institute proposal with the FAC who have expressed support for this proposal. I concur with their assessment and am writing to inform you that the Department of Biological Sciences supports this proposal.

Laura Leff

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KENT STATE
UNIVERSITY

October 23, 2017

Eric M. Mintz. Ph.D.
Associate Dean, College of Arts & Sciences
Professor of Biological Sciences
Kent State University
Kent, OH

Dear Dr. Mintz:

I am writing this letter in support of the proposed restructuring and renaming of the Kent State University Liquid Crystal Institute (LCI) into the Advanced Materials and Liquid Crystal Institute (AMLCI). Over the past several years, faculty members from the College of Podiatric Medicine have been collaborating with investigators from the LCI and the School of Fashion to develop advanced liquid crystal materials that will allow for patients to self-monitor for the early onset of serious foot disorders. These materials may prove invaluable as a tool for the successful treatment of conditions related to the diabetic or high risk foot, such as diabetic foot ulcers. This is significant in that if a diabetic foot ulcer becomes infected, it could lead to a lower extremity amputation. It has been reported that the five-year mortality rate after a lower extremity amputation is greater than 40%.

As this field of study is further developed, the restructuring of the LCI into the AMLCI will facilitate collaboration in this interdisciplinary research area. The creative environment that will naturally develop from the AMLCI will result in additional ideas for advanced materials and their use in the podiatric medical field. Additionally, the AMLCI will bring together researchers who provide unique areas of expertise, thus leading to the establishment of strong, qualified teams that will be attractive to extramural funding agencies, including the National Institutes of Health. The availability of combined facilities and resources in the AMLCI will improve and enhance research on the development of advanced diagnostic materials, thus potentially increasing the opportunities to obtain extramural funding and to support local start-up companies. Finally, the restructuring of the Institute will introduce opportunities for our students who are interested in research to become involved in the area of advanced materials for medical purposes, and will give them experience in working with a team to find solutions to a common problem.

I fully support the creation of the AMLCI and look forward to our faculty participating in this exciting Institution!

Sincerely,

Allan M. Boike, DPM, FACFAS
Dean

College of Podiatric Medicine
6000 Rockside Woods Boulevard • Independence, Ohio 44131
216-231-3300 • 800-238-7903 • Fax: 216-447-1631 • www.kent.edu/cpm

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KENT STATE
UNIVERSITY

November 4, 2017

Dear Dean Blank,

This letter is to express our support to rename Kent State's 'Liquid Crystal Institute' to 'Advanced Materials and Liquid Crystal Institute'. We wish the reorganized institute will continue to be the flagship of innovation and research. We look forward to collaborate with the institute.

Sincerely,

Javed I. Khan, Ph.D.
Chair and Professor

Department of Computer Science
P.O. Box 5190 • Kent, Ohio 44242-0001
Phone: (330) 672-9980 • http://www.kent.edu/cs

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KENT STATE UNIVERSITY

November 6, 2017

Dear Dean Blank,

I am writing this letter in support of renaming Kent State's "Liquid Crystal Institute" to "Advanced Materials and Liquid Crystal Institute". I appreciate that the name change will more accurately reflect the breadth of activities that the current LCI faculty are involved in. Further, I anticipate that the Institute will continue to be the flagship of innovation and research it has become known for. I look forward to continued collaboration between our faculty in the School of Biomedical Sciences and the faculty in the Institute.

Sincerely,

Ernest Freeman, Ph.D.
Director, School of Biomedical Sciences

School of Biomedical Sciences
P.O. Box 5190 • Kent, Ohio 44242-0001
330-672-2263 • Fax: 330-672-9391 • http://www.kent.edu/biomedical

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KENT STATE
UNIVERSITY

November 6, 2017

Dr. James Blank
Dean
College of Arts and Sciences
Kent State University
Kent, OH 44242

Dear Dean Blank,

Based on the majority vote from the tenure track faculty in the department of Chemistry and Biochemistry I support the name Advanced Materials and Liquid Crystal Institute (AMLCI) proposed for the new materials institute.

Best Regards

Soumitra Basu.

Soumitra Basu, PhD, MBA
Professor and Chair
Department of Chemistry and Biochemistry

Department of Chemistry and Biochemistry

PO Box 5190 • Kent, Ohio 44242-0001 • 330-672-2032 • Fax: 330-672-3816 • www.kent.edu/chemistry

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KENT STATE
UNIVERSITY

To: James Blank, Dean, College of Arts and Sciences
From: Andrew Tonge, Chair, Department of Mathematical Sciences A M Tonge
Date: November 6, 2017
Subject: Liquid Crystal Institute: Change of Name

The Department of Mathematical Sciences supports changing the name of the "Liquid Crystal Institute" to the "Advanced Materials and Liquid Crystal Institute". We wish it great success in the future.

Department of Mathematical Sciences
P.O. Box 5190 • Kent, OH 44242-0001
Phone (330) 672-2430 • Fax (330) 672-2209 • http://www.math.kent.edu/

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KENT STATE

INTERDEPARTMENTAL MEMORANDUM
DEPARTMENT OF PHYSICS

TO: J. Blank, Dean, College of Arts and Sciences

FROM: J.T. Gleeson, Professor and Chair

DATE: November 7, 2017

SUBJECT: **Proposal to Restructure the Liquid Crystal Institute**

As you know, the Department Faculty discussed this proposal at length on October 31, 2017. At the conclusion of that meeting, I conducted an electronic survey of faculty members in order to establish a consensus view on the proposal. Approximately half of the faculty responded, and of those responding, there was broad consensus in favor of the proposed restructuring. The view was that in principle such a restructured institute could be beneficial to this Department, and the many researchers engaged in multiple facets of materials research herein. However, there remain tangible concerns about the future implementation of this proposal. These include i) how widely the restructured institute embraces the full spectrum of materials research on campus, ii) whether the restructured organization is sufficiently resourced to accomplish its goals.

Department of Physics
Room 105 Smith Hall
Phone 330-672-2246 • Fax 330-672-2959

KENT STATE UNIVERSITY | The Fashion School

November 8, 2017

Dr. Jim Blank, Dean
College of Arts and Sciences
Kent State University

Dear Dean Blank,

I am pleased to support the proposal to change the name of the Liquid Crystal Institute to the Advance Materials and Liquid Crystal Institute. The plans to expand the mission of the Institute while maintaining the reputation of the LCI, make great sense. The expanded mission will help support the faculty and students in the Fashion School and to potentially expand on some preliminary collaborations that have already been initiated related to using liquid crystals in solution to develop diabetic diagnosis socks, investigating electro-spinning of fibers to include LC and other solutions for both aesthetic and performance-based property modifications to fibers/fabrics, and potentially investigating methods for reducing corrosion in fabrics used in military applications.

Faculty in the Fashion School are excited to be collaborating on these and other potential projects in a manner that could potentially continue to incorporate liquid crystals, but could also span into a broader range of advanced materials for flexible and wearable applications.

Sincerely,

J.R. Campbell
Professor & Director, The Fashion School
Associate Dean – Research (Part-time), College of the Arts
Kent State University
PO Box 5190
515 Hilltop Drive,
226C Rockwell Hall (office)
Kent, OH 44242-0001 USA

Phone: 1 (330) 672-3010
Fax: 1 (330) 672-3772
Email: jrcamp@kent.edu

KENT STATE
UNIVERSITY

November 8, 2017

Dear Dean Blank,

I fully support the proposal to change the name of the Liquid Crystal Institute to Advance Materials and Liquid Crystal Institute. The plans to expand the mission of the Institute while maintaining the reputation of the LCI, make great sense. The expanded mission will extend the reach of the Chemical Physics Interdisciplinary Program and help build effective collaborations across the campus and beyond.

Let me know if I can be of any help in implementing the planned changes.

Sincerely

John L. West
Interim Director
Liquid Crystal Institute

Liquid Crystal Institute
Chemical Physics Interdisciplinary Program
P.O. Box 5190 – Kent, Ohio 44242-0001
330-672-2654 • Telefax 330-672-2796 • Email: lci@kent.edu • www.lci.kent.edu