

# The NCUR/Lancy Initiative: A Five-Year Retrospective

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Shortly before his death in 1996, Leslie Lancy established the Alice and Leslie E. Lancy Foundation, naming David Lancy, his son, and Fred Steward, a friend, as Foundation trustees. When Leslie Lancy died, the two trustees were unsure of how to proceed with the dispersal of Foundation funds. What happened next is expressed in David Lancy's own words from a preface he wrote for a biography of Lancy:<sup>2</sup>

"A series of fortuitous circumstances gave us some direction. Chief among these was my friendship with Physics Professor David Peak [Utah State University]. David has a national reputation for his promotion of undergraduate research including [being in on the founding] of the National Conferences on Undergraduate Research. Eventually, David and the NCUR Board and I worked out a program to invest the Lancy Foundation dollars in colleges and universities that initiated exciting programs for summer research opportunities for undergraduates. The Board was pleased with this dramatic stimulus to a cause they've labored long to develop and we plan to hold the competition annually. Fred and I think that Alice and Leslie Lancy would have been pleased to know that their life's work will continue, with their largess enabling talented youth to gain direct experience in their discipline under the watchful mentorship of a faculty member."

This "fortuitous circumstance" did, indeed, please the NCUR Board of Governors, and the outcome has struck a resonant chord with some colleges and universities. As a consequence, since 1999, the Alice and Leslie E. Lancy Foundation and the National Conferences on Undergraduate Research (NCUR®) have been partners in an Initiative to fund summer undergraduate research opportunities in all academic disciplines. What follows is a retrospective of the first five years of this partnership. David Lancy has recently published his own impressions of the early years of the NCUR/Lancy Initiative.<sup>3</sup>

## The First Phase of the NCUR/Lancy Initiative (1999–2001)

The NCUR Board of Governors and the Lancy Foundation entered into an initial three-year agreement to mount the Initiative, the goals of which were articulated in the resulting program announcement:

One goal of the NCUR/Lancy program is to encourage colleges and universities to devote more attention and resources to their undergraduates who show promise of exceptional achievement. The program is focused on helping to build communities of student and faculty scholars spanning the academic disciplines. Proposals from institutions that seek to improve collaborative work between students and faculty are encouraged. The program aspires to catalyze efforts of faculty, administrators, and development officers. An institution that receives an NCUR/Lancy award will have a cadre of faculty with the time, energy, and interest to supervise up to 10 undergraduates for a period of eight to ten weeks during the summer, and an administrative support structure that will nurture this activity. Scholars supported by an NCUR/Lancy award will report on their work at the annual National Conferences on Undergraduate Research following their summer support. A recipient institution will have a stated plan to use its award as "seed-money" to build or expand a perennial summer program.

A second goal of this program is to foster the understanding of how widely different disciplines relate to and enrich each other. Both NCUR and the Lancy Foundation are committed to the notion that a broad interdisciplinary perspective is vital for an educated member of contemporary society. Thus, NCUR/Lancy summer support is available to students majoring in any discipline, and proposals must stipulate how interdisciplinary representation in the sciences, humanities, arts, and social sciences will be achieved. (The latter list is

"Lewis and Clark 1999" students and USD professors Silvia Ronco and Royce Engstrom in Spirit Mound, Vermillion, South Dakota. (Photo by Don Skillman).



meant neither to be exclusive nor exhaustive.) Proposals that describe summer research programs with a cohesive interdisciplinary theme are welcomed.

The intent was to fund 4–6 institutions up to \$50,000 each to support 8–10 students on faculty-mentored summer research projects. Awardee institutions would be eligible to apply for a renewal grant of up to \$25,000 in the summer following that of the initial award. The NCUR Board was stunned by the number of applications and their nearly equal distribution according to Carnegie classification in each of the first two rounds (Table 1). Many of the proposals were exclusively, or almost exclusively, in the sciences, despite the wording in the program announcement. However, a significant number were not only multidisciplinary but were interdisciplinary about a coherent theme. As a consequence, the call for proposals for the later rounds was modified from “welcoming” research programs with a coherent interdisciplinary theme to expecting such a theme.

By the third round the number of applications dropped off, especially from Ph.D.-granting institutions (Table 1). This is not surprising, since the amount of the awards is unlikely to be sufficient to induce broad interdisciplinary research efforts among faculty that involve undergraduates at many Ph.D.-granting institutions. Moreover, most of the science-heavy proposals from the first two rounds came from the Ph.D. schools. When these PIs finally understood the NCUR/Lancy approach they chose not to reapply. Finally, the success rates were probably not high enough to maintain the proposal pressure experienced in the first two rounds.

Table 1: Applications to NCUR/Lancy Initiative Sorted by Carnegie Classification

Year	BS Institutions	MS Institutions	Ph.D. Institutions	Total
2003	19	14	4	37
2002	14	10	4	28
2001	13	19	6	38
2000	35	39	30	104
1999	35	35	35	105
Total	116	117	79	312
%	37.2	37.5	25.3	

Table 2: NCUR/Lancy Initiative Awardees by Carnegie Classification

### **BS Institutions**

Albion College  
Bowdoin College  
Colgate University  
College of St. Benedict's/St. John's  
Eckerd College  
Elmhurst College  
Luther College  
Saint Vincent College  
University of Puerto Rico (Humacao)

### **MS Institutions**

Bridgewater State College  
Central Washington University  
Loyola Marymount University  
SUNY College at Buffalo (Buffalo State College)  
University of Nebraska-Kearney  
University of Wisconsin-Eau Claire

### **Ph.D. Institutions**

University of South Dakota  
University of Toledo  
William & Mary

Fourteen new awards and eight renewals, totaling \$840,433, were given out in the first phase of the NCUR/Lancy Initiative.

### **The Second Phase of the NCUR/Lancy Initiative (2002–present)**

The Lancy Foundation and the NCUR Board were quite pleased with the results from the first three rounds of the Initiative and, after the summer of 2001, the Foundation and the Board decided to continue their collaboration into a second phase. The major change in the Initiative for the second phase was dictated by the downturn in the financial markets. While an average of \$275,000 was distributed in the three rounds of the first phase, the Foundation officers felt that a limit of \$250,000 was the maximum they could contribute to the Initiative for the foreseeable future. As a result, the program announcement was changed to reflect

an expectation for funding of four new proposals at \$40,000 and four renewals at \$22,500 for a total of \$250,000 in each subsequent round. Because these were smaller sums than in the first phase, institutions were expected to support only 6–8 summer students, rather than the 8–10 in the first phase. In reality, the markets did not recover to meet these goals in 2002 or 2003; only \$170,000 and \$125,000, respectively, were available in these rounds resulting in the funding of just two new awards (plus renewals) in each of these rounds. We hope that market recovery will allow us to give out the full \$250,000 in subsequent rounds.

Proposal pressure has remained healthy for the last three rounds of the Initiative (2001 to 2003, Table 1) and at much more manageable levels for NCUR (an all-volunteer organization) than that from the first two rounds.

### **NCUR/Lancy Initiative Awardee Institutions**

All 18 institutions that have received NCUR/Lancy Initiative Awards are listed in Table 2 according to their Carnegie Classification. A sampling of the titles for funded projects is given in Table 3.

As can be seen from the titles in Table 3, most of the funded projects involve an issue of local interest, which is often related to the local environment (e.g., Bowdoin), a local historical event (e.g., SUNY College at Buffalo) or both (e.g., University of South Dakota). The one striking exception among all of the 18 funded projects is that proposed by Central Washington University. The Lancy Foundation and the NCUR Board are very pleased that Lancy funds have indeed served as “seed” money for at least three of the institutions to seek additional funding for these projects from NSF.

### **Administration of the NCUR/Lancy Initiative**

The proposal deadline for an NCUR/Lancy Initiative Award is in late August the summer before funding is sought. Copies of the proposals are circulated to between 8–10 members, or former members, of the NCUR Board of Governors, who act as proposal reviewers. The reviewers meet the day before the fall NCUR Board meeting at the site of the upcoming NCUR conference. The reviewers make recommendations at this meeting, which are forwarded by the director of the NCUR/Lancy Initiative to David Lancy, who makes the final decisions. Award announcements are made by the end of November, and awardee institutions receive their checks by May 1. A short final report is required by the spring after the second year of funding. All of the information required to submit an NCUR/Lancy Initiative proposal is available on the NCUR web site (<http://www.ncur.org>). There is no application form. This

web site also contains information about the Alice and Leslie E. Lancy Foundation. Because there is such limited administrative infrastructure, NCUR and the Lancy Foundation do not provide feedback on proposals that have not been funded. This is consistent with the policy at other private funding sources. However, the NCUR Board does list the names of the awardee institutions, their PIs and project abstracts on its web site for potential applicants to consult.

### Examples of NCUR/Lancy Initiative Programs at the University of South Dakota and at Buffalo State College

#### The University of South Dakota Lewis and Clark Program

The University of South Dakota was fortunate to be a recipient in 1999 and 2000 of NCUR/Lancy awards to support a unique interdisciplinary summer program.<sup>4</sup> The program built upon a nearby regional resource, the Missouri River, and was entitled “Retracing the Lewis and Clark Expedition: Contemporary Aspects of Culture and Environment along the Missouri River.” Physical location, the upcoming bicentennial in 2004 of the Lewis and Clark expedition, and faculty expertise and interest, made this topic an especially appropriate one for USD.

The Lewis and Clark summer research program involved ten students every summer, their faculty mentors, the program coordinator, and the support of the university administration. The interdisciplinary nature of the program is illustrated by some of the projects that were selected to participate:

- “Genetic Structure of Black-Tailed Prairie Dog Populations in Eastern Montana” (Biology).
- “Flintknapping” (Archaeology).
- “Electrochemical Analysis of Pesticides and Herbicides at the Diamond Thin-Film Electrode: Methodology for Accessing the Missouri River Water Quality” (Chemistry).
- “The Development of Tribal Control over Missouri River Water Resources” (Economics).
- “Photographic Nations of Environmental Effects Caused by Contemporary Human Influences” (Fine Arts).
- “Health and Healing Practices of the Lewis and Clark Expedition” (Nursing).

Table 3: Examples of Funded NCUR/Lancy Projects

The College of William & Mary	“Crossroads Research: Undergraduate Research and Service to the Williamsburg Community”
SUNY College at Buffalo (Buffalo State College)	“The Centennial Celebration of the Pan American Exposition: A Research Opportunity”
Bowdoin College	“Interdisciplinary Research on Diverse Aspects of Maine’s Coastal Environment”
College of Saint Benedict and Saint John’s University	“A Sense of Place: Environmental Stewardship in a Benedictine Community”
University of South Dakota*	“Retracing the Lewis and Clark Expedition: Contemporary Aspects of Culture and Environment along the Missouri River”
Central Washington University*	“Humankind and the Environment in China”
Bridgewater State College**	“Rapid Growth and Development in Southeastern Massachusetts: The Impact on the Town of Bridgewater and Neighboring Communities”

\* Have received NSF-REU funding to continue this project.

\*\* Has submitted an NSF-CRUI application to continue this project.

- “Childhood Memories of the Missouri River: A Qualitative Cross-generational Analysis of Retrospective Stories” (Psychology).

- “Felix Vinatieri (1834-1891): General Custer’s Bandmaster” (Music).

- “A Visual Exploration of the Native American’s and the Corps of Discovery’s Reaction to the Land and the Land’s Subsequent Change” (Fine Arts).
- “The Economic Impact of the Pick-Sloan Plan on South Dakota” (History).
- “The Paint and the Canvas: A Linguistic Analysis of Lewis and Clark’s Expedition Journals” (English).
- “Seasonal Changes in Heat Production Capacity in American Goldfinches and Horned Larks in Southeastern South Dakota” (Biology).

**The Program.** The “Lewis and Clark” program consisted of three equally important components: (i) individual research projects; (ii) dissemination of research findings; and (iii) group activities meant to develop the valuable sense of teamwork and camaraderie among participating students and faculty. The program emphasized the goal of obtaining high-quality, publishable results. Students met with Silvia Ronco (program director), and faculty mentors every Wednesday during the ten-week summer program for the “Lewis and Clark” lunch hour. At these meetings, Lancy students presented their research projects in a stimulating setting that promoted discussion among all participants. The Lancy group was involved in a number of off-campus events that were designed to provide both an educational experience and a time for fun and social interaction. These field trips were organized around local and regional Lewis and Clark landmarks; the two most popular ones were a hike up to Spirit Mound and a canoe trip down the Missouri River.

A strong emphasis of the program was placed on the development of written and oral communication skills. In these regards, students were required to write a 5-page report and prepare a 15-minute PowerPoint talk. Also, as part of the program guidelines, all Lancy students were required to present at the USD undergraduate research symposium (IdeaFest) and at NCUR. Lancy students were encouraged to present at the Undergraduate Research Poster Session at the State Capitol in Pierre, South Dakota, and one of the students presented her project at the Council on Undergraduate Research (CUR) sponsored event “Posters on the Hill.”

This program played a highly visible role in stimulating contacts with the Vermillion community. For instance, Lancy groups were invited to participate in the Lewis and Clark festivals organized by the Vermillion Chamber of Commerce, and one of our Lancy Fine Arts majors displayed his work at the local natural science museum. Also, Lancy students helped us promote undergraduate research and participated in events attended by legislators, members of the Board of Regents, and alumni.

The “Lewis and Clark” program continued after support from NCUR/Lancy ended. The program was funded by the National Science Foundation as an REU Site under the Biology Division. Eight undergraduates were selected to work in NSF-sponsored areas, and USD complemented the funding to support additional four students in other areas, such as the humanities and fine arts. It is this wealth of research topics that makes this program unique and appealing to a large number of students and faculty members. Due to its interdisciplinary nature, our “Lewis and Clark” program has been the heart of the USD undergraduate research program for the last five years. The NCUR/Lancy grant was the starting point of a completely new undergraduate research culture at the USD campus.

#### **SUNY-College at Buffalo (Buffalo State College) Centennial Celebration of the Pan-American Exposition**

Buffalo State College received NCUR/Lancy funding in 2000 and 2001. The central theme of the interdisciplinary collaborative research focused on environmental and social changes in Buffalo over the past century. Buffalo’s celebration of the centennial of the 1901 Pan-American Exposition made this research focus especially timely and also took advantage of the College’s proximity to the exposition grounds (across the street) and easy access to the ethnically diverse neighborhoods that characterize the city.

**The Program.** Twelve students and four faculty mentors participated in the program each summer. The faculty mentors represented four academic departments: history, sociology, earth sciences (J.Singer served as both a faculty mentor and director of the program), and performing arts. Our students represented a wide range of majors and included a number of students completing education degrees. All of the students and the mentors attended an orientation meeting one month before the program began. This meeting allowed the students to get acquainted with each other and the faculty mentors, learn more about the design and goals of the program, and receive books and a reading guide. During the weeks prior to the start of the program, the faculty mentors met frequently to develop a schedule, discuss how to run the program, and agree on how to handle group dynamics. Meetings were also held during the program to discuss the progress of the students, modify the schedule and timeline, and resolve any differences of opinion.

The program ran nine weeks; we expected the students to spend between seven and eight hours Monday through Friday and no weekend activities were scheduled. For both years, we divided the summer program into three parts. While we made some changes in the program between our first and second years of funding, a number of elements were common in both years (Table 4). Table 5 outlines some of the lessons we learned during our first summer and changes we made in the second year.

Table 4. Components Common in Year 1 and Year 2

- Assigned readings completed before the start of the program
- Use of ‘theater games’ to introduce team members to each other and build a sense of trust among the group
- Fieldtrips to local points of interest
- Orientation to resources at the Buffalo and Erie County Historical Society, Buffalo and Erie County Public Library special collections room, archives at the Buffalo State College library, and other collections (including photographic) such as those housed at the Lower Lakes Marine Historical Museum
- Weekly meetings to update the group on progress
- Use of ‘scrapbooks’ compiled by librarians containing newspaper clippings for the 1880’s through the 1960’s.
- Design and construction of a display to highlight research results

The first part of the program included a number of activities designed to acquaint the students with the city’s architectural treasures and its environmental, historical, sociological, and geographical context. Assigned readings and discussions focused the students’ attention on key events and provided the background necessary for the students to appreciate the city’s current environmental and social changes.<sup>5</sup> During this part of the program the students also became familiar with the resources available within the community, including ‘scrapbooks’ of newspaper clippings available at the Buffalo and Erie County Public Library and the extensive photographic collection held by the Erie County Historical Society. During the middle portion of the program, the students conducted their research projects. Weekly meetings during this phase of the program ensured that the group maintained close contact. The final part of the program was devoted to the construction of the plywood flats on which the students’ research findings were displayed. The group worked together to construct the plywood flats that were hinged together and painted with various scenes. The creation of the flats required a high level of interaction among all members of the group and made the students consider not only what they wanted to say, but also how they wanted to illustrate their particular topic in a visually engaging way. Examples of projects undertaken by the students illustrate the interdisciplinary nature of the program:

Table 5. Lessons Learned in Year 1 Resulting in Changes in Year 2

- Clearer articulation of expectations
- Stricter attendance policies
- Added requirement of a journal, turned in weekly for review and comment
- Formal presentations by students every week
- Fewer fieldtrips overall, and distributed throughout the program rather than concentrated at the beginning
- Accelerated the process of orienting the students to library/museum resources and gave ‘mini-assignments’ designed to help students identify their projects within the first week
- Use of student mentors (two students from Year 1) to increase the amount of support for the students
- Modification of the display to reduce the time spent discussing its possible design and increase the time available for construction, painting, and layout of the students’ research results

- Documentation of changes in family structure, daily life, and labor (particularly in the nearby grain elevators) in an Irish neighborhood located adjacent to the Buffalo River.
- Documentation of how the African-American community and neighborhoods have changed over the past century.
- Study of changes in the urban landscape, particularly in the number, distribution, and diversity of trees within the city.
- Examination of public health issues and how these issues contributed to major public works projects, the shaping of public health policy, and how daily life changed from the turn of the century to the present.
- Documentation of water quality and over-fishing in Lake Erie and how these factors impacted the quality and quantity of fish in the Niagara River.
- Study of how transportation (transition from canal to rail to expressway) contributed to changes in Buffalo’s neighborhoods.
- Study of the Buffalo Psychiatric Center and how the treatment of mental illness has changed over the past century.



One of the plywood panels from summer 2001 displaying a chronology of events that transformed the Buffalo Harbor and the connections between harbor development and the environment, particularly in the loss of habitat and storage of contaminated sediments dredged from the Buffalo River.

- Study of the construction of the Buffalo Harbor and waterfront including physical changes to the harbor, construction of breakwaters, and the environmental consequences of more than a century of development and modification (shown above).
- Study of curriculum changes in the Buffalo public schools and its connection to political and historic events.
- Study of the care of Buffalo's orphans and the evolution and demise of five orphanages and how their history reflects social movements that affected the nation.
- Documentation of the adaptive reuse of former Buffalo industrial structures.
- The Arts and Crafts Movement in Western New York and its influence on Buffalo
- Study of the effects of water diversion on the Niagara River and the American falls and views on its impact on preserving or destroying the scenic integrity of "the Falls."

## NCUR/Lancy Initiative Final Thoughts

In the first five years of the program, the Alice and Leslie E. Lancy Foundation have combined to fund unique summer research opportunities at 18 colleges and universities. The NCUR Board has administered just under \$1,140,000 of Lancy monies with an overhead of about \$14,400, an extraordinarily low overhead rate of 1.3%! This is a great tribute to the dedication and commitment of NCUR Board members to the Initiative. The Board and the Lancy Foundation are gratified by the response to these opportunities provided by the Initiative and look forward to continuing this modest, but important, contribution to the promotion of undergraduate research in all academic disciplines.

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*Jill Singer is Professor of Earth Sciences at Buffalo State College. Her research interests are in the area of environmental issues, sediment dynamics, coastal processes, and oceanography. Jill is a former CUR president.*

*Tom Werner teaches analytical, introductory and environmental science courses at Union College. His research interests focus on the use of cyclodextrins in fluorescence and in capillary electrophoresis. Tom is the director of the NCUR/Lancy Initiative.*

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