

Clarkson University



AFFILIATES

HANDBOOK

November 2005

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Vision and Mission - Clarkson Center for the Environment

Vision: Clarkson's Center for the Environment will attain excellence and be recognized as a national leader in interdisciplinary environmental research and associated education programs through the:

- Establishment of new and promotion of existing disciplinary and interdisciplinary environmental research initiatives;
- Integration of basic and applied research to provide the increased understanding about complex environmental systems that is needed to solve current and prevent future environmental problems and enable informed decisions and policies;
- Creation and assessment of innovative methods of environmental research and education, with a particular emphasis on a systems approach;
- Development of partnerships with industries, Universities, and other organizations;
- Development and support of graduate and undergraduate degree programs grounded in engineering and the sciences, and informed by an understanding of policy, history, communication, management and ethics; and,
- Promotion of collaborative relationships among faculty, students and partners associated with the Center.

Mission: The mission of the Clarkson Center for the Environment is to facilitate the development, promotion and operation of environmental activities within the University and among its partners. The Center fosters links and collaboration among faculty, students and partners who will actively participate in the activities required to meet its vision of excellence.

About the Center for the Environment: The Center, including associated faculty from across Clarkson's campus, is home to

Clarkson's environmental research centers:

Center for Air Resources, Engineering, and Science
Center for Sustainable Transportation
Environmental Manufacturing Management
Great Rivers Center
Sustainable Energy Systems

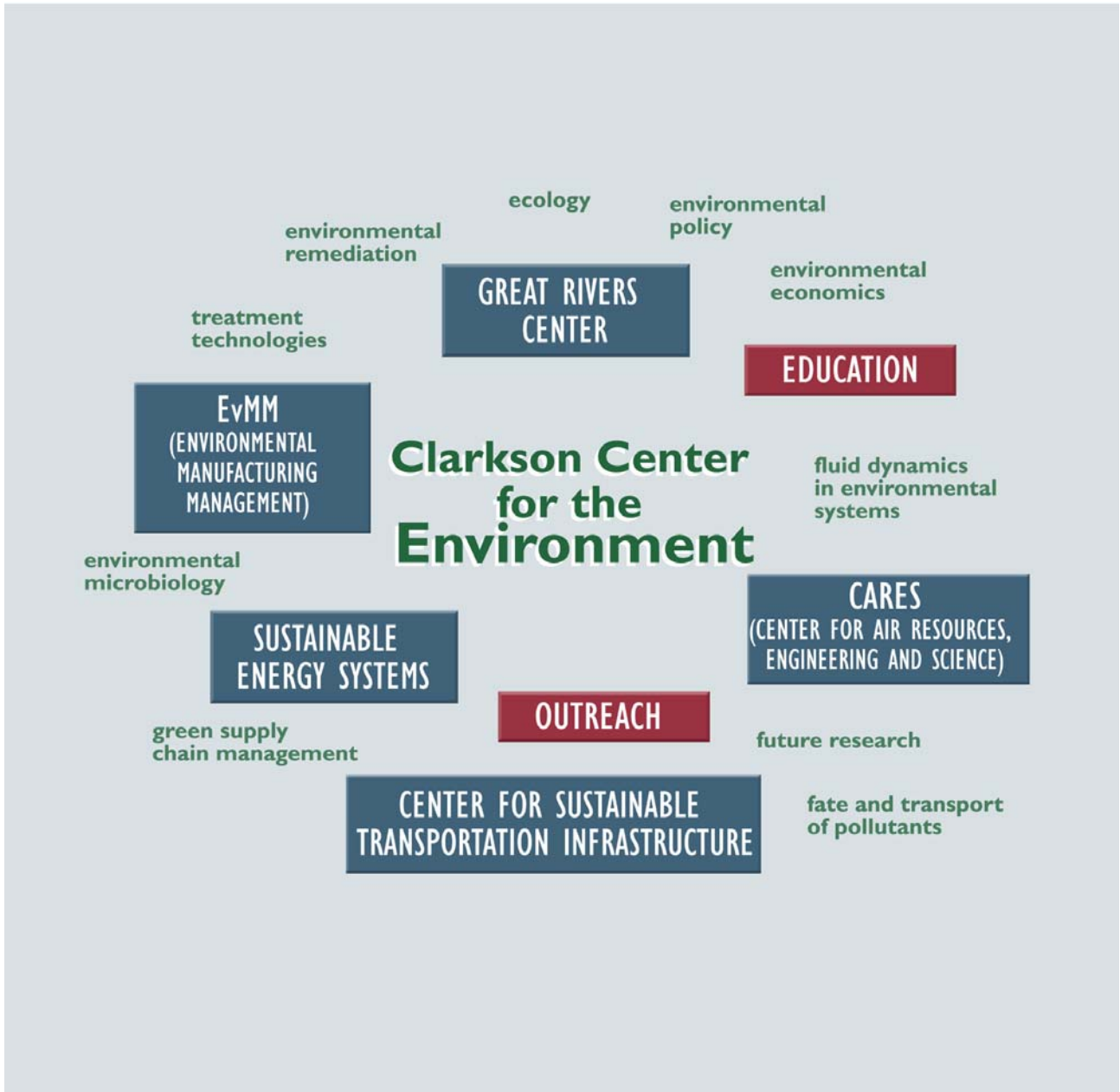
Graduate and undergraduate degree programs,
Environmental Science and Engineering

Campus initiatives and outreach programs

Campus Sustainability Initiative
K-12 outreach programs
HAZWOPER and other training programs
Research experiences for undergraduates
Seminars and symposia

The Center recognizes that environmental challenges require varied expertise within and across science, engineering, policy, communication and management disciplines, and it welcomes both disciplinary and interdisciplinary approaches to environmental problem solving.

Components within the Center for the Environment



Organization of the Center for the Environment

The Provost will appoint a Director and Associate Director of Center for the Environment based upon nominations provided by the Center's Steering Committee. Each of these positions will be a three-year appointment with the possibility of consecutive appointments. The steering committee will conduct an evaluation prior to nominating a Director or Assoc. Director for reappointment.

The Director will be the responsible administrator of the Center and will report to the Vice Provost for Research. The Associate Director will assist in directing Center activities in a manner that is appropriate given the strengths of the director and the associate director. The Director and Associate Director will jointly ensure that all center activities – as defined in the Vision and Mission statements – are completed.

Co-Interim Directors

Dr. Philip Hopke –Director of CARES, Professor, Chemical Engineering

Dr. Thomas Holsen -Director EvMM, Professor, Civil and Environmental Engineering

The Co-Interim Directors of the Center for the Environment are the chief administrators responsible for carrying out the Center's mission. The Directors will:

- Provide regular consultation with the steering committee on matters consistent with the Center's mission
- Develop and communicate with an external advisory committee
- Assemble the annual budget
- Conduct an annual evaluation of staff associated with the Center
- Communicate with faculty and administrators on opportunities and events within the Center
- Coordinate *ad hoc* committees and subcommittees to address specific tasks of importance to the Center
- Seek external funding to support Center activities;
- Generate and distribute promotional materials to increase on-campus and national visibility for environmental research and education activities;
- Provide oversight of graduate degree programs;
- Oversee organization of seminars, workshops and other networking events to promote interaction among persons affiliated with the Center;

Associate Director

The Associate Director of Clarkson's Center for the Environment will work with the Director to advance the Center's mission, including the promotion of the Center within and external to Clarkson, fundraising, and program development. The Associate Director will serve on the Steering Committee (Ex Officio).

The Associate Director will be primarily responsible for developing and promoting the Center's educational mission, including the maintenance and creation of graduate and undergraduate degree programs, short courses and summer programs, workshops and conferences, campus environmental initiatives, and educational outreach.

Steering Committee

The steering committee shall include one undergraduate and one graduate student, the Directors of any of the affiliated programs and at least one faculty member from each of the four Schools to provide representation for both the education and research activities. Members of the steering committee will be recommended by the Director of the Center. The composition of the steering committee will be reviewed annually.

Stefan Grimberg	Associate Professor	CEE	grimberg@clarkson.edu
Kerop Janoyan	Associate Professor	CEE	kerop@clarkson.edu
Thomas Holsen	Director EvMM	CEE	holsen@clarkson.edu
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Kenneth Visser	Associate Professor	MAE	visser@clarkson.edu
Rick Welsh	Associate Professor	Liberal Arts	welshjr@clarkson.edu

Affiliates in the Clarkson Center for the Environment

The active participation of faculty and students in the *Center for the Environment* is critical for the center to meet its vision of excellence. Participation in center activities can take many forms and is expected to vary among individuals, depending on their particular interests and expertise. In return, the Center will provide services that facilitate the development and support the environmental activities on campus and among its partners.

Persons affiliated with the Center will include faculty and research staff from Clarkson University, students from Clarkson University, and faculty from the associated colleges who are interested in collaborative efforts. Faculty and research staff from CU who are presently involved with environmental research, education or outreach activities – or are interested in expanding into these areas – should contact the Center Director or Assoc. Director to be listed as an affiliate. Faculty advisors should suggest names of students who would benefit by participation in center activities.

Benefits of Affiliation

Through its research projects and educational programs, the Center provides opportunities to work collaboratively across disciplines with faculty, graduate and undergraduate students, and with educational and industrial partners outside the university. The Center budget will include some funds to support related activities of faculty necessary to promote interdisciplinary research and education activities. The Center is committed to the following activities that will benefit its faculty and student affiliates:

- Seeking external funding to support Center activities;
- Generating and distributing promotional materials to increase on-campus and national visibility for environmental research and education activities;
- Developing and administering graduate and undergraduate degree programs to more broadly serve needs of affiliates;
- Providing evidence of institutional support necessary for grant proposals;
- Organizing seminars, workshops and other networking events to promote interaction among persons affiliated with the Center;
- Administering a competitive small grants program to fund travel, develop new courses, or initiate research as needed to further develop initiatives within the Center; and
- Providing access to electronic equipment (cameras, projectors, scanner, color laser printer etc.) to support Center activities.

Persons affiliated with the *Center for the Environment* are encouraged and expected to participate in Center activities as appropriate given their needs and expertise:

- Conducting and disseminating research related to the environment;
- Collaborating with Center affiliates and/or partners to develop and find funding for interdisciplinary research ideas;
- Participating in grant writing in support of major Center initiatives;
- Presenting research or educational activities through Center-sponsored seminars;
- Advising graduate and undergraduate students associated with these degree programs;
- Serving on interdisciplinary graduate thesis or dissertation committees;
- Sponsoring undergraduates in research activities;
- Teaching courses required for interdisciplinary degree programs sponsored by the Center;
- Attending seminars and functions sponsored by the Center;
- Serving on Center committees; OR
- Promoting the Center within the university and to the larger community.

The *Center for the Environment* will convene at least one general meeting per year at which activities will be summarized and issues related to the management and direction of the Center will be discussed.

List of Affiliates in the Center for the Environment**School of Arts & Sciences**

David Craig	Liberal Arts	drcraig@clarkson.edu
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School of Business

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Stephan Vachon	School of Business	svachon@clarkson.edu

School of Engineering

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Thomas Young	Civil & Environmental Engineering	young@clarkson.edu
Amy Zander	Civil & Environmental Engineering	zander@clarkson.edu
Alireza Karimi Ziarani	Electrical and Computer Engineering	aziarani@clarkson.edu

Staff

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Students

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Chu Zhang	ESE Student	zhangc@clarkson.edu
Huang Zheng	ESE Student	zhengh@clarkson.edu

Research Activities Attributed to the Center for the Environment

Faculty writing research grants have an opportunity to attribute their proposal to the Center for the Environment. This includes both funding associated with the Center for Air Resources Engineering and Science as well as “general” research associated with the environment. This attribution provides recognition of the range of research funding associated with the environment which helps to promote the Center and justify its existence. Your department will also receive credit since these grants are double counted by the University.

Seed Grants Program

All faculty affiliates in the Center for the Environment should consider being involved with interdisciplinary research efforts. One avenue to promote these research activities is our Seed Grants Program. The following table lists recent recipients of seed grants. A request for proposals is distributed in the Fall semester each year, with the number of grants funded contingent on available financial resources.

Awards 2005

Devon Shipp	<i>Development of a Novel Polymer-Titanium Nanocomposites for Dye-Sensitized Solar Cell Applications</i>	\$2500
Anja Mueller	<i>Development of Imprinted Polymers for Wastewater Treatment</i>	\$ 800
Andrea Ferro Peter Jaques	<i>Characterization of PM and Exposure near the Peace Bridge in Buffalo</i>	\$2000
Amy Zander Susan Powers	<i>2005 AEESP</i>	\$4000

Awards 2004

Dr. Stephan Vachon	<i>Networking NYSERDA</i>	\$ 500
Drs. Stephan Vachon & Mary Graham	<i>Managing Change When Implementing an Environmental Management System</i>	\$1500
Dr. Michael Twiss	<i>Great Rivers Center Initiative</i>	\$ 500

Graduate Degree Programs

M.S. and Ph.D. Graduate Degrees in Environmental Science and Engineering

Interdisciplinary graduate studies incorporating science and engineering aspects of the environment, as well as economic, policy and communications issues

The environment is composed of complex, interacting, biological, chemical, physical and social systems. To adequately understand the functioning of this complex system, and how environmental factors are integrated into a comprehensive decision-making process, it is essential that it be studied in an interdisciplinary framework. Therefore, Clarkson University has new Master’s and Doctorate degrees in Environmental

Science & Engineering that span both science and engineering disciplines and include courses that investigate how science or engineering impact, and are affected by the environment in a broader context.

The degree provides a flexible framework for developing education programs of courses and research that fit each individual student's interests and needs. The degree is housed in the recently established Clarkson Center for the Environment, whose mission is to develop, foster, and enhance innovative, cross-disciplinary research and educational activities at the forefront of environmental investigation.

Our graduates will enter their employment with a broader educational background and will be able to better understand how engineering and sciences impact and inform policy decisions.

The program is administered by the Clarkson Center for the Environment. Interdisciplinary groups of faculty affiliates associated with the Center will advise graduate students.

Additional details are included in the Graduate Handbook, which is available through the Center office.

Course Requirements

Student must take at least one course from the following:

- ES 532 Risk Analysis
- EC 660 Environmental Economics
- CE 582 Environmental Systems Analysis
- CE 586 Introduction to Industrial Ecology

M.S. Student must take a least two courses from at least one of the following course groupings and have at least three engineering courses among their courses.¹

Ph.D. students must take at least two courses from each of two of the following groups²

<p>Biology and Ecology</p> <p>BY501 Great Lakes Science Practicum</p> <p>BY518 / IH 518 Occupational Toxicology</p> <p>BY520 Microbiology</p> <p>BY525 Biological Systems & Global Env. Change</p> <p>BY531 Limnology</p> <p>BY620 Evolution</p> <p>BY659 Systems Biology</p> <p>BY696 Directed Study in Environmental Biology</p> <p>ES533 Human Exposure Analysis</p>	<p>Chemistry and Physics</p> <p>CE580 Environmental Chemistry</p> <p>CH509 / CM509 Receptor Modeling in Env. Chemistry</p> <p>CH576 / CE577/ CM576 Atmospheric Chemistry</p> <p>CM552 Aerosol Chemistry</p> <p>CM530 Colloids and Interfaces</p> <p>CM532 Analysis in Dispersions and Other Colloids</p>
<p>Control Technologies</p> <p>CE579 Water and Wastewater Treatment Processes</p> <p>CE581 Hazardous Waste Management Engineering</p> <p>CE585 Environmental Implications in Manufacturing</p> <p>CE681 Environmental Physico-Chemical Processes</p> <p>CE682 Environmental Biological Processes</p> <p>CE686 Environmental Engineering Design</p> <p>ES534 Air Pollution Control</p> <p>IH506 Industrial Hygiene Control Methods</p> <p>IH581 Advanced Topics in Environmental and Occupational Health</p>	<p>Fluid Mechanics and Transport</p> <p>CE 514 Groundwater Flow</p> <p>CE570 Advanced Hydrology</p> <p>CE572 Shallow Water Hydrodynamics</p> <p>CE 573 Sediment Transport</p> <p>CE 574 Hydrodynamic Dispersion</p> <p>CE575 Coastal Engineering</p> <p>CE 583 Modeling Natural Aquatic Systems</p> <p>CE 584 Chemodynamics</p> <p>CE 576 Hydraulic Engineering in Cold Regions</p> <p>CE 587 Contaminant Transport in Groundwater</p> <p>ME537 Mechanics of Aerosols</p> <p>ME538 Experimental Aerosol Mechanics and Instrumentation</p> <p>ME637 Particle Transport and Deposition</p>

¹ with a total of at least 18 course credits

² for a total of at least 24 credit hours of course work

Standard operating practices for the Center for the Environment office

1. The Center for the Environment Office will be open during normal business hours. All business should be conducted during those hours unless special arrangements have been made with the Center Staff.
2. Graduate Student Mailboxes are located in Rowley 160. This room is open during normal business hours.
3. The Center conference room may be used for meetings and special projects. **It can not be used to hold classes.** The Conference Room **MUST BE SCHEDULED** through the Assistant to the Director for the Center.
4. The Center has a conference telephone that may be reserved. This telephone must be used on a single line only. The conference room has been set up for this purpose. To use the phone you must sign the appropriate page on the equipment sign out sheet, enter an account # to be charged, as well as reserve the conference room. If there are any problems with the phone, please relay that information to the Assistant to the Director.
5. The copy machine in the Center will be used only for office use. Undergraduate students are expected to use resources that are available to them throughout campus. Graduate students are expected to use their copy cards with other copiers on campus. Copy cards may be obtained from your advisor.
6. All equipment must be signed out and in appropriately. Please note that people reserve equipment in advance. **You must always check the reserve schedule and make sure no one has already reserved the equipment for the same time.** If you have any problems with equipment, please notify the Assistant to the Director so it can be rectified in a timely fashion.
7. The Center office has one computer for faculty and graduate student use. This computer is not intended to replace your own computer or for personal use. It is to be used during office hours only, unless special arrangements have been made to use it at another time. This computer can be used to download pictures from the digital cameras, for scanning, and to prepare on line purchase requisitions.
8. The laser printer in the Center can be used **only during business hours and is not for personal use.** Graduate students may have items printed only if related to CCE work. Otherwise they must use other printers available on campus. If there is a paper jam or other printing problem, **please do not attempt to resolve the issue on your own.** Notify the Assistant to the Director for assistance.
9. Used transparencies may be dropped off at the Center office for recycling.
10. The Center has started a small library with journals, books and videos. Please sign this material out before borrowing it.

11. When requesting assistance from office staff with making room reservations for meetings, please have the following information available: the date, beginning – ending time you will need the room (this should also include the time for setting up and packing up any equipment), choice of classroom or conference room, number of people attending, equipment requirements for the room, type of food and drinks if required, and any other special needs you may have.

Equipment available for use by affiliates

The Center for the Environment office (104 Rowley) has several resources that you are encouraged to use in support of your CCE research and education activities. Call x3856 for reservations or questions

Desktop PC may be used in the CCE office to download pictures from Center cameras, prepare purchase requisitions, burn cd's, etc --- it is equipped Microsoft Office, Adobe Acrobat and Photo Shop 7.0, WordPerfect 2000 a zip drive (uses 100MB zips) and cd burner

Hewlett Packard Scanner – for use in the office through desktop computer

4 Digital cameras

Kodak with rechargeable batteries

Nikon with rechargeable batteries

Olympus with rechargeable batteries

Canon with rechargeable batteries

4 Laptop computers available. Laptops are loaded with general software

2 zip drives -- Please provide your own zip disks. If you must use one from the office, please replace it or return it when you are finished.

1 Iomega 24x10x40 external USB CD-RW drive

3 LCD Projectors

Color laser printer -- This must be used in the office with approval of the Assistant to the Director

Small conference room (up to 6 people) equipped with professional quality conference phone

Small Library -- containing books, journals, magazines and seminar videos

Easel and pad

Laser pointer