TGIF Taking Great Ideas Forward

Improving Northern Capital - Sustainable Development in the Northern Tier

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"It is a monstrous abuse of the science of biology to teach it only in the laboratory---Life belongs in the fields, in the ponds, on the mountains, and by the seashore."

-James G. Needham-

MEETINGS and EVENTS:

Links will provide additional information. Dates for recent additions are in **bold**.

What	*Date*	*Time*	*Where*
Biodiesel Study Group	Mondays (all)	7:00-8:30 PM	Washburn Library
Innovation Master Class	Dec. 5-6	All Day	Madison
Managing Visitor Use in Coastal Areas – Reservation Required	**Dec 5-6**	All Day	Duluth - US EPA Conference Center
Environmental Summit 07	Dec. 5th	8:30-2:30	Green Bay – St.Norbert College – Bemis Center
Inventors & Entrepreneurs Club	Dec. 6th	6:00pm	Iron River
BCEDC Board Meeting	Dec. 10th	10:00 am	Washburn Library
Superior Days Planning	Dec. 11th	Noon	Superior – The Shack
Global Marketplace Conference	Dec. 10-11	All Day	Los Angeles, CA
EcoBuild 2007	Dec. 10-13	All Day	Washington DC
Superior Days Planning	Jan. 8th	Noon	WITC - Superior
Superior Days	Feb. 26-27	All Day	Madison
Fusion 2008	March 5-6	All Day	Madison, Fluno Center
Green By Design Conference	June 12-13	All Day	Washington DC area

PASSING

Tomorrow I will travel to Minneapolis to celebrate the life of a treasured and respected colleague. **Dr. Ann Heuschele** and I shared parallel careers and a marvelous teaching space at **Normandale College** through 27 exciting and rewarding years. A month ago, she lost a courageous battle with cancer.

She remained at Normandale for a few years after I departed, continuing to reach and teach students with passion and great, insightful intelligence.

Our specializations in biology were different. Ann was a superb invertebrate biologist, always confident and comfortable in the field with hip boots and collection nets. It is the nature of Community Colleges that faculties are small without the luxury of sharing space with kindred scholar-specialists. Sometimes, and for some faculties, this intellectual isolation means good minds are turned to distracting pursuits including campus politics. Ann stayed out of all of that, perhaps, in part because, biology seems to be different from other disciplines. Collection nets and microscopes help biologists focus on a fascinating living world that brings perspective and dims competing pursuits. The historic sub-fields of biology (botany, zoology, microbiology, etc.) are unified through so many foundational concepts; genetics, evolution, cell theory, bioenergetics, metabolic pathways and enzyme mechanics, the "Central Dogma" of molecular biology and, of course, the embedded systems thinking that led biological science away from purely reductionist approaches to the emergence of ecology, conservation biology and the central function of biodiversity.

There is little space in biological science or biology departments for either major doctrinal disagreements or unabridged dogma. Questioning is appropriately intense and directed at real problems of understanding. Even the early tongue-in-cheek expression "Central Dogma" was questioned with answers leading to understanding of cancer genes and the virus that causes AIDS. Respect seems always to recognize the incredible and interesting complexity of living organisms and how much is unknown.

Educational breakthroughs in the biological sciences have been legendary. In the 1960s the **Biological Sciences Curriculum Study**(BSCS) followed the 100th anniversary of **Darwin**'s book "*On the Origin of Species*" and the 1953 revelation by **Watson** and **Crick** of the DNA double helix. BSCS revolutionized the teaching of high school sciences, first biology, then, with imitation, in chemistry and later physics. College teaching was also re-examined. Shortly before Ann and I joined the Normandale faculty, **Dr. Sam Postlethwait**, a botanist at Purdue, developed a system of teaching called Audio-Tutorial Instruction. While at Mankato, **Dr. Dan Burton**, also a botanist, had introduced me to the concepts of A-T Instruction. His enthusiasm was not supported by his Mankato colleagues. But when I was interviewed by Normandale President, **Dale Lorenz,** my knowledge of the method and my interest in pursuing its implementation was probably the single most important factor in my being hired at Normandale. A good part of my interest stemed from recognizing that A-T Instruction would be an excellent enabler, providing space for inquiry-based instruction; obviating the slavish rigidity of traditional science teaching laboratories.

Ann brought to Normandale a set of excellent research credentials and teaching experience at an elite private college. Convincing Dean, **Arland Otte**, and President Lorenz that she was a fitting choice for a two-year college was a challenge. But in the end of several days conversation, Lorenz asked, "Are you sure?" I immediately said "Yes!" Ann led an enlightened and

creditworthy implementation of A-T Instruction in our introductory course, while I, and later my friend and colleague, **Wayne Becker**, implemented, innovated and expanded the method in Anatomy, Physiology and Microbiology. With the addition of **Dr. Joe McCulloch,** a team emerged that was widely recognized for excellence.

Ann and her husband, **Ralph**, loved sailing and for several years maintained a Lake Superior craft, I believe in Bayfield. Ann also focused on the ecology of the Lake and participated in investigations to ascertain the impact of taconite tailings in the Silver Bay, MN area of the lake.

Good years pass quickly. Ann has passed too soon. She will be missed by many friends, former colleagues and a loving family. Her life touched many, thousands of students attended her courses, but it is the circumstance of teachers that the impact of a life's work is only partially known. The celebration of Ann's life on Saturday will bring that impact into sharper focus.

Computer Snafu – University Computer Equipment found in Minnesota Inland Lake.

I received the above captioned item from **Lissa Radke**, US Coordinator for the **Lake Superior Binational Forum**. It provides some scary information and my reading suggests that this may not have been an isolated incident. I may try to work some sources at MPCA to see if there is anything more. From my experience with **LongRun** and from stories I've heard from **Carl Lindquist** , Executive Director of the **Lake Superior Watershed Partnership**, it is easy to accumulate a warehouse full of electronic waste. It is also very expensive to dispose of what is collected. Even with LongRun's partnering with the Wisconsin Prison System, it lost $1,700 and Carl apparently ran into a financial nightmare in Northern Michigan attempting to support a faith-based group that collected tons of E-Waste. I wonder if these Minnesota guys were sitting on a huge problem, a mountain of computers and computer parts, and then found a source of discarded boat hulls. Old boats are probably pretty hard to discard also. What a creative but grievously misguided combination. Whew!

LIGHTER SIDE:

As with most jokes the original author is unknown. Whoever you are; “Thanks!” Names, when added, are intended to tease the innocent.

There was a biology student who was studying equilibrium in sea birds with a specific focus on terns. He proposed that giving measured doses of THC (from, of course, marijuana) and observing their flight patterns would give some insight to the problems of equilibrium in three dimensional space. This proposal being given in a more liberal era, the student got the funding. He filled out mountains of forms, set up a lab with a ready supply of terns, and proceeded on his way. After a year of diligent work, groveling monthly before the review committee to get his stipend, and living with drugged terns, he completed his study.

With trembling hands, he delivered his 247-page report, complete with charts and graphs, to the review committee. The august body peruses his study, asking penetrating questions and reducing our student to jell-o. Finally, the department head rises. The light reflects off her steel rimmed glasses as she stares down at our student.

"There is a lot of good work here," she says. "But we can't accept this report. You have detailed marvelously the effects of THC on terns but you forgot one essential step: you have no control group." Our student turns pale and says, "You don't mean..."

"Yes. I'm afraid so. You left no tern unstoned."

Take care and have a great weekend!
/BRUCE

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Bruce Lindgren is Principal of B.Lindgren CONSULTING. ***The consulting practice serves small business, local government, school districts and non-profits providing support for research, grant development, technical writing, marketing support and project management. Bruce brings his background in biological sciences, education, small business and media technology to generate and implement ideas contributing solutions to mission critical challenges.***

In addition Bruce maintains the following affiliations:

Bayfield County Economic Development Corporation, **(BCEDC)** D*irector*

Inland Sea Society, **(ISS)** ***Director***

Lake Superior Binational Forum, **(LSBF)** ***US Delegation Co-Chair***

Raindrop Garden Gallery, **(RGG)** ***Co-owner***

IDEA Consortium LLC, ***Owner***

Chequamegon Institute, Inc. ***Initial Registered Agent***

Coalition for Eco-Industrial Development, **(CEID)** ***Work Group Member***

Northwest Wisconsin Workforce Investment Board, **(WIB)** ***Member***

The encircled fractal triangle represents an integrated cluster of seven ideas – economics, ecology, equity, ethics, experience, education and energy – that may be considered a core for sustainability studies. Bruce is available to present illustrated lectures and facilitate discussions about role of education in Industrial Ecology, Sustainable Development and the Sustainability Revolution.