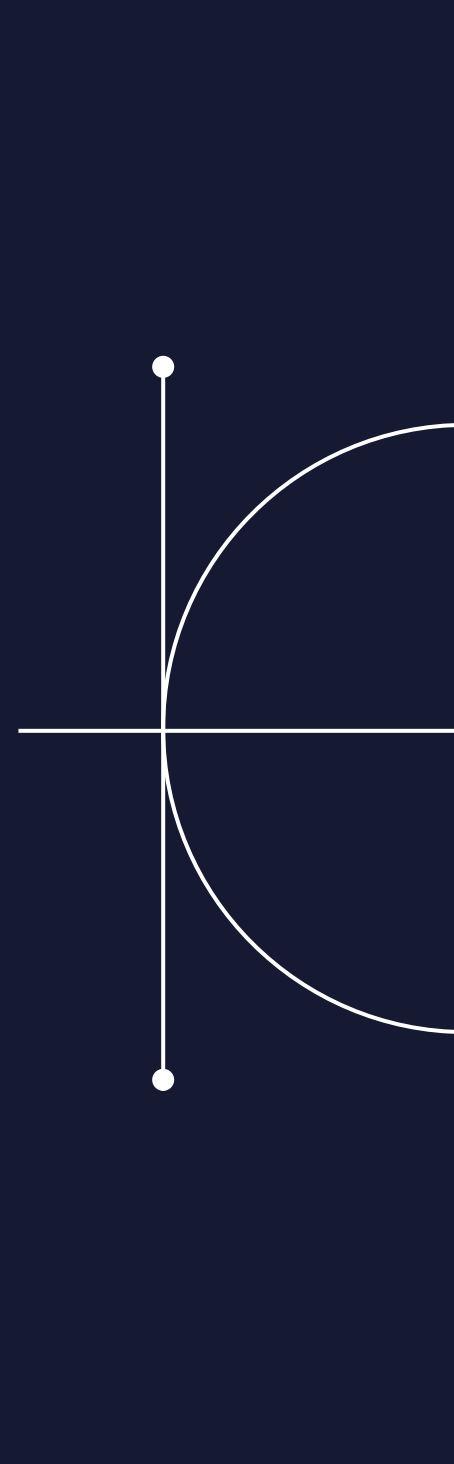


Interdisciplinary
Environmental
Education -
working together
to solve problems
and create
opportunities



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Institute for Environmental Studies

Benefits of Interdisciplinary Education
2024 Upper Mississippi River Conference

A brief
word on
different
types of
'disciplinary'
learning ...



Multidisciplinary



Interdisciplinary



A combination of both

What 'discipline' is responsible for addressing this?



Like many
of you, I
wear a
number of
different
hats.

- I'm an aquatic environmental engineer
- Chair of WIU's Interdisciplinary Environmental Science Ph.D. Program
- Director of WIU's Institute for Environmental Studies



Most
importantly,
I'm a
Professor



I work with **multi- and interdisciplinary** teams to develop science-based approaches to improve the quality and resilience of aquatic environmental systems.



My work bridges the gap between environmental engineering/science and ecology ... and a few other related fields.



Meaningful insights into current challenges come when we view the environment from different points of view.



What we do ...



Aquatic environmental assessment and remediation



Laboratory analysis



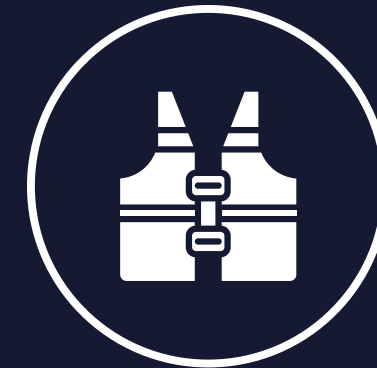
Remote monitoring



Planning



GIS



Field studies

A 'typical' project

An environmental investigation ...
with a major focus on the analysis
of field samples ... supplemented by
remote monitoring ... and organized
into a geospatial database.



For example ...

Suspected historic contamination of aquatic and terrestrial habitats at a site located adjacent to the MSR.

- Source of contamination? Heterogeneous industrial waste deposited on the shore of a lake.
- Contaminants? Probably metals but not sure which ones.
- Impacted environmental compartments? Definitely soil but full extent unknown.

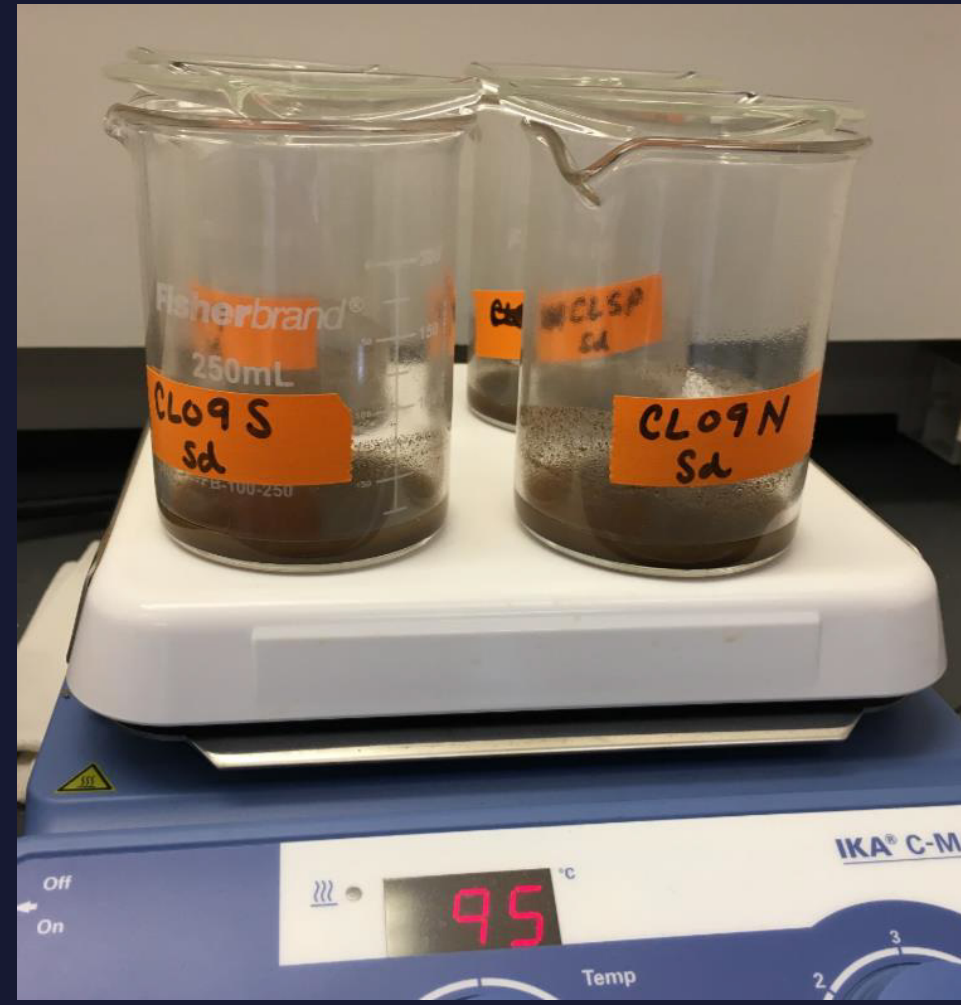
Complicating factors

- No records
- Site becomes part of the MSR during flooding
- High GW table
- High hydraulic conductivity soils
- 'Interesting' surrounding site use(s)



Each unknown is
an opportunity!





This approach ...

- Necessarily includes people with many areas of expertise
- Leverages the strength of a larger network
- Creates opportunities that would otherwise not exist
- Reinforces fundamentals
- Provides students with skills employers want
- Requires commitment, coordination, and communication
- **WORKS!**

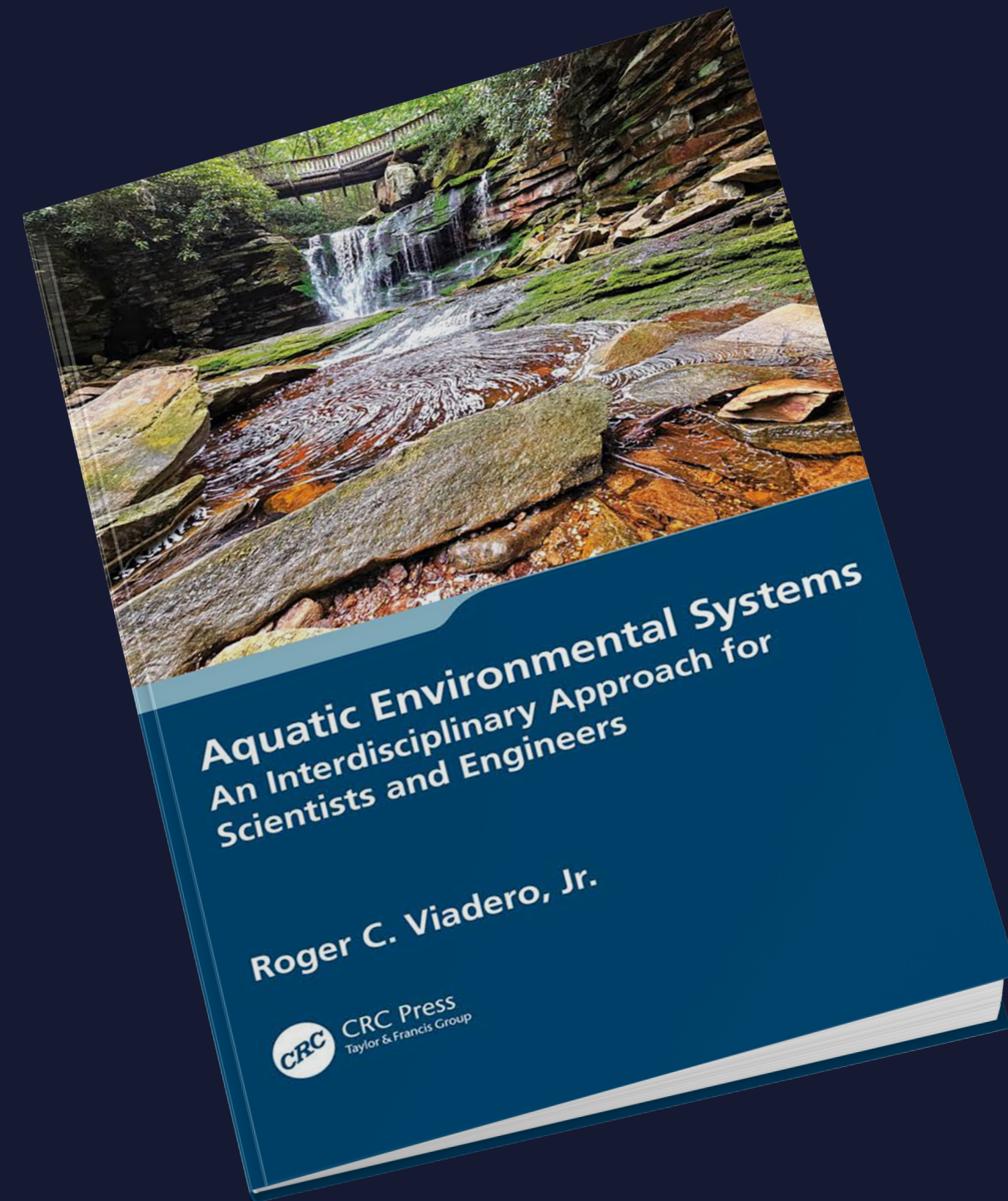
... isn't all
sunshine
and roses

- Necessarily includes people with many areas of expertise – can be **suceptible to [competing] disciplinary bureaucratic pressures**
- Creates opportunities that would otherwise not exist – can be **a challenge to existing resources and focus**
- Requires commitment, coordination, and communication – **not a 'token' committment**

Getting there

- Recognize that no single person knows everything
- Stay curious
- Be prepared to make mistakes - just don't repeat them
- Be on the lookout for opportunities
- Find a mentor
- Be a mentor

I think
about this
topic a lot



... so much that I wrote a
book to get people who
study and work on aquatic
environmental systems on
the 'same page'.

How do I
know this
works?

- Prospective student interest
- Placement of graduates
- Feedback from graduates and employers
- Stakeholder engagement
- Program resilience



Many thanks for
your time and
attention!

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time and attention!

 Prof. Roger Viadero

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