PROTECT Training Core Presentation

Dr. Thomas Sheahan, Training Core Leader
Ms. Kristin Hicks, Core Director
January 23, 2013
PROTECT: 4 institutions
Northeastern - Ms. Kristin Hicks, Core Director
Michigan
UPR Mayaguez - Dr. Aidsa Santiago Roman
UPR-MSC
Internal Trainee Advisory Group – from all institutions
Internal Investigators Advisory Group
External Advisor Board
External Evaluator – SageFox Consulting, Amherst, MA
Core is dedicated to:

- Providing high quality training opportunities to our trainees
- Differentiating training experiences for different trainee levels
- Serving as a strong integrating force for the whole program
- Continuously improving the trainee core offerings and opportunities
Challenges

Unique to PROTECT

- Multiple institutions
- Geographically spread out
- Cultural/language diversity

Common for all SRP Centers

- Busy investigators & trainees – balancing act
- Biomed/non-biomed spread
- Budget constraints
Training Core Aims

- Original Proposal Training Core Aim

  The aim of the training core is to provide high quality interdisciplinary biomedical and non-biomedical training, education and mentoring for the diverse group of students at the institutions participating in the PROTECT program.

- Proposed Revised Core Aims

  The aim of the training core is to 1) provide high quality interdisciplinary biomedical and non-biomedical training, education and mentoring experiences for trainees at the institutions participating in the PROTECT program; 2) with the RTC, extend applicable PROTECT training experiences to the greater SRP/EPA community, and 3) coordinate training activities with, and trainee participation in, the Community Engagement and Research Translation Cores.
• **Revised Training Core Program Objectives** will provide opportunities/experiences for students to:
  
  o **understand and integrate** problems and concepts of health impacts assessment of contaminated systems, contaminant detection, fate and transport, exposure routes, remediation, and information management;
  
  o **develop competence** in the applied methods underlying research core activities;

  o advance their technical, professional and personal skills/knowledge/attitudes to motivate and prepare them for successful careers in these fields.

  o participate in and contribute to the CEC and RTC activities, including serving as a resource to the RTC for the greater SRP/EPA community

• **In addition, the TC will**

  o promote environmental health fields to underrepresented populations through recruitment activities
Accomplishments and Statistics

Trainee Statistics

- **36 Trainees as of January 2013**
  - 8 from NU, 10 from UMich, 9 from UPRM, 8 from UPR-MS and 1 from WVU
  - 2 BS candidates, 14 MS candidates, 2 MPH candidates, 12 PhD, and 6 PostDocs
  - 23 women and 13 men

- **9 Trainee Graduates as of October 2012**
  - 4 PhD, 1 MS, 4 BS; 3 faculty members from our alums

- **Trainee Awards**
  - Cassie Korte – 2 poster awards in Spring 2012
  - Amanda Laskoskie – Karst Scholarship in Spring 2012
  - Celys Irizarry – KC Donnelly Externship Award in Summer 2011
  - Juan Manuel Paz-Garcia poster competition in Summer 2011
Training Core Presentations and Activities

- Webinars - 25 to 50 attendees per presentation
  - 12 presentations from Fall of 2010 – Spring of 2012
  - 6 presentations planned from Fall 2012 – Spring 2013
  - Technical Topics alternate with history, community engagement, risk management

- Town Meetings – critical to build community
  - 6 meetings in 2010/2012
  - 6 meetings to be held in 2012/2013
  - Led by senior-level Trainees

- Trainee Skill Builders
  - 7 presentations in 2011/2012
Training Core Presentations and Activities Cont.

- Let’s Talk About Water Symposium in 2011 – with RTC
  - Over 200 attendees
- PROTECT Orientations
  - 2010 and 2012 Events – most recent focused on Trainee presentations
- Research Training Card Presentations
  - 13 Trainees presented at the 2012 PROTECT Retreat
  - 23 Trainees presented at a March 2012 Webinar
- Research Poster Presentations
  - SRP Annual Meetings – 7 – 10 presentations per year
  - 2012 PROTECT Retreat - > 20 presentations
  - 2010 and 2011 Research and Industrial Collaboration Conferences - 12 presentations
Data collection:
- Program Retreat Interviews (Feb./March 2012)
- Participant Survey (Sept./Oct. 2012)
- Various meetings with Training Core in 2012

Produced evaluation report in Dec. 2012

Follow-on survey planned for longitudinal analysis

Publications based on results
Sage Fox Evaluation
Excitement & Engagement in Research

ABOUT THE RESEARCH EXPERIENCE

I am excited about the research I am doing with PROTECT

I feel that the results of my work have contributed or will contribute to one or more PROTECT cores/projects other than my own

I have been adequately trained to understand the ethical aspects of my research for PROTECT

My research project is dependent on the other research thrusts/projects of PROTECT

% Saying "Strongly Agree"/"Agree"

0%  20%  40%  60%  80%  100%

Non Trainees  Trainees
INTERDISCIPLINARY CONNECTIONS

- I have a positive relationship with other members of PROTECT
- I am well-informed of PROTECT project-wide developments outside my immediate research team
- I feel connected to other PROTECT members at other institutions
- I feel connected to other PROTECT researchers at other institutions

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<th>Non Trainee</th>
<th>Trainees</th>
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USEFULNESS OF PROTECT ACTIVITIES/RESOURCES

- PROTECT Retreat
- Webinars
- Virtual Project Meetings/Conference Calls
- Town Meetings
- SRP Annual Meeting
- Northeastern Industrial Collaboration Conf
- Skill Builder Workshops
- Research Card
- Secondary Mentor

% Saying "Very Useful"/"Useful"

- Non Trainee
- Trainee
Continuous Improvement

Continuing Activities

- Webinars – part of our “brand” – Shows link with RTC
- September Orientation (with changes)
- Town Meetings
  - emphasize “Town Commons” nature – key for connections
  - critical for trainee participation
- Maintain investigator liaison group, student committee, and SRP SPAN participation
- External Advisory Board – Emma Fernandez (UPR); Dawn Terkla and Donna Qualters (Tufts)
Continuous Improvement

Changes to implement

- Develop a more robust Recruitment Plan
  - Spanish-speaking students
  - SACNAS, MAES, and SHPE
  - Recruiting for environmental health, not just PROTECT
- Continuous improvement of Orientation experience
- Promoting fellowship/training grants
- Modified cross-disciplinary mentoring plan
- Differentiated Training Experiences
- Offering “menu” of various TC activities – PIs & trainees
## A Menu of Training Activities

### PROTECT Training Core Objectives Satisfied

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<td>Assist with PROTECT Academy and other training module prep/delivery</td>
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<td>Contribute to interdisciplinary publication/presentation</td>
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<td>Present on environmental health research, etc. at recruitment events</td>
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<td>Presentation at discipline-specific meeting/conference</td>
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<td>Participate in external and internal networks</td>
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Continuous Improvement

- PROTECT Academy – audience: EPA, SRPs, public?
  - Interdisciplinary Modules – 1.5 hours, every Friday in June 2013
  - Proposed topics – Contaminant Transport, Epidemiology, Toxicology, Remediation, Risk Assessment
  - Combine and propose one-day workshop at 2013 Annual SRP Meeting
  - Interaction with RTC
  - Seminar course or Professional M.S. based on this?
Evaluation

- Evaluation
  - Continue with SageFox
  - Obtain more data on trainee experiences – mentoring, integration
  - Produce publications for other journals
    - Higher Education
    - Environmental Health Education
    - EHP Commentary
  - SageFox provides good input on activities, organization, integration
IOWA SUPERFUND TRAINING CORE

Gabriele Ludewig, Tom Cook, Larry W. Robertson
Emphasis: multidisciplinary, international, holistic → without borders

GOALS

- Recruiting
- Multidisciplinary Research Training
- Personal Skills Training (writing, communicating, etc)
- Preparing for a job: a good CV and good connections
- Training Program Outreach to Stakeholders
- New Connections - the Future
- Tools - Budget
Recruiting - what works, what doesn’t

- Recruiting at meetings (SOT etc)
  - so-so

- Recruitment by UI recruiters at recruitment meetings
  - We give them flyers - I have not seen any success yet

- Through our degree programs (Tox, Eng, others)
  - Excellent! Applicants want a degree in something and then see the interdisciplinary options and possibilities of the Superfund → great SYNERGISM!

- Student-to-student
  - mouth-to-mouth works, they trust each other, send students to undergrad recruitment events at meetings
Recruiting - what works, what doesn’t – cont.

- Summer Research Experience (SROP)
  - Highly motivated students
- Biosciences Recruitment – 1 year before committing to a program
  - Excellent domestic students!
- Faculty-to-faculty/alumni
  - got some great students this way, particularly from abroad

Overall: we get excellent students, but to attract minorities to UI is difficult
Multidisciplinary Research Training

WORKS SUPER!

- IA Superfund has great multidisciplinary team!
  - PI’s are participants on each others projects
  - UI’s one-fund policy helps, no administrator in the way

- Open labs – shared equipment and expertise
  - Whatever a trainee needs – if it’s present, it’s available

- Multidisciplinary Thesis Committee
  - A requirement, but actually a natural consequence
  - Example: Brita (Human Tox, Occupat. Env Health, Industrial Hygiene, Internal Medicine, Environmental Engineering)
Personal Skills Training

So multifaceted - use every tool available

- Training in Communication Skills
  - Monthly joint Superfund Meeting
    - Trainees present the research
  - Journal/research club
    - Trainees analyze paper of their choice
    - Trainees present their research
  - Seminar Series
    - Students have to give talk before graduating
    - Experts give talks about “How to ..”
Training in presentation skills - Trainees present posters and oral presentations at:
- Local Meetings (UI Research Week, GS Research Week)
- Regional Meetings (CS-SOT, others)
- National and International Meetings (SOT, … Superfund Meeting)

Training in Presentation Skills
- Instructions in poster preparation
- ‘Dry-runs’ of poster and oral presentations
Personal Skills Training — cont. 2

- Writing papers
  - Seminar talks from Pro’s
  - Workshops from UI
  - Trainees help with manuscript reviewing
  - First draft from trainee

- Grant writing
  - Workshops and one-on-one with Grad College staff
  - Availability of pilot grants

- Teaching
  - Limited resources — trainees focus on research
Preparing for a job: a good CV and good connections

Student placement - the latest demand on faculty

How to approach this task

- Facilitate Networking
  - Students invite seminar speaker and organize visit
    - Students love it/work together/built connections for life
  - Student lunches with invited seminar speakers
    - Lot’s of pizza – for the students, speaker often gets nothing
  - Alumni invited as seminar speakers
    - Great hit with trainees (not only ours)!
Preparing for a job: a good CV and good connections, cont.

- Networking cont.
  - Take trainees to meetings
    - Lot’s of driving
    - Lot’s of money
    - but it is VERY important part of their training

- UI workshops in CV preparation, interviewing, etc
- Facilitate Internships ?! - companies, EPA, ...
- Encourage use /create Societies resources (SOT, CS-SOT provide workshops, seminars etc)
Training Program supports Outreach to Stakeholders

- We help and cooperate with Superfund Outreach Core and others (David Osterberg, Craig Just, others)
  - High School student (middle school?) Research Field Trip to UI
    - Also great training for our Trainees!
  - Teach the Legislatures
Training Program supports Outreach to Stakeholders, cont

- Undergraduate (summer) Research Experience
  - Potential future student?! Minority recruiting?!

- Serve as Experts to Lay persons – Service – has not been an emphasis yet (sporadic)
  - Media, local gov and ngo’s

These are kind-of “Non-Traditional” training activities, which still need to be better explored
New Connections - the Future

- Exchange with other universities – example Netherlands
  - Alumni send good students
  - Formal exchange program is in the works

- Provide support for emerging programs in developing countries – example Africa
  - PCB Workshop (every other year, different place)
    - this time (2012) with special symposium “PCBs in Africa” – unique opportunity for African scientists
  - The Gambia – help for a fledgling
    - Tom Cook exploring, UI alumnus as local connection
Seek more interaction with other Superfund programs

- K.C. Donnelly awards and beyond
  - We encourage trainees - More is possible
- Small cooperation projects
  - Like the stimulus grants! Great idea, we need more
- Serve as external reviewer (LW Robertson)
  - It provides help for sister programs and could …?

Environmental problems can only be solved together

Training international students is a first step, establishing cooperations a necessary next step
What helps, what works

- Great team
- Support from UI (Grad College, others – they listen!)
- Monthly Superfund Meetings – student’s run the show
- Weekly Seminars – with student participation
- Challenges: Meetings – Competition – Awards – Outreach
- Connections
Concerns for the future

- Partial Fellowships and tuition from NIEHS are very generously matched by Grad. College!
  - If we cannot use funds for fellowship and tuition
    - we will loose the matching funds
    - we cannot support student exchanges

- How do I pay for other activities with rising constrains?!
  - food, computers, teaching, reimbursement for outside stakeholders, …
Outlook: tips and suggestions

- We have to be more than PI on a Training grant, i.e.
  --- for holistic training we need to
  → use all resources that may be available

- Be an active member in your Society, regional chapter in your society
- Be involved in University administration
- Get involved in seminar planning, …
- Keep in contact with Alumni
- Use your imagination, creativity, intuition (- and the NIEHS Superfund team/SPAN).