

# Proceedings of The Institute of Food Technologists' First Annual Food Protection & Defense Research Conference

November 3-4, 2005  
Atlanta, Georgia

[Session: Education and Outreach]

## The Unique Marriage of Emergency Response, Supply Chain Management and Food Security

DR. EDMUND MCGARRELL  
MICHIGAN STATE UNIV.

Thanks, Ed (Mather); your comments set the stage for what I was thinking of as I was sitting there looking out at this audience of folks that have spent their careers in food safety and feeling like, well, I enjoy food (inaudible).

When I got out of college, I grew up in Upstate New York and this was the – when the rust belt first started to experience economic difficulties and I went home one weekend, knowing I didn't have a job; had a degree and no job. An old baseball coach told me, well, I can get you a temporary position in the Elmira Correctional Facility. If there are any historians out there, the old Elmira Reformatory was the world's first reformatory – you may not think that this connected to food safety but bear me out. My first day there I was walking down a cell block with a correction officer, a crowded cell block of eight or nine stories and all of a sudden this guy pulled me in and under the little walkway as a jar of peanut butter came from about the eighth floor and splattered at our feet.

Now you may not think of that as food safety but if I had been hit in the head with that peanut butter – now a little while later my position was – I was the recreational coordinator for the mental health unit. So if you could envision "One Flew over the Coo-Coo's Nest," with a kid that just got out of college that has no clue that was my experience. But what I remember in the food safety arena was a time that I was eating lunch with a group of my inmates, mental health challenged inmates, and I got called away and I came back and there is my sandwich sitting – and these guys are all laughing and so I quickly did a risk and vulnerability assessment and tried to figure out what they were doing with my lunch that was causing the laughter.

Anyway, now 30 years later I find myself involved in food security research. I don't know how much thought went into putting together this panel but whoever did give it thought I think it has really come together nicely. David Acheson gave us the broad agenda of thinking about the educational needs in the security arena. Trent, very nicely set out a vision for this. Curtis then grounded that vision in the food safety and defense arena and Donna started getting us thinking about resources for doing that. Now I'll come at it a little bit different arena, but trying to think what the security folks can hopefully bring to the table that will be of value. I really want to emphasize 3 points; one would be what I see as the advantages of online instruction, and I'll also mention some of the challenges of online education

I also want to tie back to the DHS network that's being created not only through the research centers of excellence but through other programs such as those provided by the Office for Domestic Preparedness.

In doing that, I want to focus on what a national network of educational programs might look like and how this might come together.

I'll start by mentioning something that we created at Michigan State that we're calling a Certificate in Homeland Security Studies. It is a three-course sequence; in effect we did this in response to professionals who were coming to us for our online master's degree program but telling us that what they needed were courses that would get them up to speed in this new arena of Homeland Security. So we worked to identify what we thought would serve as a foundation for this. We provide it through online delivery and it has both undergraduate and graduate sections.

The 3 courses that we settled upon were what you see here; the first being "Foundations of Homeland Security". This is a course that looks at the history of the movement from civil defense to emergency management to Homeland Security. It looks at the Patriot Act and the context that's emerging in terms of the structure of Homeland Security in a federated governmental system like we have here in the United States. It includes a focus on the public/private sector connection quickly moves through the critical infrastructure. The second course is a course on "Terrorism." So this course is really thinking about the risk that is out there, looking at both domestic and international terrorism, right-wing, left-wing and religiously inspired terrorism. But to provide again that foundation, what do we know about the threats that we face.

The third course is a unique MSU contribution that builds upon one of our ODP programs. It involves looking at public/private sector cooperation and collaboration and the need thereof for both emergency preparedness and security. Clearly, just looking at the audience of the participants here and seeing the academic community, the governmental community and the private sector coming together reflects that need. When you go through the critical infrastructure issues and foundations, what clearly becomes apparent is the need for public/private sector cooperation and collaboration.

The certificate program builds on our experience along with our colleagues and the multi-university program of the National Center for Food Protection and Defense. We want it to build on the new center that Mel Bernstein described this morning, the Center for Advancing Microbial Risk Assessment. It also builds on four major ODP programs that our school is involved with. Ed mentioned the one we are working with DHS and the intelligence divisions and directorates of the FBI and DEA in this law enforcement /intelligence tool kit. That's a national program. The Weapons of Mass Destruction program is also a nation-

al program. Both of these are geared for the law enforcement community but what becomes apparent is that experience of bringing timely and relevant information to the field has applications beyond law enforcement.

So we ought to be thinking about how we build on that experience in the online programs that we are offering not only again for criminal justice, security, and law enforcement folks, but where can we build upon those modules and make the material available to folks in food safety and defense. The third program is one that we're quite proud of, the Public/Private Sector Collaboration Program. This was developed by Rad Jones. Rad is a real interesting individual. He was former secret service, he was actually on the detail in Dallas when President Kennedy was assassinated. After a career in the Secret Service, he went to Ford Motor Company as Director of Security. Within about a week, I believe, they had a major explosion in one of their Ford plants. Rad can tell the story much better than I but what he saw was mass confusion between his private sector folks and emergency responders, the health community, and the law enforcement community. Based on that experience, he saw the need for bringing together the public and private sector for planning on how to respond to critical incidents.

What happens in this program, I mention it because I think that there is real relevance for the food safety and defense community, is a program where we go out to specific communities and work through a facilitated planning and preparedness process that's really designed to not only bring together fire, law enforcement, public health officials but to also reach into the private sector. Some of our experience has been very focused on food and I think this may be a program that would be of value to many in this room.

The last program is a relatively new program; we are taking the same kind of model to university communities around the country – in the form of community emergency response teams – taking that same kind of collaborative model and applying it to the university community. So my basic point being that where there are programs like these ODP programs, we need to build that experience into our educational programs.

Switching gears a little bit I want to quickly mention what we are finding in terms of some of the strengths of the online delivery of these programs. Critical among that is the ability to bring together a global audience. The most satisfying experience we have had in this has been in the mix of people that are coming into these courses. We will have an FBI agent in Los Angeles together with a local law enforcement officer from Wyoming, a trauma center doctor, with public health officials, with corporate security as well as supply chain managers and others from the corporate community. All of these professionals mixed together, as well as military personnel, provide a great mix of perspectives and experience.

I can tell you that the faculty have a very different reaction to the proverbial – the dog ate my homework. When it's a military official in Baghdad saying, I may be late on my next assignment because we've just been deployed up north. That's the kind of mix of folks. It's also a tremendous mix between these professionals and our traditional students. The professionals bring that depth of understanding and experience but sometimes also bring a little bit of tunnel vision. The students get exposed to that tremendous world of experience and also often times are the ones asking the pointed question of, why do you do it that way? That mix has been real rich.

The involvement of the professional community has also helped us to be timely and to be relevant, things that sometimes we in academia are accused of not being. Finally, we've really had high quality, tremendous students. Some of the challenges that we faced and I think this is an interesting one; relates to a question that was asked earlier. We've had some of these professionals develop and turn in incredible papers that really are shedding light on the real world problems that security

professionals, and all these folks, are facing. Sometimes they are turning the papers in with a note to the professor that, you can't tell anybody.

The fear is that either I'll get fired or there are proprietary issues addressed in the papers. We want the students working on problems that are relevant to their situation. So it's something that we have to work through that we, as faculty members, haven't thought about but are now arising. Exams, particularly for undergraduate students, are also a concern. How do you know who is taking your exam when they scattered all over the world? I think that's something that can be overcome.

Another issue to consider relates to the idea of creating a cohort of learners. One of the things that I am very impressed with my colleagues at MSU in the food security area, in their professional master's degree, is that they bring their online students together for a 2- or 3-wk intensive experience to create this kind of cohort. I think it's a great opportunity for those folks to get to know each other. We proposed doing that but we get a lot of pushback from the professional community as well. Basically, the response for many was, I can't get away for three weeks. But I think it's something that we need to be thinking about.

As I move forward in the presentation, another issue to consider is coordination among all the universities involved in the National Center and the network of DHS centers. It's challenging enough within one university to figure out, for example, how do you get a course designated in two areas and who is going to get credit for the credit hours and all those kind of issues, much less when you start working across universities. Those would be the kind of things that we need to work out but it certainly is doable.

Back to the MSU program, the Homeland Security Studies Certificate, informed by our experience with our colleagues in the NCFPD, trying to build on these ODP programs that we're running, linking in our case to a professional master's in law enforcement intelligence and analysis as well as the work of our colleagues in the food protection. The point here, again, within MSU we're trying to think about how we can take modules, for example in our security and intelligence courses, and make those available to the food and protection folks. But also we've had, particularly in the security arena, folks from corporate security who have food responsibilities that we can then link to Ed and Trent and their colleagues to gain exposure in ways that as a School of Criminal Justice we would not be able to do.

If you then move it beyond an MSU focus to start thinking about this national network, what I would hope that we would collectively be doing is thinking about how we draw on the expertise from this network of DHS research centers. So we can have somebody from the Univ. of Maryland contributing and we can have somebody from Texas A&M and Kansas State and the other centers. We would be building on our collective strengths to really make available a wide range of courses or parts of courses that can provide the kind of capacity that Curtis was referring to earlier. Again, I would point out that this is just like we want to build on our own Office for Domestic Preparedness Initiatives. We should be thinking about the whole variety of initiatives that are occurring within our universities, within the country's network of universities and how we draw on this range of research expertise.

Finally, Trent talked about the DHS fellows and scholars program; we had a great experience with one of the fellows from Georgetown Univ. who spent the summer with us. We've had about 10 of our students receive these fellowships and gone off to the national labs and other universities and that's been a tremendous experience for the students. We would like the DHS fellows and scholars to think about the Homeland Security Studies Certificate; they would enrich our courses and it might add something of value to them much like they would have interest in the K-State program and the other universities. So again, picking up on Trent's and Curtis' points about the potential for this kind

of national network that would draw on our collective strengths, I wanted to provide an example very quickly about what I see as the value of this kind of trans-disciplinary collaboration and thinking about food security.

As I mentioned at the outset, I certainly have limited expertise in food protections, indeed I had none a year or 2 ago. The involvement in the Center has brought me up to speed; I've learned a great deal by working with Dave Closs and his team in terms of the supply chain. Now through the collaboration with the folks at the Univ. of Minnesota and our consortium we are figuring out how to link up security, supply chain and food protection. The food safety folks have a great history of thinking about the prevention and detection of different agents from entering into the food supply. The security folks, like me, think of a model that is very simple but quite powerful in crime prevention circles; we say for a crime to occur or for a terrorist event to occur there has to be this confluence between a motivated offender or terrorist and a suitable target in the absence of an effective guardian. If you can block anyone of those three legs of the triangle, you can prevent a terrorist act or a crime. On the other hand, when they come together in time and space, that's when problems arise. When we started working with Dave and his colleagues and thinking about supply chains we started realizing that this really gets pretty complicated because it's not just one point, you know a warehouse or a truck carrying the food.

But as others have said, we need to be thinking about this from farm to fork or farm to family. The other thing, the supply folks bring us and certainly folks from the food industry would be very sensitive to, is that we can do a lot with enhancing security throughout the supply chain but we can also destroy the economy if we make the system too inefficient.

So we need to be thinking about the velocity and resiliency of these supply chains if we're really going to make a difference. A simple kind

of point, but I hope that it illustrates that all of a sudden we're thinking about this much differently than I think any of us would have been in our traditional disciplines. Indeed, it is when we link these perspectives together that you start to see the value. Another way of thinking about this, and I think it ties into David's presentation, is that a number of folks come at this from an emergency management framework where we think about planning and prevention and then move to response, mitigation and recovery.

A common theme through all this – in our case we think of this in terms of intelligence, but also thinking about the role of risk analysis, risk management, and risk communication, all of which are being informed and advanced along all of the dimensions discussed today. That is risk is at the core of the ODP preparedness initiatives, the involvement of these fellows and scholars, the research centers and related research that is going on in all of our universities. It seems to me that what we ought to be thinking about is how to gain the most from these activities as they inform this arena of risk analysis, management and communication.

To conclude, another advantage of the online approach is that it facilitates the multi-university participation. It could either be as we trade courses, perhaps two or three full-blown courses we offer might have value for Curtis' program and, similarly, his program might be able to offer several courses that we could pick up. It may be in the module kind of approach that Curtis talked where your folks may not want the full-blown terrorism course but there may be an awareness level segment of that course that would be of value.

Finally, I would just go back to that initial point that I made; we're just seeing tremendous value in this mix. I have no doubt that the traditional undergraduate and graduate students in our school are having a much enriched educational experience through this global kind of linkage to the professional community. I think that offers much for all of us.

# The Unique Marriage of Emergency Response, Supply Chain Management & Food Security

IFT Food Protection & Defense  
Research Conference

Edmund F. McGarrell, Director  
School of Criminal Justice  
Michigan State University

# Today

- MSU's Online Homeland Security Studies Certificate Program Links to MSU's DHS-supported initiatives
- Review Strengths/Challenges of Online Security Programs
- Links to DHS National Network
- Potential Collaborative Educational Security Network
- Application to Food Security & Defense

# Homeland Security Studies Certificate

- Three Course Sequence (9 credits)
- Online Course Delivery
- Undergraduate and Graduate Sections

[www.homelandsecurity.msu.edu](http://www.homelandsecurity.msu.edu)

# Homeland Security Studies Certificate

- Foundations of Homeland Security
- Terrorism
- Public-Private Partnerships for Emergency Preparedness and Homeland Security

# Building on MSU-DHS Initiatives

- National Research Centers of Excellence
  - National Center Food Protection & Defense
  - Center Advanced Microbial Risk Assessment

# Building on MSU-DHS Initiatives

- Office for Domestic Preparedness
  - Law Enforcement Intelligence “Toolkit”
  - Weapons Mass Destruction for Law Enforcement Executives
  - Critical Incident Protocol – Public/Private Sector Collaboration
  - Campus CERT Teams

# Online Security Education

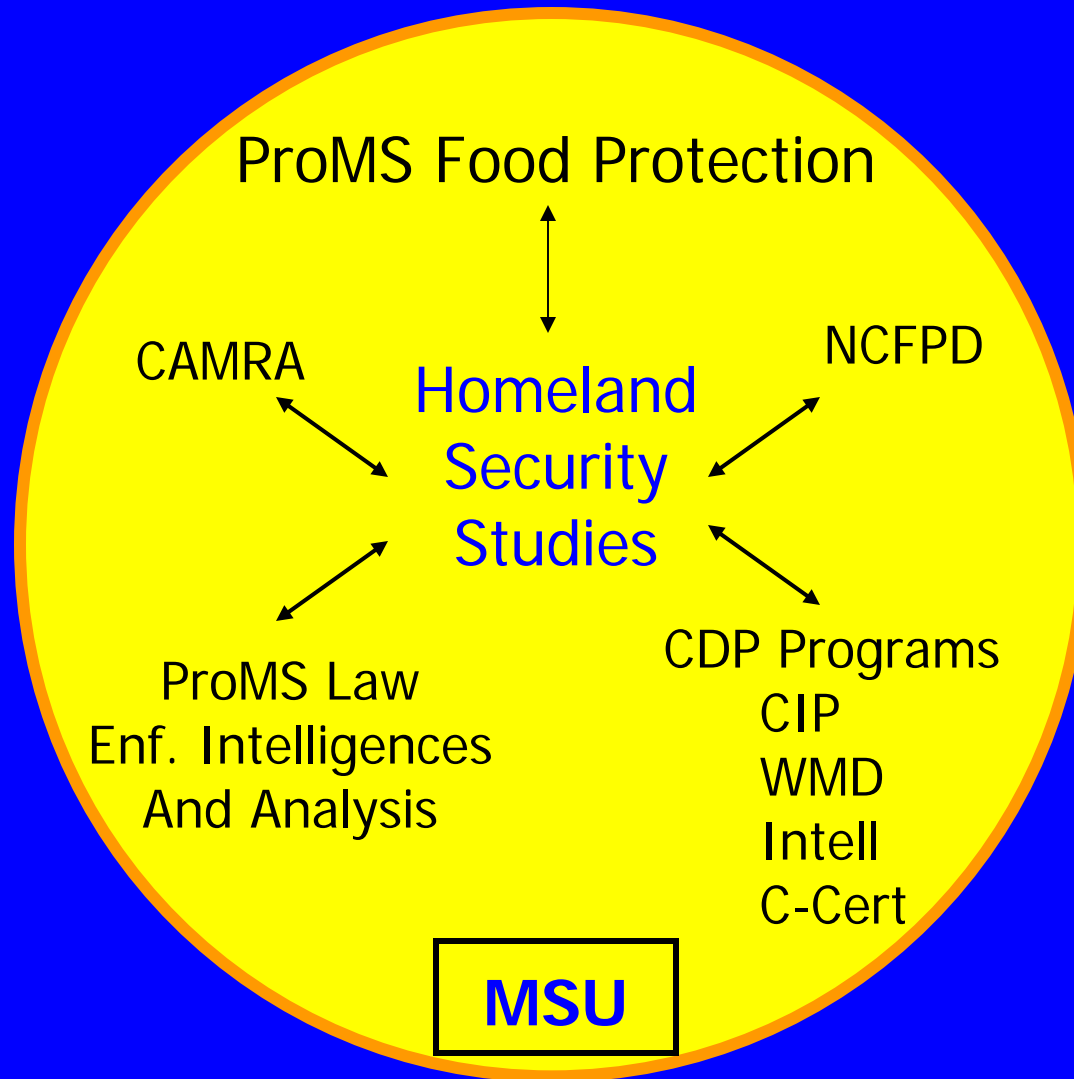
## Strengths

- Global Reach
- Mix of Students
  - Professionals/  
Next Generation
  - UG/Grad
- Professionally Relevant
- Timely
- High Quality Students

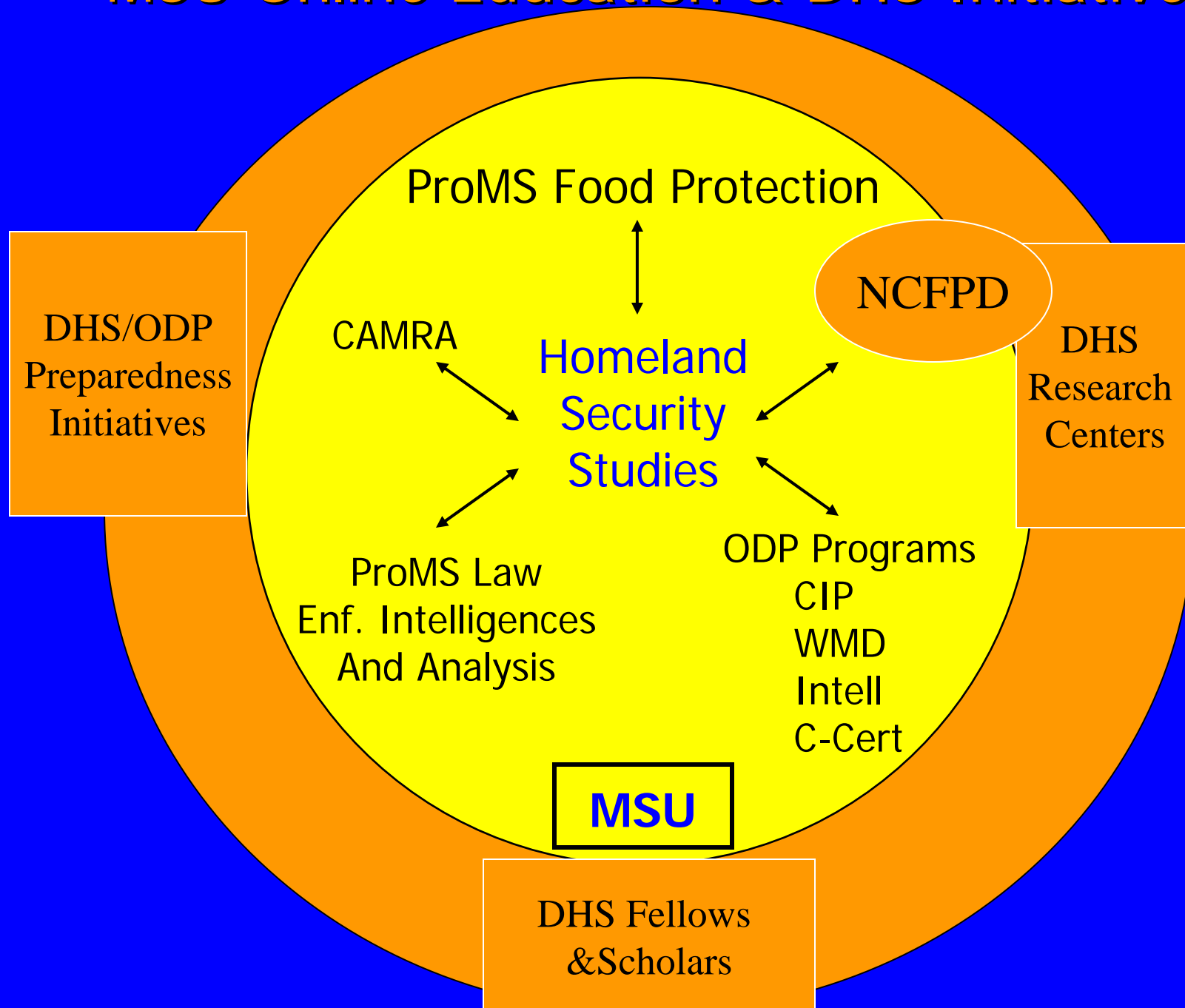
## Challenges

- Security Concerns
- Exams
- Cohort Issue
- Demands on Faculty
- Coordination  
(within & across  
universities)

# MSU Online Education & DHS Initiatives



# MSU Online Education & DHS Initiatives



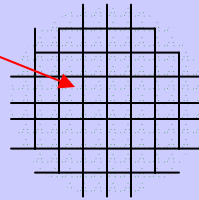
Applied to  
Food Security & Defense

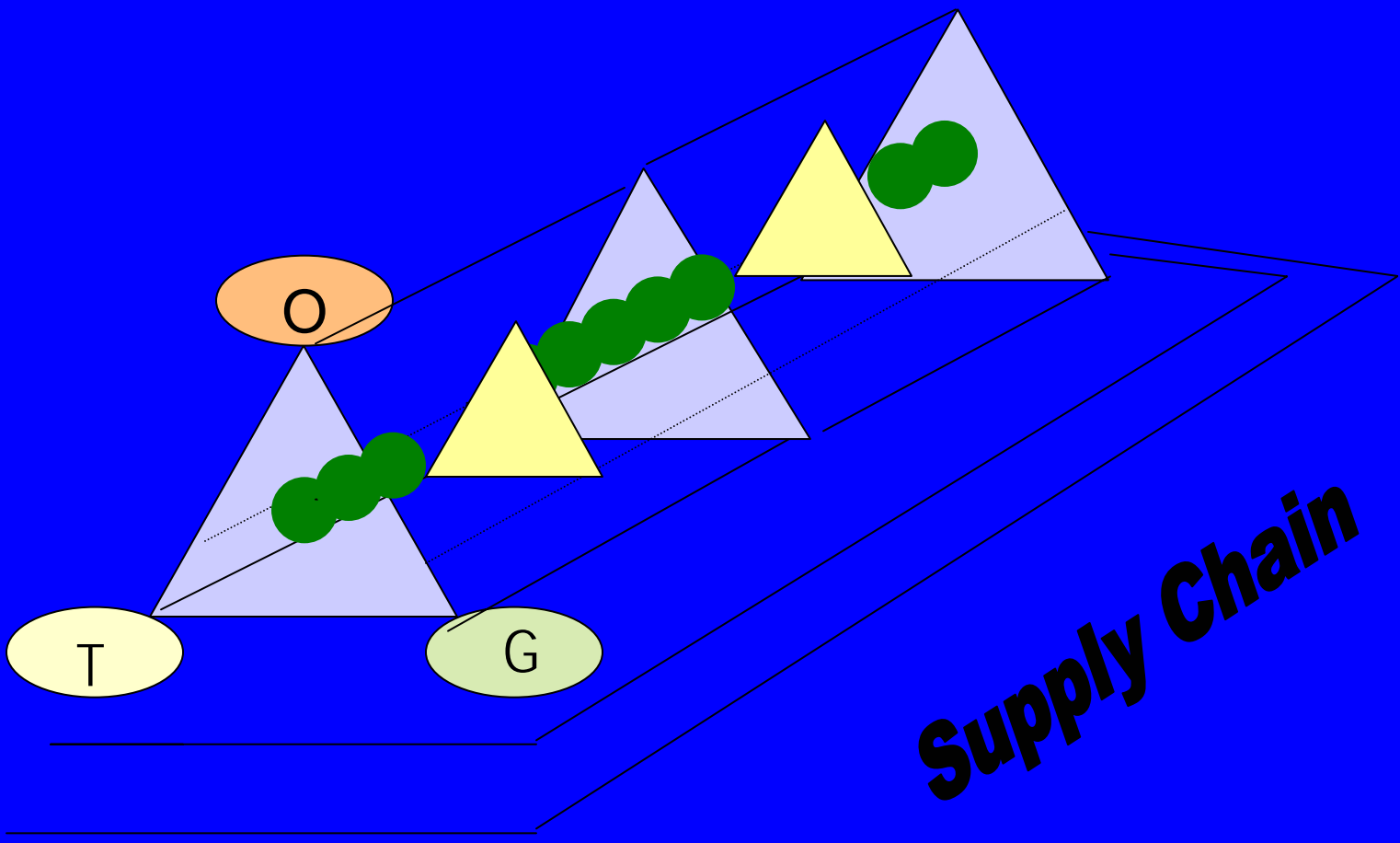
**Offender**

Prevention,  
Detection -Agents

**Target**

**Guardian**





# Food Security & Defense

Planning	Prevention	Response	Mitigation	Recovery
Intelligence & Risk Analysis		Risk Management		
		Risk Communication		

DHS/ODP  
Preparedness  
Initiatives

DHS  
Fellows  
& Scholars

DHS  
Research  
Centers

Related  
Research

# Security-Related Educational Programs

- Online education facilitates multi-university participation
- Courses drawn from various certificate and degree programs maximize flexibility, timeliness, relevance
- Module approach can balance breadth & depth
- Mix professionals & traditional students meets current & future needs of public & private sectors