

TELE-SEMINAR
WEDNESDAY, OCTOBER 19, 2011
NIUSR

Dr. Mike Chumer: This is Mike Chumer.

Barbara Muller: Hi, Mike Chumer. I can't believe you're on. This is fantastic.

Dr. Mike Chumer: I emailed Lois. Told her I'd probably be about 15 or 20 minutes late.

Barbara Muller: Well, I'm delighted you're on because you're going to talk about training for decision-makers at local EOC's. Is that what you're going to talk about today?

Dr. Mike Chumer: Well, that's what Lois has me down for so I'll talk about things related to that.

Barbara Muller: That would be great, Mike. God bless you. We had Terry introduce himself. Could you just give us a little of your background because we're recording this today so that other NIUSR members can listen.

Dr. Mike Chumer: Oh so this is being recorded for posterity purposes.

Barbara Muller: Finally, we have the technology, thanks to Lois and this new system,

Dr. Mike Chumer: Lois is just a technology guru.

Lois Clark McCoy: Come off it.

Barbara Muller: She's amazing, you know, having gone to Burning Man this year and to Washington, DC and survived our Santa Barbara Airport remodel, God bless them. All right, Mike, you're on. Introduce yourself please.. Again, this is for everybody who may be new to NIUSR.

Dr. Mike Chumer: Well, that's good so I'll give you a little snapshot of what I am. I'm a, at this stage in my career because I get a kick out of this because it's very similar to Lois. I've had multiple careers. This is my fourth career, my fourth career as academia. At the present moment, I'm a Research Professor at New Jersey Institute of Technology. Now the research that I'm involved with is the emergency management as it's being enabled within the Homeland Security and Homeland Defense Mission Space. Now, the program that I direct is a Masters in Emergency Management Business Continuity, but it's housed within the Information Systems Department within the NJIT College of Computing Science. So even though we look at management and business continuity issues from an academic program perspective, it's always with a technology and system underpinning. So we're constantly looking at, oh, okay, if we're going to get into a preparedness situation, for example, and we're going to be training and assisting other organizations in

setting up tabletop exercises or full-blown exercises, then what are the best tests of systems and technologies that can be used to train people. We're going to be in the second-dimension of emergency management, which is dimension mitigation suggesting information and intelligence gathering, analysis and dissemination and what's the best mix or match up of technologies that can function within that space. If it's a response dimension, we certainly look at what are the tools, technologies, digital systems, concepts of operation that can function within a response type of dimension and then, lastly, if it's recovery, we look at the technologies that underlie recovery as well. So from an academic program standpoint, we teach people at least the basic dimensions of emergency management, but focus on the tools, technologies, concepts of operation that are best employed across that spectrum of things.

Barbara Muller: And basically is it aimed at the decision-makers or at everyone?

Dr. Mike Chumer: It's aimed at just about everyone and that's is to say that some people within the homeland security or emergency management space aren't decision-maker is something you need to reflect on because if you take a look at a response scenario, for example, decision-makers are certainly the first responders—the fire fighters, the law enforcement that are at a scene, the EMTs, the urban search and rescue folks. There's decision-making that's being done at the first-responder level. There's decisions that are being performed at the joint field office level. There's decisions that are being made within emergency operation center level, interfacing with first responders. What we attempt to do, at least the academic program standpoint and what we leverage a bit more during research is understanding the need for decisions and the need for timely decisions, but focusing initially on the response scenario, which is what I'm going to chat a little bit about here.

The research that I do is right now funded by the Department of the Army because they're looking at interagency collaboration, not different than the kind of collaborations that should and in several instances merge when you're talking about the public sector and the private sector collaborating with each other. The agency for the Department of the Army and the Department of Defense suggest a collaboration with different DODSities especially during a response scenario where the let's say, for example, the four star that's sitting in USNORTHCOM is not really pulled into the incident command structure. They're really an outside participant. You need to be able to anticipate what types of resources would be required when they're invited in to an incident or an event within the United States that is heavily public sector oriented. So from an interagency perspective, the military is often looking for communication touch points that allows them to at least have visibility with respect to an emerging event so that they can anticipate. There's anticipation and anticipatory processes that they can engage in that they can make resources available and pre-position those resources at distribution centers that may be Air Force bases located in close proximity to an event of almost catastrophic proportions. In that vain, there are decisions being made, but those decisions aren't tucked neatly into the incident command structure. They're being made by the DOD. So much of my research is sponsored by the Department of the Army and then the DOD.

We also have a recent, a National Security Agency grant where we're building outreach from students to the DOD to get students interested in the kind of work in this homeland defense space and cyber security space that the DOD is interested and the National Security Agency is interested. So that's a little bit of my research and background.

Prior to that, I spent 20 years in the United States Marine Corps. I spent 10 years with AT&T when it was still the Bell system a long time ago and then my third career was independent consulting. I did work with Ken Anderson Consulting as an outside adviser to them as well as KPMG and others as they were architecting trader and broker floors on Wall Street and the integration of technology when you see traders and brokers accessing market feed information and making buy-sell decisions during the trading day is a sight to behold. They wrap themselves into their desks just about. They have monitors arrays in front of them where they could be looking at over six, eight monitors into which market feeds are being switched whether they're analog or digital feeds and the architecting that whole scenario is one of the things that I did.

Barbara Muller: Well you certainly have the right background to do what you're doing. I always have felt that business is one of the key instruments to getting things done in a timely fashion. So you have many hats from government to the military and then into business. Thank you.

Dr. Mike Chumer: I'll give you an example of why the technology use on Wall Street is relevant, the technology that's used during rapidly moving events where multiple emergency operation centers are involved. Early on when right after 911 and the Port Authority moved their command center to about two blocks away from the New Jersey side of the Holland Tunnel, my classmate, Chuck Krulak, who was the Commandant of the Marine Corps from 1996 to 1999, visited the Port Authority and hand carried while they were architecting their new emergency operation center because when 911 happened, it completely destroyed the emergency operation center that they had. I think it was in the basement of one of the World Trade Centers. So Chuck Krulak brought them. Where did he bring them? To Wall Street. He took them to Wall Street to show them how the financial community, especially traders and brokers, were using technology for rapid decision-making, which was buy-and-sell decisions. It was based on that model that the current Port Authority of New York and New Jersey Emergency Operations Center and the technologies embedded therein were designed. You're exactly correct that you can learn a lot from the private sector.

Barbara Muller: Well, I love your talk about rapid decision-making and rapidly moving events. Wow, if that doesn't get the interest of the people who are listening to you. Keep going.

Dr. Mike Chumer: So what I'm going to do is I'm going to take that, if you will, and back into the topical area that good-old Lois gave me, which is training for decision-makers at local emergency operation centers. I think that that's really relevant, but what you need to understand is how different the makeup to include process, function and organization, how those three items are different within what you would see as a public sector

emergency operation center and how those three items—process, function and organization—differ in terms of a military command center. Let me explain. Because in understanding the role that process plays within an emergency operation center, that just happens to be activated for a particular event understanding what functions now are embedded in that emergency operations center and understanding what the organization structure seems to be within an emergency operation center. I think our three factors that contribute significantly to understanding whether there's going to be rapid decision-making or whether they're not going to be rapid decision-making. What I tend to do is say if you look at the military, when they process components and I think one of the early [inaudible] that you had some when somebody on the call mentioned command and control, how command and control is used in the military. Well, one of the things that I teach is the process model of command and control, which is based on old Boyd's OODA loop. He talks about that a little bit during one of the earlier conference sessions that said, well the OODA loop is really a process loop. It starts with observe. Then you orient yourself to what you observe. You make a decision. You act. Then you see how your action affects the environment and then you go through the loop again. Because as you act, your action, whatever it may be, is going to affect your external environment and as you sense what that change is, you go through that loop again. Now over time, the components of the loop were changed because some Harvard professors liked what Boyd did. Boyd was no more than a fighter pilot that came up with this looping process as a result of getting an edge on the enemy during fighter plane type of initiatives in Korea. He wasn't an academic, but he had a lot of embodied experience. He came up with this OODA loop, which is used as a basis for military command and control right now.

Barbara Muller: And it is observe, make a decision, then act, see what happens and then observe again.

Dr. Mike Chumer: Observe suggests you're using your visual senses and orient yourself to what you observe. You then make a decision based on that orientation. Then you act. If you can go through that loop faster than the other fighter pilots, your chances of getting ahead in that combat situation is going to be very, very good because as they're orienting themselves to what you're doing, you're processing the loop faster than they are. So you take that mentality and you begin to apply it now to an emergency response, which suggests that this looping process and then, again, what I was getting towards is that a couple of the Harvard professors changed the first two parts of Boyd's OODA loop. Instead of calling it observe and orient, they called it sense and interpret, suggesting that there's a sensing going on which is more than just the visual senses. That there's an interpretation of what's being sent, but then you decide and you act. So the last two loop components, vision and action between Boyd and some of the research that came out of Harvard is exactly the same. The first can change. Where Boyd says observe and orient, for a sensing organization, it's sense, interpret. You take that loop as a process. Remember where I said that in a command center, if you're going to be thinking about training decision-makers and then you need to understand what I feel are the critical components—process, function and organization. Well, the process is to me this looping process. It allows for you to observe in your sensing, orienting or interpreting, deciding and acting.

Now, when you think about that process, it goes on in the hearts and the minds of every first responder, whether you're a fire fighter working by yourself in conjunction with responding to a fire or working in conjunction with other fire fighters, your mental processes are sense, interpret, decide, act or observe, orient, decide, act. Those are the looping processes going on in your mind, in the first-responders' mind as they're deciding what to do as a fire maybe gains in severity.

Barbara Muller: It's almost like it's observe, interpret, orient or is it?

Dr. Mike Chumer: Say that again?

Barbara Muller: I said, it's almost like observe, interpret, orient. It's almost like those three things happen almost simultaneously.

Dr. Mike Chumer: Well, exactly. It's no more than following the sensing process of human beings. As you sense something, you interpret what you're sensing. You decide what to do and as a human being, you act. It's that kind of processing that needs to be understood. Now from a technology standpoint, when we looked at the first responder, we say okay, how do we extend or make more acute the sensing that is required by a first responder whether it's fire fighter, whether it's a law enforcement or a police officer, whether it's an urban search and rescue person, whether it's an EMT. What kind of technologies will allow them to sense a lot better? Well, an example of this is and I will take a military example, night vision. When you have the individual rifleman or the individual soldier out on the battlefield, they certainly are going through this sensing and interpreting process, but what does the military very well? They enhance their ability to sense. They take a look at situations that these soldiers are going to be in and they develop technologies that allow them to sense what's going on given adverse conditions in the environment. Take a look at pilots when you look at the fly-by wire concept where now technology interfaces with the controls of a particular plane that allows them now to maneuver the plane, not by moving the controls of the plane directly, but moving the controls through technology. So what happens in the military very well is identifying technologies that will help those people that are on the leading edges of a battle, for example, your soldiers, your riflemen, they create technologies that allow them to sense better, to take the outputs of those sensors so they can be interpreted very, very quickly, that the individual soldier or fire team can make a decision, act and then they go through the process again.

You think about that, then you apply that an emergency operations center and you look at technology now in an EOC that allows the EOC to sense better, interpret better and decide better to make an action, which is really designed to assist the first responders understanding what they have to do given the fact that they can't see everything in the space that they're responding to.

Barbara Muller: That is incredible. Think about that for a minute. Are we talking about helping people to experience pretend disasters or can you do it in a course? How does it

help a person who's out there as a first responder to get enough data so that when they enter into something that may be a little foreign to them, so they're really prepared?

Dr. Mike Chumer: Well, yeah, what I do in my program, my emergency management business continuity program, I have a course that's entitled Command and Control where I have a suffix to it that says organizational adaptability. I go through this and I do this for about four or five weeks and I have the students, this is a graduate course and I have the students think about this. They then are comfortable in relating this process to different organizational activities from whence they came. I have people in my class from New York City Office of Emergency Management, from the FBI, from Prudential, from the Department of Transportation. When they begin to see the beauty of this process model, then they're able to take a different look at what their organizations do in terms of responding to what may be a normal event within the organization, which may be a local power outage or a computer outage or something like that, they begin to understand the relevance and salience of the sensing, interpreting, deciding and acting. So they can see then the role that technology plays and being used by people, truly an EOC to help make that loop go faster means he's going to make decisions a bit faster because part of it is monitoring your environment. When you see the results of your decision and you can only do that if you have properly set up sensing mechanisms that allow you to then interpret, decide again, act, go through the loop again.

So what goes on, I wanted to talk about that because I think that was so relevant when Lois gave me the topic of training for decision-maker and local EOCs. You can certainly do it in a class, but it's better to exercise that maybe in a tabletop exercise or in some sort of, now this is an interesting type of exercise. I didn't hear about this before until I started working with some people from Goldman Sachs. Now Goldman Sachs, what they trained their executives in terms of making decisions faster is they developed a concept of what they call micro drills. A micro drill is no more than a drill that was one hour in duration. Why one hour? Because a lot of their executives are busy, but can afford to have to spend one hour in drilling on what kind of decisions they would have to make given the threat scenarios confronting certain Goldman Sachs offices, not only in the United States, but worldwide. People sometimes say, okay, we can then train during a tabletop exercise and you can certainly do that and set it up in a way where you're really going through these process loops and training individuals working in a command center on understanding the loop and making better and faster decisions.

Barbara Muller: Would Goldman Sachs actually have everyone in the same room or did they do it electronically by teleconferencing and computers?

Dr. Mike Chumer: What they did initially was bring people into the same room. What they migrated to was coupling that as it was, as it seemed relevant because they have a lot of offices so they would office to office to bring some of the decision-makers within office one or office two or office three physical together. As they proceeded with this concept of a micro drill, they started making it a little bit more virtual where they can then of instead of focusing on a specific locality, they can say, okay, we're going to

exercise multiple decision-makers. We'll do it virtually against certain scenarios that may be threats to the continuity of business with Goldman Sachs.

Barbara Muller: In the virtual component, do you think they use Skype and things like that on the internet?

Dr. Mike Chumer: More than likely. I will find out more about it because...

Barbara Muller: You know why? Well, if you can get this one out, you are on to something really hot that we can do in one of our conference calls. We can set up a micro drill that we can do in one hour for that faster decision-making. I just have a strong sense about that you have the background wisdom that we could copy this and go into one field at a time. Let's just think about that. That is we get to learn what you know in one hour for just the beginning. This is just a seed. It's certainly not the full-blown tree, but that seed could spark so much energy in NIUSR.

Dr. Mike Chumer: Yeah, we'd like to, I think that NIUSR would be a good test site for this because I'm working with one of the executives for Goldman Sachs and we're taking their model and we're structuring it in a way that can be used for these kinds of forums.

Barbara Muller: That's fantastic because I've always felt that people are motivated during the seminars, but they don't do anything about it after the seminars and so if we could have the component that shows them that they can model this and learn it and actually use it, what a concept.

Dr. Mike Chumer: I think that's something that we should work on.

Barbara Muller: I'm with you on that.

Dr. Mike Chumer: I'll come up with the framework and then we can discuss a little further.

Lois Clark McCoy: I'd like you and Barbara, Mike, I want you and Barbara to make this real.

Barbara Muller: It can happen, Lois, because I have asked this question so often, why if we have so much data, so much knowledge and information and wisdom, why haven't things changed? And the answer is we haven't had micro drills. We haven't practiced what we've been preaching. You and I do. Mike does, obviously. You do, Lois. But we haven't really taken it out to let other people experience it. I'm talking about seeing this as a flowchart down into the family, eventually. What do you do in an emergency? How do you make sure that everybody's protected, whatever? So, anyway, I just see us doing it at the NIUSR level and then bringing it out to others. What is your thought about that? Is that possible, Mike?

Dr. Mike Chumer: I think we should work on that.

Barbara Muller: Oh, I love it.

Dr. Mike Chumer: I should, that should be one of the takeaways from this and I think we should flush that out and make it happen because when you think about it, people can afford, I would think, during a day to spend an hour going through a drill.

Barbara Muller: Let's just say that once a week, you go through this micro drill. Eddy from Australia had a fabulous outline of what could happen in the home, but I don't think we take the time to follow-up with written material. I am so excited about this today and if you were on the early part of our conference call today, we were talking to Terry, who allowed us to see that one of the issues he really wants to get into is health and making sure that when a disaster strikes our national healthcare or health problems, we are able to handle them. You just couldn't imagine that you would be so on target after listening to Terry who is going to work at the Congressional level. He thinks that we have potential there for NIUSR. Well, I have to thank you again for what you've contributed and you and I will work together on this. We'll take your leadership and do what we can.

Dr. Mike Chumer: Was that helpful for this conversation?

Lois Clark McCoy: Wow, yes.

Barbara Muller: Do I have your permission to give this conversation to my sister, who is a transcriber for some of the large organizations on this planet and she will transcribe it. We will have it physically in our hands for the next teleconference and then we have it recorded so we can all listen to it. I'm just going to tell you the playback number, which I will give you both by email (530) 881-1099 Access Code 380997#. Lois, would you like to thank Mike also for his fabulous contribution today.

Lois Clark McCoy: Oh, Mike, you're such a treasure. I thank you so much and you've more than exceeded my anticipation. Thank you so much.

Barbara Muller: And we thanked Terry even though he had to go back to his conference and meet with Congressman Roberts, so I think we're all on the right path here and boy oh boy oh boy. Mike, you may not realize that all of that experience that you've had in your past is going to come to a head and make this world a safer place to be and I can't thank you enough for that.

Dr. Mike Chumer: Just, lastly, I did hear the end of Terry's presentation where he talked about the ISAC's. I'm intimately familiar with the ISAC's. I'm intimately familiar with the emergency support functions I put up at EOCs, what role they play in decision-making. I'm intimately aware of the 18 critical infrastructure sectors and what role they play during a response-type of scenario. That can be a topic for future discussion.

Barbara Muller: Excellent, well without further ado, I'm going to end this recording. Thank you for being onboard. I thank all our listeners and I will email Lois immediately

the free conference playback and I will send that also to my sister and have her transcribe this. Bless you all and, Lois, any final words?

Lois Clark McCoy: No, just good-bye and thank you from the bottom of my heart.

Barbara Muller: Ah, you're welcome, Lois. Thank you. Bye-bye for now.

Dr. Mike Chumer: Yes.

Lois Clark McCoy: Bye-bye.