

DARPA Bio-Technology Office (BTO) Dense Urban Studies Course of Instruction 26- 30 November 2018



Throughout the week of 26-30 November 2018, NCUO representatives hosted the Defense Advanced Research Projects Agency (DARPA) Biological Technology Office (BTO) in New York City to conduct a Dense Urban Studies Course of Instruction. The intent of the event was to provide program managers exposure and immersion to the dense urban environment so as to better inform their generation of solutions to urban challenges.

Participants conducted engagements with architectural firms, professional sports team human performance cadre, and with multiple national security and emergency service agencies. BTO met with the NYPD Center for Terrorism and Disaster Prevention (CTDP) regarding historical chemical, radiological, and biological threats in the city; visited the World Trade Center towers and museum for an appreciation of the city's evolved resiliency since the attacks; conducted an urban terrain walk through Canal Street and Chinatown; and toured FDNY's Randall Island training facility, engaging with the unit's Hazardous Material 1 (HAZMAT 1) response team and Civil Support Team Weapons of Mass Destruction (CST WMD) 24. Upon conclusion, BTO expressed interest in continued involvement in the generation of dense urban solutions with a specific interest in population management during urban crisis events.

Significant Takeaways included:

1. BTO participates alongside the FBI and other agencies annually in the Internationally Genetically Engineered Machine Competition (IGEM) https://igem.org/Main_Page, a student research seminar in NYC with potential engagement opportunities for NCUO/MD5.
2. BTO Director, Justin Sanchez, resolved to stay connected with COL(R) Pat Mahaney regarding future BTO involvement in mass-evacuation planning exercises.

Joint Task Force Empire Shield (JTF-ES) Urban Close Quarters Combat Training 29 January- 01 February 2019



Throughout the week of 29 January – 01 February 2019, NCUO representatives attended Joint Task Force Empire Shield (JTF-ES) Urban Close Quarters Combat (CQC) training alongside the Asymmetric Warfare Group (AWG) at NYPD Emergency Services Unit's (ESU) Floyd- Bennett Field Training Facility. Joint Task Force Empire Shield is composed of activated New York National Guard Soldiers, Sailors, and Airmen tasked with deterring terrorism in the city alongside local and federal law enforcement. The purpose of the event was to provide subject matter expertise from Special Operations cadre to augment JTF-ES instructor capacity, assess JTF-ES unit readiness, and build rapport between organizations to facilitate future training opportunities. JTF-ES rotates all three of its operational companies through a GREEN (Active Patrols and Deterrence), YELLOW (Quick Reaction Force), and RED (Training and Tasking) Cycle. During this event, the QRF element executed repetitions in a mock "shoot-house," progressing from "dry" to UTL (Simunitions) exercises. The training increased in complexity from individuals in empty rooms up to multi-team, multi-room entry against armed threats obscured by civilians, dense clutter, low-light, and exceptional noise- conditions they will encounter if supporting NYPD law enforcement operations in the city. Significant Takeaways included:

1. NYPD ESU continues to demonstrate significant willingness to mentor JTF-ES, a unique and superlative example of Interagency Collaboration in New York City. (Above) ESU Chief Vincent Giordano takes time to engage Soldiers before training as Colonel Pete Riley, JTF-ES Commander, and his executive officer, Lieutenant Colonel Salas, look on.
2. JTF-ES was receptive to feedback and mentorship by external advisors, seeking additional opportunities in the future.
3. JTF-ES expressed interest in bringing advisors out on deterrence patrols for feedback on tactics and techniques.

MD5 Technology Accelerator Initiative: Escape from New York Hack-A-Thon 22-24 February 2019



Throughout the weekend of 22-24 February 2019, NCUO representatives attended a technology accelerator initiative facilitated by MD5 and hosted by the New York Army National Guard Joint Task Force Empire Shield. The intent of the event was to provide a venue to access and leverage innovation from the private sector to solve emerging national security problem sets. The challenge statement required participants form teams to generate technology capable of assisting emergency service and National Guard response to crises in the New York City region across the categories of “track,” “communicate,” and “transport”. After three days of rigorous development, in which participants received mentorship from experts in the community of practice and technology, three projects were selected for initial funding and continued sponsorship by MD5 (“Project EVAC;” Owl Incident Management; and “Get the Buses”). Afterwards, 75th Innovation Command sponsored a reception for participants. Upon conclusion, the 75 IC team conducted a synchronization session with all present members, identifying the seven lines of effort (verticals) the detachment intends to develop. Significant Takeaways included:

1. Public-private innovation partnerships strengthened to the benefit of national security problem solving
2. Opportunities for future partnerships between MD5 and 75IC, ARDEC, and RDECOM identified throughout weekend
3. ARNG and FEMA first responder network engaged and strengthened throughout event
4. Opportunities for continued mentorship of winning teams through MD5



Counterterrorism Leader Engagement: 75th Ranger Regiment and Indian National Security Guard 25 February 2019



Throughout Monday 25 February 2019, NCUO representatives attended a counter-terrorism key leader engagement facilitated by the AWG Dense Urban Terrain Detachment in Manhattan and hosted by AWG Baker Squadron (PACOM-aligned). The intent of the gathering was to share lessons learned from the LET-Mumbai Attacks 2008, exchange unit capabilities, and generate leader rapport for future training opportunities. In attendance were: Indian National Security Guard (NSG) leadership, including Brigadier General Vikas Saini, Commander, and Colonel V. S. Thakur, Training Group Commander; 75th Ranger Regiment leadership including MAJ Adam Armstrong, RS3 Operations, Mr. Pete Armstrong, RS35 Plans, and Mr. Rich Thompson, AWG Liaison Officer to 75RR; Baker Squadron leadership, including LTC Don Kingston, Commander, and CPT John Waits, 1 Troop Commander; NYPD Emergency Services Unit leadership, including Deputy Inspector Matthew Galvin; Port Authority Security Force leadership, including Chief Matt Wilson; and members of the DUTD. The event consisted of a morning conference, covering introductions, lessons, capabilities, and requests for information; a private tour of the World Trade Center 1; and evening social. Significant Takeaways included:

1. Rapport is further reinforced between 75th Ranger Regiment and the DUTD. 75RR recognizes training opportunities that NYC DUTD provides which can possibly be facilitated with event follow-up.
2. Rapport has begun with Indian NSG and SOCPAC for future exchange or educational opportunities.
3. Lessons from Mumbai attacks included better force distribution throughout city; more thorough route planning preparation & traffic mitigations; and development of multi-functional emergency service teams.



Headquarters Department of the Army G-35 Dense Urban Studies Strategic Broadening Seminar 24 March- 12 April 2019



Throughout the period of Monday 25 March 2019 through Friday 12 April 2019, the National Center for Urban Operations (NCUO) partnered with the Institute for Defense and Business (IDB) to conduct the third iteration of the Dense Urban Studies Strategic Broadening Seminar (DUS SBS) at the direction of Headquarters Department of the Army (HQDA) G35. The purpose of the course is to educate select company and field-grade military leaders in the considerations of planning and executing multi-domain operations (MDO) amongst dense urban terrain. The first two weeks based the 31 Soldier team out of Fort Hamilton in Brooklyn, New York City- with the final week splitting the element between Seoul, South Korea and Tel Aviv, Israel. Throughout, COL (R) Patrick Mahaney, Jr., Director of the NCUO (right), served as the senior mentor and urban guide across New York City and Seoul, South Korea.

The event featured remarks by both organization's leadership, to include IDB Executive Fellow, GEN (R) Dan Allyn, former Vice Chief of Staff of the Army and 18th Airborne Corps Commander (left), and NCUO CEO, MG (R) John Wharton, former Commander of RDECOM and Army Sustainment Command.

The first week included an introduction to urban operations and immersion in the terrain of Manhattan, with engagements at the World Trade Center Museum; with public and private innovators at Army Futures Command and Lux Capitol; and with subject matter experts in cyber and subterranean operations at the Council of Foreign Relation and the Asymmetric Warfare Group.

The second week featured interagency exposure at the Fire Department New York (FDNY) Headquarters, Randall Island Training Center, and Counter-Terrorism and Disaster Prevention (CTDP) Center. Students also visited the New York Police Department (NYPD) Counter-terrorism Bureau, complemented by lectures during the week on domestic policing challenges and complex systems problem solving.

The final week exposed students to international dense urban solutions, ranging from emergency services engagement, terrain appreciation, and threat assessments in South Korea and Israel, respectively.

Upon conclusion, both entitles were receptive to student feedback and resolved to improve the curriculum for the next iteration of the course in September 2019.



HQDA G35 Dense Urban Studies Strategic Broadening Seminar

Week 1: 24- 29 March 2019



During the first week of the course, Monday 25 March 2019 through Friday 29 March 2019, the students focused on urban environment appreciation and the innovations and skills required to compete within.

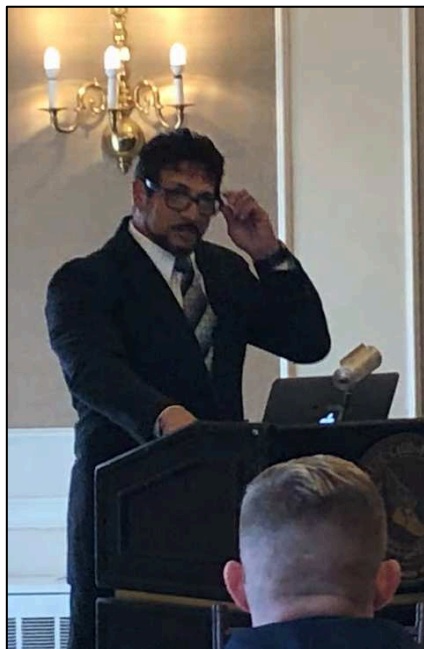
The evening of Training Day Zero opened with a reception orienting the students to the course and its intentions, hosting five General Officers including General (R) Dan Allyn, who each expressed unwavering support for the curriculum's importance to modern warfare.

Training Day One was co-led by COL (R) Patrick Mahaney, Director of the NCUO and course senior mentor, and COL (R) Ted Brewer, Senior Vice President of IDB, who focused the class on urban environment analysis and the resiliency of New York City through the lens of the World Trade Center Memorial. While at the Museum, Fireman (R) Sal D'Agstino, fire fellow with the NCUO (above), recounted his survival of the North Tower's collapse on that fateful day in September.

Training Day Two featured classes on urban development by Prof. Mitchell Moss of NYU and on national security innovation acceleration during lectures by members of DOD's MD5 and 75th Innovation Command and partners from Decisive Action and Lux Capitol private investment firms.

Training Day Three educated students on Cybersecurity challenges by way of Dr. Adam Segal of the Council of Foreign Relations and Subterranean strategic and tactical applications by way of the Asymmetric Warfare Groups' Subterranean Training Detachment, led by legendary Special Operator SGM (R) Joseph Vega, who also serves as the Master Trainer for NCUO (right). The evening culminated in dinner remarks by former commander of Army innovation efforts, MG (R) John Wharton, now CEO of the NCUO (left).

Training Day Four centered on classroom instruction for urban conflict history and analysis theory by Dr. Tim Nichols, formerly of Duke University, and conflict reality with COL Peter Riley, Commander of Joint Task Force Empire Shield, the only dense urban unit in the US Army. It concluded with a "fireside chat" outlining the challenges of urban conflict through the joint special operations' career of SGM (R) Vega in Panama, Somalia, and Columbia. Training Day Five closed the week with a visit to interagency partners at the Port Authority.



HQDA G35 Dense Urban Studies Strategic Broadening Seminar

Week 2: 31 March- 05 April 2019



From Monday 31 March 2019 through Friday 05 April 2019, the curriculum focused students on interagency capabilities and confronting the challenges of urban complexity.

Training Day Six provided engagements with leaders of all components at all echelons of the FDNY, beginning with remarks by Commissioner Daniel Nigro (top left) and taking students to the Headquarters, Countering Terrorism and Disaster Prevention (CTDP) Center, and ending with a tour of Randall's Island Training Complex.

Training Day Seven began with a lecture by Professor Steve Walton of Emory University in Complex Systems thinking which led into a visit with Officers at the NYPD's Counterterrorism Bureau, in which leaders briefed students on Bureau capabilities ranging from structural threat assessment to counter-drone technologies (top right).

Training Day Eight allowed the student's to visit the NYC Office of Emergency Management (NYCEM) and understand the immense challenges of mission command across the sprawling but dense area, population, and interagency community of which the city consists (bottom left). Former police officer and district attorney Eugene O' Donnell of the John Jay College of Criminal Justice shared his experiences and research on the ever-increasing challenges of domestic policing in an age of heightened visibility and skepticism toward law enforcement. Finally, students completed the week on Day Nine listening to MG (R) Brent Baker recount his experience managing the Humanitarian Relief for Operation Tomadachi in Japan after the tsunami and reactor meltdown in 2011. The morning was completed with a lecture on urban economy by Mark Troutman and closing remarks by COL (R) Patrick Mahaney. Students graduated that afternoon and packed their bags for travel on Training Day Ten to their respective international cities.

HQDA G35 Dense Urban Studies Strategic Broadening Seminar

Week 3: 08- 12 April 2019

Tel Aviv, Israel



Seoul, South Korea

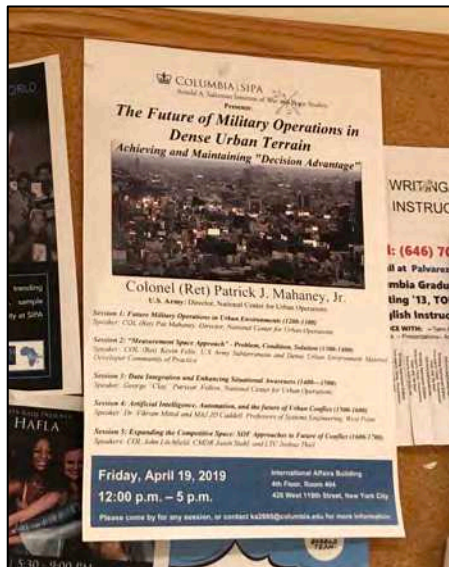


Columbia SIPA The Future of Military Operations in Dense Urban Terrain Seminar 19 April 2019



Throughout Friday 19 April 2019, the NCUO was featured in Columbia School for International and Public Affairs (SIPA) “The Future of Military Operations in Dense Urban Terrain” seminar. The event was organized to inform the research of an MD5 Hacking for Defense (H4D) Team, led by Kevin Atwell of 1SFG; Josh Hunter, a veteran of 75RR; and mentored by Dan Madden, MD5 Northeast lead. The event was opened by COL (R) Patrick Mahaney of the NCUO discussing “Future Military Operations in the Urban Environment.” His presentation was followed by Mr. Clay Puryear of the NCUO, discussing “Tactical Situational Awareness in the Urban Environment.” After a few additional briefs, COL John Litchfield of 7SFG led a team with two other operators, LTC Jason Theil and CMDR Jason Stahl from 1SFG and Seal Team 10, respectively, in the discussion of “Special Operations’ Forces Approach to Future Conflicts.” The event was followed by a no-host reception in which participants were able to discuss material and compare notes. Significant Takeaways included:

1. Relationships with Columbia SIPA strengthened, solidifying opportunities for future collaboration and sponsorship.
2. Kevin Atwell expressed his intent to host the same event next year, requesting NCUO participation in the future.
3. COL Litchfield emphasized that the Army will simply not have the forces to conduct high intensity conflict inside dense urban environments. Consequently, it is vital that Special Forces retain the ability to generate irregular and paramilitary combat power inside the megacity while General Purpose Forces mentor traditional partner militaries. In short, “White SOF needs to become more like Black SOF, and GPF needs to become more like SOF.”



United States Military Academy Urban Affairs Conference 23 April 2019



Throughout Tuesday 23 April 2019, NCUO attended, by invitation, the United States Military Academy at Westpoint's 2nd Annual Urban Affairs Conference. The event was organized by the American Politics and Sociology Department and intended to unite the community of interest to exchange ideas and expose students to the resources available to learn about the challenges presented by operations in the dense urban environment.

Multiple presenters covered a range of topics, but NCUO attended briefs on "The City and the Soldier" by event organizer, MAJ Meghan Starr, Military Police; "Considering the Future of Urban Modeling through Big Data and the Remote Sensing Lens" by Dr. Debrah Laefer, NYU Urban Engineering Department; "Discussion of the Investigation of the Ferguson Police Department" by CPT Clyde Dains, Military Intelligence; and "Training for Urban Operations" by MAJ Zach Griffiths, Special Forces.

Significant Takeaways included:

1. Relationships with United States Military Academy cadre and the community of interest are strengthened; NCUO is invited to brief at next year's event.



Counterterrorism Leader Engagement: Iraqi Counterterrorism Service Special Operations Training Command- Iraq 24 April 2019



Throughout Wednesday 24 April 2019, NCUO representatives attended a counter-terrorism (CT) key leader engagement facilitated by the AWG Dense Urban Terrain Detachment at Fort Hamilton, New York. The purpose of the gathering was to share lessons learned from the Iraqi Counterterrorism Services' combat operations against the Islamic State amidst the dense urban environment of Mosul in 2017; exchange unit capabilities; and generate leader rapport for future opportunities. In attendance was the Iraqi Counterterrorism Service (ICTS) leadership, including the Chief of Targeting; the 1st Battalion Commander; the Chief of Staff; and the Commander of the Counter-terrorism Academy in Baghdad. The ICTS leadership was accompanied by their Special Operations training Command-Iraq (SOTC-I) advisors LTC Dennis Cook and MAJ Dash Ballarta. Also present was Colonel Joseph Frescura and his team from Special Operations Detachment- Central (SOD-C); members of the NYPD CT Bureau, Explosive Ordnance Disposal, and the Port Authority CT Detachment; and the AWG and NCUO teams. The entire event consisted of an NYC terrain immersion and emergency services exposure on Monday; a visit to the World Trade Center on Tuesday, and "The Lessons Learned from Mosul" seminar on Wednesday.

Significant Takeaways included:

1. The ICTS appreciates the value of narrative to their legitimacy in the eyes of the Iraqi people. This was the beginning of an effort to tell their story to the world.
2. The ICTS was never intended for large-scale combat operations. Having completed the defeat of ISIS, they find themselves confronted by the challenges of a depleted force, an urgent and necessary return to surgical counter-terror raid operations, and political pressures threatening a return to sectarianism.

Counterterrorism Leader Engagement: Iraqi Counterterrorism Service Special Operations Training Command- Iraq 24 April 2019



CTS, with all their capabilities proved to be a formidable opponent and deterrent to pursue all terrorists and bring them to justice



After defeating the Islamic State in Large-Scale Combat Operations, the CTS is returning to its core mission set of surgical strike raids and hostage rescue, with a foundation built upon the tenets of Iraqi citizenship and trust of the People.

Counterterrorism Leader Engagement: General Wayne Downing Scholars Site Visit 26 April 2019



Throughout Friday 26 April 2019, NCUO representatives hosted a counter-terrorism (CT) key leader engagement at Fort Hamilton, New York. The purpose of the gathering was to share the vision and capabilities offered by NCUO to a cohort of the Army's current Downing Scholars and the New York City Office of Emergency Management (NYCEM) and generate leader rapport for future opportunities. The Downing Scholarship is managed by the Combating Terrorism Center (CTC) out of Westpoint and its participants are carefully selected field-grade leaders committed to countering violent extremism (CVE) who receive full-funded graduate programs to the nations' top tier institutions. Seventeen total participants were in attendance.



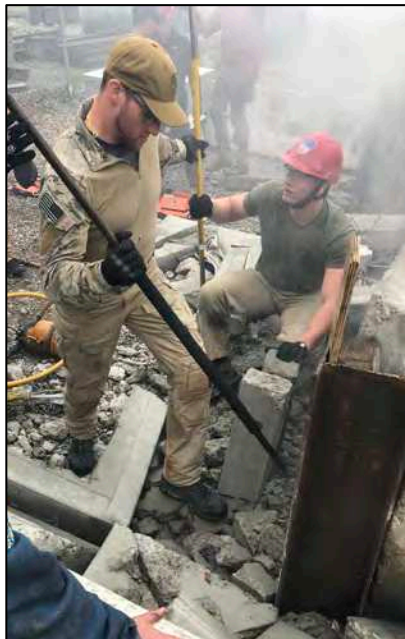
Significant Takeaways included:

1. Multiple Downing leaders engaged NCUO after the event, establishing contact for future training and education opportunities amongst the dense urban environment. The Defense Threat and Research Agency (DTRA), 5th and 7th Special Forces Group were among these.
2. NCUO strengthened its relationship with West Point's Combating Terrorism Center, setting conditions for future collaboration.

Maneuver Captain's Career Course Dense Urban Seminar & Dense Urban Training Complex Forum #4 29 April – 03 May 2019



Throughout the week of Monday 29 April through Friday 03 May 2019, NCUO representatives supported the AWG Dense Urban Terrain Detachment at Fort Hamilton, New York during the Maneuver Captain's Career Course Dense Urban Studies Seminar and the TRADOC G2 Dense Urban Training Complex Forum #4. The purpose of the MCCC DUSS is to expose pre-command Captains to the complex urban operating environment through terrain immersion in super-surface and subsurface structures, asymmetric threat capabilities, interagency and cultural human terrain engagements, and considerations for task organization and unit capability.



This iteration of the MCCC DUSS featured 10x Captains across various warfighting functions with experience in both general purpose and special operations units. It was unique in that it featured a full training day with the FDNY Special Operations Command (FDSOC) in forcible entry and subterranean rescue.

The purpose the Dense Urban Training Complex Forum #4 was to continue to scope the challenge and possible solutions for the development and installation of a world-class dense urban training environment at the National Training Center. The forum was chaired by the G3 from NTC and included participation by FORSCOM, TRADOC G2, USACE, and JRTC.

Significant Takeaways included:

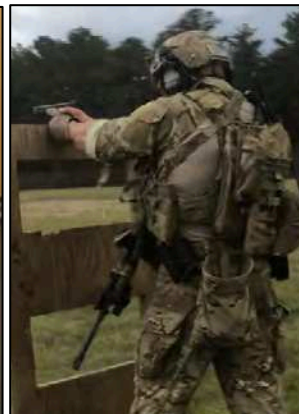
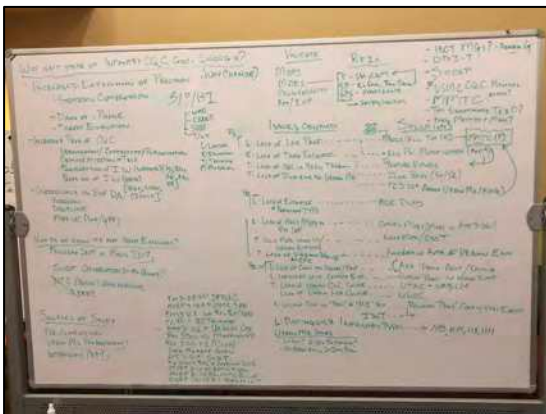
1. Sustain limited training with emergency services on unique capabilities optimized for urban operations was overwhelmingly supported by the Soldiers

Urban Close Quarters Combat Field Research 01 May- 04 May 2019



Throughout the week of Wednesday 01 May through Saturday 04 May 2019, NCUO representatives supported 2 Troop, Baker Squadron, AWG at the Asymmetric Warfare Training Complex (AWTC), Fort A. P. Hill, VA during their study of Urban Marksmanship training methodology and management as part of the broader Urban Close Quarters Combat Training Initiative. The purpose of the Urban CQC Training Initiative is to identify capability gaps in general purpose infantry (GPF) institutional and operational training progression and translate low-cost, high-impact solutions from the Special Operations Forces (SOF) community in order to increase this fundamental urban operations proficiency.

During that week, each Soldier fired 3,000 5.56mm rifle rounds and 1,000 9mm pistol rounds, progressing from the "SOF Marksmanship Shoot-In," through a four day rigorous course of fire to a "Shoot Out" of the same qualifications. Soldier's showed substantial improvement during the final evaluation. Saturday was spent observing AWG & USMC students in the General Mental Skills Training & Close Quarters Battle (GMST-CQB) Course taught by JTAC TSgt Charles Arbuckle at Quantico & Chesapeake, VA.



Supporting Documents:

AWG B2 Report Urban Marksmanship Progression- MAY19
MFR- AAR GMST-CQB- 3MFR- JUN18
Report- Marksmanship Training- NAMRU Dayton- OCT18

Significant Takeaways included:

1. Improving urban marksmanship is the first phase of the Urban CQC Enhancement Strategy. Repetition & Stress Inoculation will be critical.
2. The GMST- CQB Course has many lessons worth integrating into the Army's CQC curriculum but is not a POI we recommend be adopted wholesale.