

## Leveraging Non-lethal Technology Research in Academia

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Technological leaps and new strategies in development of non-lethal weapons (NLW) are linearly related to the abilities of those directing the work. There are talented leaders in military and law enforcement laboratories, but there is a large untapped population of creative minds across developed countries of the world. In the U.S., the majority of academics are not aware of the military programs that address their research interests, or they don't consider how their research may apply to non-lethal capabilities. We must market our needs to these inventive persons by interacting within their environment and vocabulary. Centers such as ours, the Non-lethal Technology Innovation Center (NTIC), can serve as liaison between research needs of the military/law enforcement and the creativity found in our universities. NTIC sponsors programs that parallel this 2<sup>nd</sup> European Symposium and directs think tanks to deliver solutions for intractable issues in non-lethal concepts and technologies. However, our primary task is to invite, review, and fund research that addresses desired capabilities of our military forces to interact with combatants, civilians, or materiel in a manner that is non-lethal in intent. In our first year, we received 8 proposals from 3 universities. Two years later, we have grown to attract 45 proposals from 29 institutions. We currently fund 16 projects including topics of area denial to personnel and vehicles, novel fibers, human effects of directed energies, laser and hologram applications, human safety and behavioral responses to NLW, crowd dynamics, computer modeling of crowds across cultural backgrounds, and robotics. Targeting the academic audience has been critical to our growth. We have developed a network of the non-lethal community and university researchers using a taxonomy database, attended engineering symposia, and proactively established a record of acceptability of non-lethal research using the press' hunger for stories of national security and law enforcement.

Key words: academic research, area denial, crowd control, directed energy, human effects