

EXAMPLE BME CAPSTONE PROJECTS

In 2004-2005, there were 24 BME Capstone Teams; 35 students were enrolled in the course. The following table lists the titles, student team members, Team Advisors, and Project Type of all BME Capstone Projects in 2004-2005:

Project Title	Team Name	Capstone Student Team Members	Team Advisor(s)	Project Type
Novel Ear Tube Insertion Device	OTITIS	Danielle Gause, Lisa Killen, Anu Roy	Kase Poelstra, M.D, Mike Pannunzio, M.D. (UVA Orthopaedics)	Type 1
Automated Liver Biopsy Gun	ABLE	Hualing Zheng, Stephen Jo	Bill Krause, Ph.D. (Bioengineering Consultants)	Type 1
Inhaler for Halotherapy in Respiratory Diseases	DIE HARD	Matt Dryden, Ian Bellayr, Nick Plionis	Ken Dillon, Ph.D. (Spectrum Pharmaceuticals)	Type 1
Shear Preipitation of Chitosan for Cotton-Like Hemostatic Agents	STATIC	Joe Loughnane, Jithu Randraprasad	Mike Danilich (Luna Innovations, Inc.)	Type 1
Alterations on a Specialized System to Improve Single-Handed Typing	ASSIST	Nicole Rossi	Diane Brauner (UNC)	Type 1
Introducing Engineering into Middle Schools with a Biomechanical Engineering Teaching Kit	Bio-Mek-A-Tek	Hannah Kolk	Larry Richards, Ph.D. (UVA MechE)	Type 3
Innovative Device for Cervical Screening	VISION	Jeanette Hankins, Cassandra Anido, Emily	Christine Peterson, M.D. (UVA Ob/Gyn)	Type 4
Improved Disease Management for Individuals with Diabetes: A Goal-Setting Management Tool	ACHIEVE	Rebecca Rendall	Alan Letzt (Adherence Technologies, Inc.)	Type 4
Control System for Partial Body Weight Support Device for Human Gait Training	POWER	Syed Omar	Paul Allaire, Ph.D. (UVA MechE)	Type 4
Modeling of Ultrasound in Atrioventricular Imaging	SAMAURI	Mike Connery	Bill Walker, Ph.D. (UVA BME)	Type 4
Treating Brain Tumors: Finding an Optimal Catheter for Drug Infusion	BRAIN	Arun Chabbra	George Gillies, Ph.D. (UVA MechE)	Type 4/5
Ultrasound-Enhanced Dye Diffusion in Gelatin and Polyacrylamide Gel	END CELL	Carolyn Reed	Bill Walker, Ph.D. (UVA BME)	Type 4/5
Applying a Flow Stimulus to Capillary Network Formation: An In Vitro Model of the Hemodynamic Environment in Angiogenesis	FIRST	Amber Turner	Brett Blackman, Ph.D. (UVA BME)	Type 4/5
Cell Migration as a Metric for Flow-Adaptation of Endothelial Cell Monolayers	MACE	Mike Simmers	Brett Blackman, Ph.D. (UVA BME)	Type 4/5
Clustering Targeting Ligands Enhances Adhesion of Microbubbles	MBA	Faviola Rubio	Klaus Ley, Ph.D. (UVA BME)	Type 4/5
Implementation of Tools and Procedures for Small Animal Molecular Imaging	ISOTOPE	Kevin Hudak, Lindsey Jacobson, Kristen Klement	David Glover, Ph.D. (UVA Internal Medicine) Shayn Peirce-Cottler, Ph.D. (UVA BME)	Type 4/5
Brain Spectra Modeling	B-SMART	Adilah Guiseppi-Wilson, Rebecca Barnett	Jack Knight-Scott (UVA BME)	Type 4/5
Alteration of Voltage-Dependent Calcium Channel Function by Novel Verapamil-Analogue	P-CLAMP	Nathan Lewis	Yong Kim, Ph.D. (UVA BME)	Type 5
Cellular Automata Model of Circulating Cell Adhesion and Transmigration in the Microcirculation	STAR	Melissa Yingling	Shayn Peirce-Cottler, Ph.D. & Tom Skalak, Ph.D. (UVA BME)	Type 5
Gathering Information for Tether Simulation	GIFTS	Johanne Python	Will Guilford, Ph.D. (UVA BME)	Type 5
Measuring Two-Dimensional Specific On-Rates of Selectins for Understanding Inflammation	RATE	Sarah Simnowitz	Will Guilford, Ph.D. (UVA BME)	Type 5
The Role of the Duffy Antigen/Receptor for Chemokines in Atherosclerosis	DARC	Brian Harry	Klaus Ley, Ph.D. (UVA BME)	Type 5
Probing the Routes of Tularemic Infection	PROTECT	Crystal Cronan	Barbara Mann, Ph.D. (Infectious Diseases)	Type 5
Assessing Apoptotic Germ Cells After Testicular Torsion in a Mouse Model	IRAVE	Sharon Attipoe	Jeff Lysiak, Ph.D. (UVA Urology)	Type 5