



THE UNIVERSITY of TENNESSEE **UT**
CHATTANOOGA

RESEARCH DAY 2015

APRIL 14, 2015
9:00 AM - 2:00 PM

UNIVERSITY CENTER
TENNESSEE & CHATTANOOGA ROOMS

UTC RESEARCH DAY 2015

SCHEDULE OF EVENTS

9:00 – 2:00

POSTER PRESENTATIONS ON DISPLAY

Listed on pages 5-22

Tennessee Room and Chattanooga Rooms

9:50 am

REMARKS

Chattanooga Rooms

11:30 am

REFRESHMENTS SERVED

Tennessee and Chattanooga Rooms

3:00 – 5:00 pm

GENERATION US: FRESH INSIGHT, ENERGY, AND MATURITY THE WORLD NEEDS MOVING FORWARD AN UNDERGRADUATE STUDENT-LED FORUM

UC Auditorium

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5:30 pm

DEPARTMENTAL HONORS PRESENTATIONS

Chattanooga Rooms B, C

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UTC RESEARCH DAY 2015

POSTER PRESENTATIONS

University Center • Tennessee and Chattanooga Rooms

COLLEGE OF ARTS AND SCIENCES

Art

EXPERIENTIAL LEARNING AND COLLABORATIVE CURATING AT ELSEWHERE MUSEUM

Lauren Ruth

LAART BOOK FAIR

Aggie Toppins

EXPERIENTIAL LEARNING: A STUDENT-DRIVEN GROUP DRAWING EXHIBITION AT AVA

Christina Vogel

Biological and Environmental Sciences

RELATIONSHIPS BETWEEN BENTHIC MACROINVERTEBRATE ASSEMBLAGES, STREAM HABITAT, AND CATCHMENT LANDSCAPE FEATURES IN THE LOOKOUT CREEK SYSTEM (TENNESSEE RIVER DRAINAGE)

Amelia Atwell • Dan Huser, M.S. • Josh Smith, M.S. • Mark Schorr, Ph.D.

HOW ECOLOGICAL VARIABLES INFLUENCE SOCIAL NETWORK STRUCTURE AND FITNESS IN OCTODON DEGUS

Kathleen Carroll • Loren Hayes, Ph.D. • Luis Ebensperger, Ph.D.

**LOTION FATTY ACIDS IMPACT MEMBRANE STRUCTURE AND
PERMEABILITY IN *ACINETOBACTER BAUMANNII***

Adrianna Eder • Steven Symes, Ph.D. • Manuel Santiago, Ph.D. • David Giles,
Ph.D.

HUMAN-COYOTE INTERACTIONS IN METRO ATLANTA, GA

Jeremy Hooper • Christopher B. Mowry, Ph.D., Berry College • Lawrence A.
Wilson, Ph.D., Emory University • Randal J. Hale, North Geographic Systems •
Timothy Gaudin, Ph.D.

**CHILDHOOD LEAD POISONING HOT SPOTS IN TENNESSEE AND
HAMILTON COUNTY**

Nyssa Hunt • Dawn M. Ford, Ph.D.

**SPATIOTEMPORAL ANALYSIS AND PREDICTIVE MODELING OF RABIES
IN TENNESSEE**

Nyssa Hunt • Thomas P. Wilson, Ph.D.

**EFFECTS OF ALKALOIDS FOUND IN ELECTRONIC CIGARETTE REFILL
SOLUTIONS ON CELL GROWTH AND GENE EXPRESSION**

Maxwell Marlowe • Christopher Beavers, B.S. • Gretchen E. Potts, Ph.D. •
Margaret J. Kovach, Ph.D. • Ethan A. Carver, Ph.D.

**EXPOSURE TO EXOGENOUS FATTY ACIDS IMPACTS PHOSPHOLIPID
COMPOSITION, MEMBRANE PERMEABILITY AND VIRULENCE
PHENOTYPES IN *ACINETOBACTER BAUMANNII***

Saba Munir • Daniel Shults • Steven Symes, Ph.D. • David Giles, Ph.D.

**A MANIPULATION STUDY: THE EFFECT OF PREDATION ON THE SPACE
USE OF CHILEAN RODENT, *OCTODON DEGUS***

Erin Myers • Loren Hayes, Ph.D.

NANOFIBER-BASED BONE REPAIR DEVICE

Andrew Patterson • Margaret Kovach, Ph.D. • Manuel Bernal Mejia

QUANTITATIVE GENETICS OF MORPHOLOGICAL TRAITS IN INVASIVE SEVEN-SPOTTED LADYBIRD BEETLES, *COCCINELLA SEPTEMPUNCTATA* (COLEOPTERA: COCCINELLIDAE)

Jessica Schutte • Yukie Kajita, Ph.D. • Cuilan Gao, Ph.D. • Eric O'Neill, Ph.D.

EXOGENOUS FATTY ACIDS AFFECT PHOSPHOLIPID STRUCTURE, MEMBRANE REMODELING, BIOFILM FORMATION AND SUSCEPTIBILITY TO ENVIRONMENTAL STRESS IN *VIBRIO VULNIFICUS*

Andrew W. Siv • Layla V. Norbash • Daniel J. Shults • Steven J. Symes, Ph.D. • David K. Giles, Ph.D.

A PRELIMINARY STUDY OF THE HABITAT SPECIFIC FITNESS CONSEQUENCES OF SOCIALITY IN *OCTODON DEGUS*

Madeline Strom • Luis Ebensperger, Ph.D. • Rodrigo Vasquez, Ph.D. • Enrique Bazán • Megan Taig • Loren Hayes, Ph.D.

FORAGING HABITS OF WINTERING WATERFOWL ACROSS THE SOUTHEAST

Justin A. Walley • David Aborn, Ph.D.

Chemistry

HOW THE JOURNEY BECOMES THE DESTINATION: SPECTROPHOTOMETRIC TITRATIONS

Macon Acuff • John A. Lynch, Ph.D.

THEORETICAL STUDIES OF HYDROGEN ABSTRACTION FROM HYDROFLUOROPROPANES BY OXYGEN ATOM

Dylan Bryant • Titus V. Albu, Ph.D.

SYNTHESIS, ANALYSIS, AND CHARACTERIZATION OF NOVEL DIENES AND CYCLIC COMPOUNDS

Patrick J. Carey • Kyle Knight, Ph.D.

MODIFICATIONS OF LYSOZYME BY SUBSTITUTED BENZOQUINONES

Hendrik J. Greve • Jisook Kim, Ph.D.

**INTERACTIONS AND BINDING ENERGIES IN CARBON NANOTUBE
BUNDLES**

Heir Jordan • Jae Son • Tom Rybolt, Ph.D.

**SYNTHESIS AND CHARACTERIZATION OF CYCLOPENTADIENYL- AND
PENTAMETHYLCYCLOPENTADIENYL-CO(III) MIXED SANDWICH
COMPOUNDS CONTAINING EITHER TRIDENTATE NITROGEN, SULFUR,
OR CARBON DONOR LIGANDS**

Trevor Latendresse • John P. Lee, Ph.D.

**A CORRELATION OF DIVALENT METALS, TRYPTOPHAN, AND/OR
VITAMINS WITHIN PROKARYOTIC AND EUKARYOTIC METABOLISM**

Anna Ioannidis • Stefanie Whitson, Ph.D. • Manuel Santiago, Ph.D.

**COMPUTATIONAL DISCOVERY AND SYNTHESIS OF NOVEL
FLUOROGENIC SUBSTRATE(S) FOR SPHINGOSINE KINASE 1**

Jeffrey W. McDonald • Daniel Baker, Ph.D. • Babatunde Raji • Harriet
Hamilton, Ph.D.

**EXOGENOUS POLYUNSATURATED FATTY ACID (PUFA) SCAVENGING
AFFECTS PHOSPHOLIPID PROFILES AND VIRULENCE PHENOTYPES IN
VIBRIO CHOLERAЕ AND VIBRIO PARAHAEMOLYTICUS**

Anna Moravec • David Schultz • Steven Symes, Ph.D. • David Giles, Ph.D.

**CRYSTAL STRUCTURE OF (E)-4-(4-HYDROXY-3-METHOXYPHENYL)BUT-2-
EN-OL**

Michael Orick • Kyle Knight, Ph.D.

**ICP-OES ANALYSIS OF SHIITAKE MUSHROOMS GROWN BY MISSISSIPPI
FARMERS**

Jay N. Patel • Gretchen E. Potts, Ph.D.

**SYNTHESIS, CHARACTERIZATION, AND REACTIVITY OF RUTHENIUM
(II) COMPLEXES SUPPORTED BY ELECTRON-RICH ARENE LIGANDS FOR
C-H BOND ACTIVATION**

Ashley Deanne Riner • John P. Lee, Ph.D.

RIBONUCLEASE A MODIFICATION INDUCED BY 1,2-NAPHTHOQUINONE AND 2-HYDROXY-1,4-NAPHTHOQUINONE

Michelle Smith • Jisook Kim, Ph.D.

Criminal Justice

PRIME-TIME CRIME: FEMALE FEDERAL AGENTS IN POPULAR CULTURE

Candice Ammons • Tammy S. Garland, Ph.D. • John A. Browne, MSCJ

History

ELSWORTH BROWN: CHATTANOOGAN

Katie Griffith • Susan Eckelmann, Ph.D. • Chattanooga History Center

Mathematics

THE COMPLEX ZEROS OF GAUSSIAN RANDOM POLYNOMIALS

Katrina Ferrier • Micah Jackson • Andrew Ledoan, Ph.D. • Dhir Patel •
Huong Tran

CALCULUS JEOPARDY AT UTC

Roger Nichols, Ph.D. • Aniekan Ebiefung, Ph.D.

Music

MUSIC PREFERENCE AND ITS EFFECT ON QUALITY OF PERFORMANCE

Jon Elliott • Rebecca Atkins, Ph.D.

COMPARISON OF ADVANCED PLACEMENT (AP) TEST SCORES OF HIGH SCHOOL BAND STUDENTS WITH NON-BAND STUDENTS

Vicky Leather • Rebecca Atkins, Ph.D.

FACTORS AFFECTING PERFORMANCE ANXIETY OF HIGH SCHOOL STUDENTS IN MUSIC

Kevin Moore • Rebecca Atkins, Ph.D.

OBSERVATION OF STUDENT PREFERENCE OF MUSICAL ACTIVITIES

Lucy Moore • Rebecca Atkins, Ph.D.

TRISKAIDEKAPHILE TO QUINCUNX: A CHATTANOOGA OPUS

Kenyon Wilson, D.M.A

Physics, Geology, and Astronomy

**THE N-3HE EXPERIMENT AT THE SPALLATION NEUTRON SOURCE OF
OAK RIDGE NATIONAL LABORATORY**

Josh Hamblen, Ph.D. • Caleb Wickersham • Dustin Jones • Jennifer Yearwood-
Hall

**INTERNATIONAL UNDERGRADUATE EXPERIENTIAL LEARNING AND
CRITICAL THINKING THROUGH TWO LINKED UPPER-LEVEL CROSS-
DISCIPLINARY COURSES**

Ann Holmes, Ph.D. • Dawn Ford, Ph.D.

**COMPUTATIONAL PREDICTIONS AND EXPERIMENTAL MEASUREMENT
OF THERMODYNAMIC STABILITY FOR A COILED-COIL PROTEIN MODEL
SYSTEM**

Patrick O'Brien • James C. Pino • Boni Kim • Stefanie R. Whitson, Ph.D. •
Carlos F. Lopez, Ph.D. • Kristin B. Whitson, Ph.D.

Political Science, Public Administration, and Nonprofit Management

**FEDERAL GRANTS TO STATES AND POLICY STAGNATION: POSSIBLE
COMPARISONS OF PRE AND POST 1991 INDIA WITH THE UNITED
STATES**

Michael Scariano • Vasabjit Banerjee, Ph.D.

Psychology

**THE RELATIONSHIP BETWEEN BIN DESIGN, NORMATIVE CONDUCT,
AND RECYCLING BEHAVIOR**

Molly Arnold • Preston Foerder, Ph.D.

I DON'T HAVE TO READ TO GET AN A

Robert B. Arrowood • Joseph Jones, M.S. • David Ross, Ph.D.

MENTORSHIP PROGRAMS AND STEM EDUCATION

Ajani Bakari • Arlann Robinson • Jill Shelton, Ph.D.

**EXAMINING AN ALTERNATE VERSION OF THE BAYCREST MULTIPLE
ERRANDS TEST**

R. Christopher Branson • Amanda J. Clark, Ph.D. • Deirdre R. Dawson, Ph.D.

**EXAMINATION OF THE RELATIONSHIP BETWEEN MEMORY AND INTRA-
INDIVIDUAL CORTISOL LEVELS IN VARYING ENVIRONMENTS**

Dillon Brock • Spencer Hulse • Shelby Rogers • Jill Shelton, Ph.D. • Svetlana
Chesser, Ph.D.

MUSIC HELPS ME DO MY HOMEWORK: A STUDENT'S CONUNDRUM

Eddie Christopher • Jill Shelton, Ph.D.

**ENHANCING CRITICAL THINKING IN UPPER-LEVEL PSYCHOLOGY
STUDENTS**

Amanda Clark, Ph.D. • Amye Warren, Ph.D.

THE CHARACTERIZATION OF ADHD WITH THE SLIP INDUCTION TASK

Allen Nida • Amanda Clark, Ph.D.

**IMPLEMENTATION INTENTIONS AND CONTEXTUAL UNCERTAINTY IN
PROSPECTIVE MEMORY: AN EYE TRACKING STUDY**

Allen Nida • David Sherrit • Iain Scott • Thomas Vorwerk • Jill Shelton, Ph.D.

**WHAT'S THAT SMELL? A BETTER UNDERSTANDING OF OLFACTORY
FUNCTIONING AND ITS APPLICATIONS**

Nicky Ozbek, Ph.D. • Joseph Jones • Robert Gornley • Joe Heaton • Naomi
Whitson • Molly Arnold • Manuel Santiago, Ph.D.

SPORT-RELATED HEAD INJURY AND PERFORMANCE ANXIETY

Haley Popp • Amanda Clark, Ph.D.

**REMEMBERING TO EXECUTE PLANS IN THE CLASSROOM: THE IMPACT
OF COGNITIVE LOAD AND CONTEXT**

Jill Shelton, Ph.D. • Eddie Christopher • Iain Scott • David Sherrit • Emily
Van Zandbergen

SPACE USE IN THE OTTER EXHIBIT AT THE TENNESSEE AQUARIUM

Sally Swanson • Preston Foerder, Ph.D.

MATING BEHAVIOR IN CAPTIVE RED WOLVES (CANIS RUFUS)

Sally Swanson • Preston Foerder, Ph.D.

**WORK-LIFE BALANCE, IDENTITY SALIENCE AND BREAK TAKING
BEHAVIORS IN INDIAN EXPATRIATES**

Pooja B. Vijayakumar • Christopher J.L. Cunningham, Ph.D.

**MEASURING SUBOPTIMAL EFFORT USING EXECUTIVE FUNCTION
ASSESSMENTS**

Jennifer Waldroupe • Zane Ritter • R. Christopher Branson • Amanda Clark,
Ph.D.

Sociology, Anthropology, and Geography

**ARCHAEOLOGICAL SURVEYING AND TESTING AT CANNON'S POINT
PRESERVE, GA: AN OVERVIEW**

Marie Meranda • Melissa Darroch • Nicholas Honerkamp, Ph.D.

**THE USE OF THE INTERNET AND/OR SOCIAL MEDIA FOR PERSONAL
MEDICAL DIAGNOSIS AND INFORMATION**

Nicholas Thompson • Pamela Ashmore, Ph.D.

COLLEGE OF BUSINESS

PSYCHOGRAPHIC PROFILE OF ENERGY USAGE IN CHATTANOOGA FROM THE SMART GRID

Jeff Culler • Ginger Duggan • Dharti Purani • Ashish Gupta, Ph.D.

SPORTS INJURY ANALYSIS FOR COLLEGE FOOTBALL

Lisa Harris • Nathan Beene • David Gernhard • Ashish Gupta, Ph.D.

VARIOUS PAPERS FROM THE COLLEGE OF BUSINESS FACULTY

COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

Civil & Chemical Engineering

FEM SIMULATIONS OF GRANULAR FLOWS

Matthew Brown • Matthew Pruitt • Bryan Ennis, Ph.D.

INTEGRATION OF A PID PROJECT INTO CONTROL SYSTEMS ENGINEERING

Bryan J. Ennis, Ph.D. • Abdul Ofoli, Ph.D. • Bradley Harris, Ph.D. • Micah
Moore • Naseem Jibrin • James McCarter

ON CHARACTERIZING PARTICLE SHAPE

Matthew Pruitt • A. Brent Rollins • Brandon Ennis • Joseph Owino, Ph.D. •
Douglas Rickman, Ph.D. (NASA) • Brian Hannan (NASA) • Blake T. Lohn-
Wiley (NASA) • Bryan Ennis, Ph.D.

**A PARABOLIC METHOD WITHOUT PRESSURE APPROXIMATIONS FOR
WIND FARMS**

Anshul Mittal • W. Roger Briley, Ph.D. • Kidambi Sreenivas, Ph.D. • Lafayette
Taylor, Ph.D.

**IMPROVED METHODS FOR FORWARD AND INVERSE SOLUTION OF THE
WAVE EQUATION FOR PILES**

Don C. Warrington • James C. Newman III

**XSEDE: EXTREME SCIENCE AND ENGINEERING DISCOVERY
ENVIRONMENT**

Craig Tanis, Ph.D.

**COLLEGE OF HEALTH, EDUCATION
AND PROFESSIONAL STUDIES**

**EACH ONE REACH ONE: MEETING THE DEMANDS OF THE MODERN
CLASSROOM**

Jonathan Brocco • Sandy Cole • JoAnn Cook

POST-SECONDARY AWARENESS WITH SUCCESS

Jovanni Major • Sandy Cole

UBMS: PRISM PROGRAM OUTCOMES

Kristina McClure • Twyler Boykin • Angel Ulmer

**THE PROGRESSION OF ELEMENTARY COLLEGIATE AWARENESS: PAWS
AND CK NOW!**

Bernadette Smith • Jonathan Brocco • Sandy Cole

Health and Human Performance

**SLEEP QUALITY AND DEPRESSION EFFECTS ON REACTION TIME AND
INJURY RISK IN COLLEGE BASKETBALL PLAYERS**

Zachary T. Adkins, MS, ATC • Brian T. Myers, MS, ATC • Shellie Acocello,
Ph.D., ATC • Gary Wilkerson, Ed.D., ATC

**INTERRELATIONSHIPS AMONG FACTORS ASSOCIATED WITH ELEVATED
INJURY RISK AMONG COLLEGE FOOTBALL PLAYERS**

Mattea Butler • Hillary Masdon • Gary Wilkerson, EdD, ATC • Marisa
Colston, Ph.D., ATC

**POTENTIAL PREDICTORS OF ADJUSTMENT OF TRAINING DUE TO INJURY
WHEN TRAINING FOR A TRIATHLON EVENT**

Casey Chiesa • Andrew Bailey, Ph.D.

**LOWER EXTREMITY INJURY RISK AMONG COLLEGE ATHLETES
PARTICIPATING IN NON-CONTACT SPORTS**

Casey Chiesa • Stephanie Medina • Marisa Colston, Ph.D., ATC • Gary
Wilkerson, Ed.D., ATC

LOCAL RESIDENTS' OPINION ON TOURISM

Myranda Demailly • Amanda McDowell • Andrew Bailey, Ph.D.

**COMPARISON OF ATHLETIC TRAINER STRESS AND JOB SATISFACTION
WITH DIFFERENT MODELS OF CARE DELIVERY**

Sarah D. Giles • Colleen B. Hamman • Gary Wilkerson, EdD, ATC • Carrie
Baker, Ph.D., ATC

**VISUAL TRAINING PROGRAM EFFECT ON VISUOMOTOR REACTION
TIME OF COLLEGE STUDENTS**

Matt D. Hildebrand, M.S., ATC • Sonny Sessions, M.S., ATC • Gary B.
Wilkerson, Ed.D., ATC • Marisa A. Colston, Ph.D., ATC

**THE EFFECT OF COACHING ON IRONMAN TRAINING VOLUME AND
INJURY RATE**

Josh Johann, B.S. • Gary Liguori, Ph.D. FACSM

**PERIPHERAL VISION AS AN INJURY PREDICTOR IN DIVISION I
FOOTBALL PLAYERS**

Colby Keegan, ATC • Gary Wilkerson, Ed.D., ATC

**EXPLORATORY ANALYSIS OF FACTORS RELATING TO YOUTH
FOOTBALL CONCUSSIONS**

Sara A. Rock • Lydia G. Wright • Shellie Acocello, Ph.D., ATC • Carrie
Baker, Ph.D., ATC • Gary Wilkerson, Ed.D., ATC

**KID FITNESS: EVALUATION OF A CLASSROOM-BASED PHYSICAL
ACTIVITY INTERVENTION AMONG FIRST GRADE STUDENTS**

Charlene Schmidt, Ph.D., RDN, LDN • Diedri White, MS, RDN, LDN •
Nicholas F. Boer, Ph.D., MPH • Steve Underwood, DA • Gregory Heath,
DHSc, MPH, FACSM • Sarah Giles • Catrice Scott

**EFFECTS OF CONCUSSION HISTORY ON NEUROCOGNITION,
NEUROMUSCULAR FUNCTION, AND INJURY OCCURRENCE IN COLLEGE
FOOTBALL PLAYERS**

Altovise Scott • Allison Varnell • Shellie Acocello, Ph.D., ATC • Gary
Wilkerson, Ed.D., ATC

Interior Design

**GROUP PROJECTS WITH MILLENNIALS: DISARMING THE BOMB OF
STRESS IN THE INTERIOR DESIGN CURRICULUM**

Catherine Kendall • Jessica Etheredge • Dana Moody

**BEING GREEN IS ACTUALLY EASY: QUICK SOLUTIONS TOWARD A
HEALTHY AND SUSTAINABLE HOME**

Catherine Kendall • Jessica Etheredge • Dana Moody

**THE CHALLENGES AND STRATEGIES OF GROUP PROJECTS WITHIN
HIGHER EDUCATION**

Catherine Kendall • Jessica Etheredge • Dana Moody

**FRESHMAN SEMINAR: AN OPPORTUNITY FOR FAMILY AND CONSUMER
SCIENCE**

Dana Moody • Amy Crumpton • Jessica Etheredge • Catherine Kendall •
Pooja Vijayakumar

**GOPRO TECHNOLOGY FOR INTERIOR DESIGN: SOLUTIONS FOR
CHATTANOOGA HISTORIC BUILDINGS**

Dana Moody • Jessica Etheredge • Catherine Kendall

Physical Therapy

**IDENTIFYING THE BRAIN REGION RESPONSIBLE FOR ACUTE
HYPERTONICITY IN PATIENTS DIAGNOSED WITH A CEREBROVASCULAR
ACCIDENT**

Susan J. Barlow, DPT, Ph.D., NCS • Susanne Purdy • Katie Radcliff

**VALIDATION OF THE NIH STROKE SCALE – MOTOR ARM FUNCTION
ON A MOBILE PLATFORM**

Nancy Fell, PT, Ph.D., NCS • Brandon Allen • Mini Sartipi, Ph.D. • Sarah
Randles • Jennifer Dickens • Danielle Wank • Hanna True

**VALIDATION OF THE FUNCTIONAL REACH TEST IN A MOBILE
PLATFORM: PILOT DATA WITH SUBJECTS POST-ACUTE STROKE**

Nancy Fell, PT, Ph.D., NCS • Brandon Allen • Mini Sartipi, Ph.D. • Kelsey
Lowry • Emily Smith • Bianca Wade • Hanna True

**HYPERTENSION AMONG PERSONS ATTENDING OUTPATIENT PHYSICAL
REHABILITATION IN SOUTHERN HAITI**

June Hanks, PT, Ph.D., DPT, CWS, CLT • Nick Feira, SPT • Laura
Aristizabal, SPT • Emily Boyer, SPT • Emma Byland, SPT

**THE EFFECT OF MIXED FREQUENCY TRANSCUTANEOUS ELECTRICAL
NERVE STIMULATION ON PLASMA LEVELS OF B-ENDORPHINS**

David Levine, PT, Ph.D., DPT • Susan Barlow, DPT, Ph.D., NCS • Manuel
Santiago, Ph.D. • Timothy Jones, FNP • Evan Dalton • Anthony Ervin • Jenny
Westbrook

**DRY NEEDLING AND THE POTENTIAL FOR BACTERIAL
CONTAMINATION**

David Levine, PT, Ph.D., DPT • Randy Walker, PT, Ph.D., DPT • Henry
Spratt, Ph.D. • Robyn Tobias, MSN, APN, NP-C • Zachary Cooper • Heather
Harmon • Brittany Rock • Dacey Winkleman

**CAREGIVERS PERCEPTIONS OF FACILITATORS AND BARRIERS TO
PARTICIPATION FOR CHILDREN AND YOUTH WITH MOBILITY
CHALLENGES**

Catherine Smith, PT, DPT, Ph.D., PCS • Megan Peppard • Katherine Ussery •
Brooke Williams

**CORRELATION AMONG HEAD SHAPE DEFORMITIES AND SELECTED
MEDICAL OUTCOMES IN INFANTS REFERRED TO PHYSICAL THERAPY
DURING THEIR NICU STAY**

Catherine Smith, PT, DPT, Ph.D., PCS • Sarah Deardurff • Josh Ooten

**THE ASSOCIATION OF HIP KINEMATICS DURING THE SINGLE LEG HOP
TEST AND HIP STRENGTH IN RECREATIONAL ATHLETES FOLLOWING
SUCCESSFUL ACL RECONSTRUCTION**

Jeremiah Tate, PT, Ph.D. • Bo Balentine, SPT • Justin Kyle, SPT • Shawn
McAward, SPT • Christine Walker, SPT

School of Education

**A CONCEPTUAL FRAMEWORK FOR A THREE-DIMENSIONAL PERIODIC
TABLE OF THE ELEMENTS: A CASE FOR AN ELLIPTICAL PERIODIC
CHART OF THE ELEMENTS**

Hinsdale Bernard, Ph.D.

**SMALL DEVICE, BIG CHANGE: SMART PHONES IN K-12
ENGLISH/LANGUAGE ARTS EDUCATION**

Jennifer K. Lubke, Ph.D.

**EFFECTS OF HEALTH INFORMATION TECHNOLOGY ADOPTION ON
NURSING HOME QUALITY RATING SCORES IN MINNESOTA NURSING
HOMES**

Cathy M. Murray, RN, MBA • David Rausch, Ph.D.

**DISMANTLING THE SCHOOL-TO-PRISON PIPELINE: IMPLICATIONS FOR
SCHOOL PERSONNEL**

Elizabeth Snelling • James A. Tucker, Ph.D.

School of Nursing

**INTERPROFESSIONAL COLLABORATIVE PRACTICE APPROACH FOR
GERIATRIC EDUCATION STRATEGIES**

Candace J. Bishop, DNP, FNP-BC • Carolyn Schreeder, DM, MSN •
Christopher J. L. Cunningham, Ph.D. • Nikcole Hayes • Stephanie West •
Christopher Silver, Ed.D. • Elizabeth Smith, NP-C

**DEVELOPING A STRUCTURED INTERVIEW FOR DNP PROGRAM
ADMISSION**

Jenny Holcombe, Ph.D. • Joanie Jackson, DNP, APRN, FNP-BC

STUDENT ENGAGEMENT IN THE ONLINE ENVIRONMENT

Jenny Holcombe, Ph.D. • Joanie Jackson, DNP, APRN, FNP-BC

**PUTTING YOUR BEST FOOT FORWARD: IMPLEMENTATION OF A
DIABETIC FOOT CARE MODEL IN A FREE RURAL CLINIC**

Melissa Humfleet EdS, MSN, RN • Carolyn Schreeder, DM, MSN

PREVENTING FALLS: AN INTERPROFESSIONAL TEAM APPROACH

Joanie Jackson, DNP, APRN, FNP-BC • Lindsey Pearse, M.S.

COMMUNITY ACQUIRED PNEUMONIA: IMPLEMENTATION OF THE CURB-65 RISK ASSESSMENT SCORE AND EDUCATION PROGRAM

Stephanie W. Jones, MSN, RN, DNP student • Carolyn Schreeder, DM, MSN
• Joanie Jackson, DNP, APRN, FNP-BC • Julie Barnes, M.D., FACP

BREAST IS BEST: INCREASING HEALTHCARE PROVIDER KNOWLEDGE AND CONFIDENCE

Emily Lee, MSN, RN, FNP-C, CLC • Joanie Jackson, DNP, APRN, FNP-BC

CHANGE TALK AND CHOICE: OPTIONS FOR TOBACCO CESSATION IN PRIMARY CARE

Virginia G. Massey-Holt, MSN, RN, NP-C • Joanie Jackson, DNP, APRN, FNP-BC • Jenny M. Holcombe, Ph.D. • Anthony V. Dallas, MD • Thomas H. Cook, Ph.D., RN, FNP

UTILIZING A FORMAL EDUCATION PROGRAM AND EVIDENCE-BASED KETAMINE ADMINISTRATION PROTOCOL TO INCREASE THE USE OF KETAMINE AS AN ADJUNCT TO ANALGESIA

Jamey Morrison, CRNA, MSN, APRN • Joanie Jackson, DNP, APRN, FNP-BC

Social Work

EVALUATION OF THE HELP US GROW SUCCESSFUL (HUGS) HOME VISITING PROGRAM

Tara Anderson, BSW Candidate • Amy Doolittle, Ph.D.

LINK BETWEEN INSURANCE AND SELF-SUFFICIENCY AMONG REFUGEES

Amanda Arceneaux • Ashley Vargas • Yesia Pitner • Amy Doolittle, Ph.D.

ADVERSE CHILDHOOD EXPERIENCES (ACE) AND ADULT MENTAL HEALTH

Jeremy Belk • Megan Beatrice • Barbara Clark • Amy Doolittle, Ph.D.

THE EFFECTIVENESS OF DOMESTIC VIOLENCE TRAINING FOR LAW ENFORCEMENT OFFICERS

Aundrea Dilanchian • Ashley Stevenson • Mara White • Amy Doolittle, Ph.D.

THE TRAUMATIZED LEARNER: A VIEW FROM TWO PERSPECTIVES

Amy Doolittle, Ph.D. • Linda Johnston, Ed.D • Delia Price, Ed.D • Kay
Cowan, Ph.D.

**ANALYSIS OF THE SALVATION ARMY'S SOCIAL SERVICE CLIENT
SATISFACTION SURVEYS**

Ashley Farmer • Joseph Brackett • Robert Waldrep • Amy Doolittle, Ph.D.

**CLIENT SATISFACTION OF COMMUNITY-BASED JOB TRAINING
PROGRAM**

Ryan Galloway • Amy Doolittle, Ph.D.

**THE IMPORTANCE OF CLIENT SATISFACTION OF PARTICIPANTS AT THE
CHILDREN'S ADVOCACY CENTER**

Sofi Jarquin • Elizabeth Whitwell • Amy Doolittle, Ph.D.

**PREDICTING UNPLANNED DISCHARGES IN CHILD RESIDENTIAL CARE
FACILITIES**

Taylor Johnston, BSW candidate • Elizabeth Robison, BSW candidate • Amy
Doolittle, Ph.D.

THE IMPACT OF SERVICEPOINT ON SOCIAL SERVICES

Katie Masters • Megan Henson • Danielle Miller • Tiffany Randolph • Amy
Doolittle, Ph.D.

**GETTING OVER IT: WHAT IS THE RELATIONSHIP BETWEEN
EMOTIONAL RECOVERY AND GENERAL WELL-BEING?**

Ivorie Mayes • Bianca Stafford • Amy Doolittle, Ph.D.

**COMPARING VARIOUS HEALTH OUTCOMES OF VULNERABLE ADULTS:
FORMER FOSTER YOUTH AND A NON-FOSTER SAMPLE**

Heather Murray • Morgan Cooley, Ph.D. • Jose Rodriguez, M.D.

**AN EXPLORATION OF PARTICIPANT SATISFACTION IN RELATION TO
SERVICES PROVIDED BY THE EDUCATIONAL OPPORTUNITY CENTER**

Rosalind Mussared

DEMENTIA CAREGIVERS' RESPONSES TO VIRTUAL DEMENTIA TOUR

Taylor Randall • Kayla Sharpe • Alisa Williams • Rick Rader, MD • Amy Doolittle, Ph.D.

HAMILTON COUNTY TRUANCY TASK FORCE

Anna Underdown • Priyana Gordhan • Emily Arnold • Amy Doolittle, Ph.D.

EXPLORATION OF STABILITY FACTORS IN FAMILIES AFTER PARTICIPATING IN THE FAMILY PROMISE PROGRAM

Summer Wittmer • Kayla Hopper • Amy Doolittle, Ph.D.

HONORS COLLEGE

CONNECTING UTC TO THE CHATTANOOGA COMMUNITY: PUBLIC PROBLEM SOLVING

Rebecca Jones, Ph.D. • Graham Alexander • Carson Cook • Emily Duggan • Rachel Emond • Katie Garrabrant • Zachariah Hall • Maggie Harmon • Carly Jessup • Abby Kinnard • Sara Leach • Melanie Martin • Ashley Musselman • Hannah Rials

UTC RESEARCH DAY 2015

THINKACHIEVE PRESENTATION

3:00 – 5:00 PM

University Center • Auditorium

**GENERATION US: FRESH INSIGHT, ENERGY, AND MATURITY THE
WORLD NEEDS MOVING FORWARD**

AN UNDERGRADUATE STUDENT-LED FORUM

Hosted by Michael Spehar

UTC RESEARCH DAY 2015

DEPARTMENTAL HONORS PRESENTATIONS

5:30 – 8:30 PM

University Center • Chattanooga Rooms B, C

FACEBOOK | **PANOPTICON: AN ANALYSIS OF FACEBOOK AND ITS PARALLELS TO THE FOUCAULTIAN PANOPTICON**

Stephanie Fast

Department of Art

Professor Matt Greenwell, Director

EXOGENOUS FATTY ACIDS FROM LOTION AFFECT PHOSPHOLIPID STRUCTURE AND ALTER PERMEABILITY CHARACTERISTICS IN

ACINETOBACTER BAUMANNII

Adrianna Eder

Bachelor of Integrated Studies

Professor David Giles, Director

HEROISM AS CONSTRUCTED MASCULINITY IN THE EPICS OF *GILGAMESH* AND *BEOWULF*

Rachael Poe

Department of English

Professor Gregory O'Dea, Director

INVESTIGATION OF THE THERMODYNAMIC PROPERTIES OF THE OLIGOMERIZATION DOMAIN OF HETEROGENEOUS NUCLEAR

RIBONUCLEOPROTEIN C

John Patrick O'Brien

Department of Physics

Professor Kristen Whitson, Director

COST BENEFIT ANALYSIS OF AMAZON PRIME AIR

Adrienne Welch

Department of Economics

Professor Bruce Hutchinson, Director

**A REVIEW OF THE UNITED STATES ACCOUNTING TREATMENT FOR
ENVIRONMENT ISSUES AND THEIR EFFECTS ON FINANCIAL REPORTING**

Colleen Sauser
Department of Accounting
Professor Marilyn Willis, Director

**MINDING THE GAP: CONNECTING MIRROR CITIES OF LONDON IN THE
NOVELS OF NEIL GAIMAN AND CHINA MIÉVILLE**

Miranda Hill
Department of English
Professor Charles Sligh, Director

SPORT-RELATED HEAD INJURY AND PERFORMANCE ANXIETY

Haley Popp
Department of Psychology
Professor Amanda Clark, Director

MODIFICATIONS OF LYSOZYME BY SUBSTITUTED BENZOQUINONES

Hendrik Greve
Department of Chemistry
Dr. Jisook Kim, Director

Notes

