1st Annual LSU Discover Research Day

Monday, March 10th, 2014
9:00 AM—4 PM

Student Union Cotillion Ballroom
and Atchafalaya Room

Open to the public

Performances and welcoming remarks 1:30-2:30 PM

Student presentations 2:30-4 PM

LSU Discover, LSU’s Quality Enhancement Plan (QEP), focuses on expanding opportunities for undergraduate students to engage in research and innovation activities that develop new knowledge, applications and creative endeavors.

Learn more at: www.lsu.edu/discover
On behalf of a large team working on LSU’s all-important reaffirmation of academic accreditation, we would like to thank all of you for participating in the 2014 “pilot” edition of LSU Research Day. Research Day is part of LSU Discover, and is associated with our reaffirmation of academic accreditation. For this year, the event will give the LSU community a chance to publicize and reflect on campus wide undergraduate student success in research, creativity, and innovation just before the March 11-13, 2014 SACSCOC on-site review of our campus. In coming years, the event is planned to expand steadily to a “research week” event that will involve much more activity from the colleges and programs across campus. For a glimpse of a college pilot, please visit the Atchafalaya room and see dozens of students from LSU’s College of Human Sciences and Education who will tell you about their efforts. Please take time and see the more than 100 displays, posters, and performances that make this year’s event and please don’t hesitate to give us feedback on how we can make the event more valuable to you and others next year! (Please send comments to lsudiscover@lsu.edu)

Sincerely,

Randy Duran
LSU Discover Director
Director, LSU Office of Undergraduate Research
Gordon A. Cain Chair for STEM Literacy, and
Professor of Chemistry

LSU Discover would like to thank the following for the help with Research Day -
Office of Academic Affairs
Office of Research and Economic Development
Office of Communications and University Relations
Deans of the 12 participating colleges
LSU Student Government
QEP College and Student Advisory Boards
LSU Libraries
University of Florida
Petroleum Institute University and Research Center, Abu Dhabi
And all the faculty mentors who nominated students for participation in this inaugural event!

We would also like to thank the following undergraduate research and innovation funders:
NSF, NIH, HHMI, W.M. Keck Foundation, Department of Energy, enOvation, LSU Sea Grant, College of Agriculture, College of Humanities and Social Science, College of Human Science and Education, and many others.
LSU Discover Research Day
MONDAY, MARCH 10, 2014

Student Union Cotillion Ballroom Posters

College of Art & Design
1 Belleville House: Building an Independent Future  Monica Caire
2 Revitalizing Downtown through the Arts  Cindy Tiek
3 LEVEL EYE LEVEL  Kaitlyn Kehoe
4 Planting and Growing Sustainable Churches  Daniel Shaffer
5 Limit Theory  George “Andy” Thompson
6 [untitled second presentation]  George “Andy” Thompson
11 Graphic Design Student Office  Marci Hargroder and Juan Baldera
12 Symbiotic Shorebase  Elliot Manuel
13 Translating Ecological Systems Models into Parametric Modeling Definitions for the visualization of Louisiana’s dynamic natural systems and settlement patterns  Carolina Rodriguez
14 Model  Molly Gleason and Dylan Purvis
15 Neural Network  Michelle Couret and David Tonnelier
16 CIPN Symptom Cups: Selective Damage of Neuronal Subgroups caused by Chemotherapy Induced Peripheral Neuropathy  Katie Bosley and Weier Liu
17 Genetics as Music  Ginny Lane and Stephanie Lam

Honors College
8 Cryoprotectant Loading in a Microchannel  Shelby Pursley
9 Synthesis and Characterization of Gold Nanoparticles for Studies using Second Harmonic Generation  Blake Kruger
10 La Puesta Cambiante de las Mujeres en la Sociedad Espanola al Comienzo del Siglo XX (The Changing Position of Women in Early Twentieth Century Spanish Society)  Rome Gonsoulin

College of Engineering
21 Affordable Access to Space: Frozen Propellants and Reusable Engines  Clay Blanchard
22 Operation of the HISTAR Biomass Reactor for Photosynthetic Co-Cultures  Matthew Johnson
24 Plasmon-Mediated Cleavage for Improved Spatiotemporal Control of Gene Delivery  Corey Landry
25 Exploration of Heusler Alloys for Giant Magnetocaloric Effect  Daniel Lepkowski
26 FireWorks and the Materials Project: Facilitating Scientific Workflows  Morgan Hargrove
### Manship School of Mass Communication

#### 27 Problems with a social media policy for LSU
- Sally Cox, Hannah Solsky, Christina Riviere, Taylor Kimball, and Ashley Finley

#### 28 Journalism Adjudication, Elite Polarization, and Social Media Gatekeeping: effects on citizens
- Beiru (Isabelle) Ding, Jacob Irving

#### 30 Gauging Public Opinion in Baton Rouge on Human Trafficking
- Hillary Guidry, Kelsey King, Lacy Miller, Rowan Knight, and Monica Raymond

#### 31 The majority of university social media policies include a definition of social media, consequences for policy violation, approval for university affiliated accounts and guidelines for personal account use
- Joena Broussard, Alexa Arider, Sandra Castillo, Shaunda Johnson, and Rebecca Sotile

#### 32 Public Opinion of College Athletes
- Danielle Kelley

#### 33 LSU Bateman and Popmoney®
- Erin Kenna, Emily Beck, Allison Sage, Elise Bernard, and Anna Long

#### 34 The Effectiveness of Advertisements using the Social Norms Theory versus Guilt Appeals to Motivate College Students
- Caroline Jacobs, and Ashley Porcua

### School of Veterinary Medicine

#### 35 The Effects of Duddingtonia flagrans and Rabon on the Survival of Gastrointestinal Nematode Larvae in Small Ruminants
- Vicky Kelly

#### 36 Intra-articular Filter-derived Platelet Therapy to Alleviate Signs of Equine Osteoarthritis
- Holly Attuso

#### 37 The Potential Dire Consequence of Oiling for Carbon Sequestration and Restoration of Louisiana's Coastal Wetlands
- Quoc Trung Nguyen

### School of the Coast & Environment

#### 39 Factors threatening the sustainability of the Great Barrier Reef
- Megan Calvit

#### 40 Clustering Analysis of High School Students' Perceptions of Wildlife Values
- Jennifer Chi

#### 42 Sedimentary Record of Extreme Events in the Lake Maurepas Basin, Southern Louisiana
- Jonathan Lambert
Method of monitoring plankton after BP oil spill

Mapping of Vibrio Species in Breton Sound and Barataria Bay

Documenting Deep Dives of Sperm Whales in the Gulf of Mexico Through ROV Footage Analysis

Assessing Millimeter-Scale Sr/Ca Variability within the Corallite Fan Structure of Porites Lutea for Improving Coral Based Paleoclimate Reconstructions

Motivating Students to excel in the Classroom

The Effects of Mental Load and Auditory Noise on the Acquisition and Learning of a Motor Task

Increasing Letter Recognition through Technology

Recollections of a First Dating Relationship: A Two-Subject Case Study

Is Black Motherhood A Marker of Oppression or Empowerment? Hip-Hop and R&B Lessons about “Mama.”

Increasing a Child's Physical Activity Through Peer Intervention at Recess

Control of direction and control of amplitude are interdependent in bimanual coordination

Differences in handwriting and typing on information retention

Prevalence of the symbiont Lagenophrys callinectes in blue crabs Callinectes sapidus

Can the heat tolerance of mesophilic dairy bacterial cultures be enhanced?

Effects of Salinity on the Aggressiveness and Venom Production of the Red Imported Fire Ant, Solenopsis invicta

Weekend intake is associated with poorer diet quality, and increased intake energy and nutrients to limit and poorer food choices in children and adults than weekday intake: National Health and Nutrition Examination Survey 2001-2008
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63 Dietary intake of younger and older female adolescents in Louisiana and their adherence to national dietary recommendations

Markita Lewis

64 Assessment of a Termite Gut-Specific Bacterium, Trabulsiella odontotermitis, as a Potential ‘Trojan Horse’ for a Paratransgenesis Based Method of Termite Control

Thomas Martin

College of Humanities and Social Sciences

67 Tropical Cyclone Induced High Water Marks in Coastal Louisiana Parishes

Bryant Garcin

68 3D Imaging and 3D Printing of Coffin Handles from St. Thomas Anglican Churchyard, Belleville, Canada

Dana Gaude

69 Believe the lie: Source monitoring errors for repeated lies

Laura Heisick

70 Empowerment: The Formation of Black Women in America

Natalie Hughes

71 Perceived Effects of Color on Clothing

Jessica Campbell

72 The Community Impact that Battle Ground Baptist Church has had since Hurricane Katrina

AshLee Smith

73 Digital Reconstruction of Ancient Maya Salt Evaporation Pottery Vessels

Patrick Vines

74 Attitudes toward Same-Sex Marriage in Latin America

Claire Q. Evans

E.J. Ourso College of Business

75 The Role the Private Market Can Play in Wetland Restoration: Wetland Mitigation Banking

Eric Maxwell Newberry

76 The Poverty Trap: Financial Disincentives of Our Welfare System

Douglas Secrest

College of Science

77 An animated 3D model of the synchronous movements of the trachea, cervical vertebral column, and oro-pharyngoesophageal cavity of a vocalizing songbird, the Northern Cardinal (Cardinalis cardinalis)

Caroline Blevins

78 Adaptation of Gamma Camera System for Small Field-of-View Applications

Melanie Carroll

79 Dosage of Phenol upon ZnO (10-10) & (0001)

Mark DiTusa

80 Development of a position-sensitive gas ionization detector for ANASEN

Hannah Gardiner
An investigation of event driven sedimentation along the southwest shore of Lake Pontchartrain, Frenier, Louisiana

SNP-Only Data Sets and the Accuracy of Phylogenetic Inference

Targeting Colorectal Cancer with Novel Peptidic-BODIPY Conjugates

Filling in the Holes: Synthesis and Structure of LnMnxGA3 (Ln=Ho-Tm; z<0.15)

The effect of an ice-binding protein on E. coli survivability

The Role of Endoreplication Gene Siamese in Arabidopsis thaliana Trichome Division Inactivation

“Cultivation-dependent and Independent Characterization of Unique Geothermally Heated Hawaiian Microbial Mats”

The pH Dependence of the DNA Binding of D. radiodurans and T. aquaticus

College of Music and Dramatic Arts

ORIGIN

Goodness Gracious: A Piano Improvisation Game

Undergraduate research/innovation programs and invited guests

Aspire

Age and Season of Harvest for Mesodesma donacium shells found at an archaeological site in coastal Peru

The Women of Shakespeare's Hamlet in Modern Film Adaptations

McNair

College Student Covitality

Implementation Intention’s Effect on Treatment Integrity to a Classroom Management system

Petroleum Institute

Electrochemical Characterization of Silicon Nanowires Using Ionic Liquids

Droplet Dynamics and mass transfer of single organic droplets in a water column
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**96** Fabrication methodology for a combinatorial approach to Poly-3-hexylthiophene and phenyl-C61-butyric acid methyl ester based inverted organic photovoltaic cells  
Malcolm Davidson

**La-STEM**

**88** A New Twist on the Matrix Exponential  
Bruno Beltran

**88** Novel Antimicrobial Biocompatible PETA Composite Scaffolds for Orthopaedic Implants  
Mollie Smoak

**89** Preparation of Molecular Hydrogen into Quantum Rovibrational States  
Cedric Williams

**Demarcus D. Smith III Mathematics Scholarship**

**91** Introducing Advanced Math Concepts through a Geometry Project  
Emelie Mativi

**91** Characteristic Polynomials of Non-Commuting Graphs  
Colleen Robichaux

**92** The Ant and the Plant  
Mandonesia Maurice

**92** Discrete Calculus on a Scaled Number Line  
Avery St.Dizier

**93** Resonance in Graphene Tubes  
Jeremy Tillay

**93** The field of sequences and the asymptotic z-transform  
Morgan Landry

**NIST grant for undergraduates**

**98** Putting NIST on Your List  
Daniel Lepkowski, Matt Wolff, and Matt Johnson

**Performances**

**1:40** Quintet No. 1 by Victor Ewald, Movement 1  
Anthony Ficklin, Brent Gosset, Francis Steib, Phil Shapiro, and John Lenoir

**2:15** ORIGIN  
Alaina Dugas, Sanchavis Torns, John Michael Moore, Erica Mix, Jennifer Downes, Mark Gibson Joshua Brown, Mason Robin, Rachel Waesche, Amber Arnold, Rio Givens, Matt Reed, Lacey Berggren, Devin Williams, Regionna Foster, Alexis O'Connell, Scott Mitchell

**2:30** Genetics as Music  
Virginia Lane and Stephanie Lam
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College of Human Science and Education presentation room, Atchafalaya 339

Shape Recognition

Function-Based Intervention During Whole Group Activity

Sibling Separation in Adolescence

Using Technology Intervention to Promote Literacy Skills

Increasing Appropriate Reporting in the Classroom

How do Mothers Prepare their Daughters for the Transition into Puberty?

Increasing Expressive Language

Length of Whole Group and Attention

Behavior Intervention

Behavioral Intervention of a 6 year old child

Using a Coaching Intervention for Proper Social Behavior

Mylee’s Compliance

Father’s Impact on Adolescents

Attention During Independent Work

Effects of Cyberbullying on the Adolescent: A Parent’s Perspective

Behavior Modification Through Feedback

Task Analysis

Attention Seeking Behavior

Increasing Hand Raising During Whole Group Instruction

Behavior modification of a 4 year old pre-kindergarten student

Handwriting Intervention

Increasing a Child's Numeracy skills with a Computer Based Intervention

Increasing Appropriate Behavior in Whole Group Instruction Through Appropriate Praise

Attention in Whole Group

Increasing Shoe Tying Skills using a Picture Activity Schedule

Disruptive Behavior Intervention

Increasing Participation & Completion of Activities

Using a Reinforcer Menu

Prolonging Engagement Through Choice

Lauren Armstrong

Olivia Artall

Ashley Bares

Dorothy Beach

Caroline Berry

Ansha ’La Braswell

Courtney Braud

Morgan Clinkscales

Libby Dupre

“Mary “’Molly”’ Dutel”

Kimberly Esteves

Madelynn Fish

Carson Garand

Briana Guillory

Emily Haynes

Noelle Hill

Taylor Hoffman

Alexandra Huffman

Kristen Johnston

Katheryn Lloyd

Kiara McKee

Catherine Messina

Chelsea Pere

Kaitlen Perkins

Megan Prudhomme

Samantha Prudhomme

Olivia Robe

Allie Ryan
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Student Union Cotillion Ballroom Posters

College of Human Science and Education presentation room, Atchafalaya 339 (continued)

Improving Name Writing Using Sensory Activities
   Simone Smith

Using Social Stories to Influence Social Behaviors
   Hannah Strain

Increase Appropriate Behaviors During Whole Group Instruction
   Tracy Templet

Instruction Using Self-monitoring and Rewards

Staying Awake at School- Implementing a Bedtime Routine
   Michelle Trahan

Using Recommended Practices for Increasing Attention During Whole-Group Instruction
   Sarah West

Using Structured Choice to Increase Engagement During Center Time
   Jasmine Whittington

Increasing Child Attention in the Whole Group Setting
   Christine Wiegel