Associated Colleges of the Chicago Area Members:

Aurora University  |  North Central College
Benedictine University  |  North Park University
Concordia University Chicago  |  Olivet Nazarene University
Dominican University  |  St. Xavier University
Elmhurst College  |  Trinity International University
Judson University  |  Trinity Christian College
Lewis University  |  University of St. Francis

Wheaton College

ACCA

Associated Colleges of the Chicago Area

Student Symposium

April 14, 2018
Welcome
Welcome to the 51st Annual ACCA Undergraduate Research Symposium! For many of us in the ACCA community, the Undergraduate Student Research Symposium is the annual highlight of academic scholarship and Benedictine University feels privileged to host the event for the second year in a row.

This year we will be showcasing research in the areas of Anthropology, Biology, Chemistry, Computer Science, Economics/Business, Humanities, Mathematics, Physics, Physiology, Psychology and Sociology. If you have any questions or need any assistance, please stop by the Registration Desk in the Goodwin Hall Lobby. Thanks for visiting our campus!

51st ACCA Organization Committee: Dr. Preston Aldrich, Dr. Sandy Chmelir, Dr. Cheryl Mascarenhas (co-Chair), Dr. Grace Mirsky, Dr. Jayashree Sarathy (co-Chair), Dr. Stefan Stefanoski

About Benedictine
Benedictine University, a private, Catholic university founded in 1887 by the monks of St. Procopius Abbey, provides nearly 9,000 students with a values-based, liberal arts education that prepares them to succeed at work and in life. As an inclusive academic community inspired by the Catholic intellectual tradition, students receive the help they need to turn their passion into a career; forward-focused academics that continually offer new programs, resources and opportunities; the tools they need to make a difference in the world; and a dynamic environment where they can realize their potential. Benedictine offers undergraduate, graduate and doctoral degrees through the College of Liberal Arts, College of Science, Daniel L. Goodwin College of Business and College of Education and Health Services. The University’s 108-acre main campus is located 25 miles west of downtown Chicago in Lisle, Ill., and is readily accessible to the I-88 corporate corridor and nearby Argonne and Fermilab national research laboratories.

Benedictine University Mission Statement
Benedictine University is an inclusive academic community dedicated to teaching and learning, scholarship and service, truth and justice, as inspired by the Catholic intellectual tradition, the social teaching of the Church, and the principles of wisdom in the Rule of St. Benedict.

Disclaimer
The views expressed by contributors at this conference are those of the participants, and do not reflect those of Benedictine University, the Catholic Church, or any employee or representative thereof. Sponsorship of this event does not express or imply approval or endorsement of participants’ views.

Artwork by Professor Hairi Han, Associate Professor, Benedictine University
Eric Coleman was born in East Harlem, New York. He spent the later years of his childhood growing up in South Carolina, and went on to attend Erskine College in 2010 where he obtained a B.S. in Chemistry with departmental and university honors. After, he earned a PhD from The Ohio State University in Analytical Chemistry under Professor Anne Co in 2015 where his research focused on reducing the amount of platinum used in fuel cell cathode materials to make them more economically viable.

He then joined the Intel Corporation as a process engineer working in the semiconductor fabrication plant in Portland, Oregon. In late 2016, he decided to pursue his academic goals and was recruited to join Argonne National Laboratory as a postdoctoral appointee with the prestigious energy conversion and storage group. At Argonne, Eric works on two projects – 1) to completely eliminate the use of Platinum and platinum group metals from the cathode of fuel cells to make them substantially more economically viable, and 2) to fundamentally increase the capacity and charging efficiency of lead-acid batteries.

Eric has won many awards for his research, has been invited to speak at several universities, and is the first author of four scientific publications despite being very early in his career.

When not in the lab, he enjoys mentoring youth, playing basketball, bass guitar, and coding. He recently founded SCIcoTherapy, a tech consulting company which develops custom scientific data analysis and educational software. His goal is to become a tenured research Professor and continue to build his consulting company.

ORAL PRESENTATIONS | SESSION 1, 10:00-11:00 AM

KEYNOTE ADDRESS, Dr. Eric Coleman, Argonne National Laboratory

**GN 111 - Biology**

10:00-10:15 am  
Casey Wiegers & Abigail Lammers  
Trinity Christian College  
Dr. Clayton Carlson  
Microbiology  
Comparing Bacteriophage Populations in Chicagoland Area Waterways

10:30-10:45 am  
Leah Alles  
University of Saint Francis  
Dr. Ben Whitlock  
Microbiology  
The Effects of Different Cleaning Techniques for Athletic Mouth Guard Disinfection

10:15-10:30 am  
Alan Braschinsky & Katelyn P. Lanasky  
Lewis University  
Dr. Jason J. Keleher  
Chemistry  
The Effect of β-CD on Improving the Adsorption Capability of Organic Dyes onto a Cellulosic Nanocomposite

**GN 313 - Chemistry**

10:00-10:15 am  
Alan Braschinsky & Katelyn P. Lanasky  
Lewis University  
Dr. Jason J. Keleher  
Chemistry  
The Effect of β-CD on Improving the Adsorption Capability of Organic Dyes onto a Cellulosic Nanocomposite

10:15-10:30 am  
Lauren K. Werth & Heather R. Lange  
Lewis University  
Dr. Jason J. Keleher  
Chemistry  
Amino Acid Cross-Linked Nanocomposite for Responsive Wound Management Technology

10:30-10:45 am  
Alana Dunne & Nicole Yuede  
Lewis University  
Dr. Jason J. Keleher  
Chemistry  
Investigating the Relationship Between E. Coli and Electrode Materials on Electron Generation in Microbial Fuel Cells

10:45-11:00 am  
Sabina Bukowska & Erik Kerber  
Benedictine University  
Dr. Pedro Del Corral  
Physiology  
Systolic Blood Pressure During Exercise And Glucocorticoid Sensitivity

10:45-11:00 am  
Cynthia Saucedo & Katherine Wortman-Otto  
Lewis University  
Dr. Jason J. Keleher  
Chemistry  
Redox Behavior of Ceria Nanoparticles in the Presence of Slurry Additives Relevant to Shallow Trench Isolation Chemical Mechanical Polishing
GN 312 - Chemistry
10:00-10:15 am
James Hoshell
Benedictine University
Dr. Kari Stone
Chemistry
Zinc based complexes with redox active ligands

10:15-10:30 am
Grace Wangler
Benedictine University
Dr. Kari Stone
Chemistry
Engineering myoglobin to serve as a “small molecule” mimic of Hydroxylamine Oxidoreductase

10:30-10:45 am
Q. Janina Nguyen
Benedictine University
Dr. Kari Stone
Chemistry
Protein Engineering of Myoglobin

10:45-11:00 am
Stephen Szajek
Saint Xavier University
Dr. Julia Wiester
Nanochemistry
Detection of a Model System Using Gold Nanoparticles

GN 311 - Humanities and Social Sciences
10:00-10:15 am
Brittany Chally
Benedictine University
Dr. Jean-Marie Kauth
Humanities
Ecomusicology: Examining Environmental Messages Within Modern Music

10:15-10:30 am
Raheem Ashrafi
Benedictine University
Dr. Florina Salaghe
Economics
Cryptocurrencies: Is it the Currency of the Future?

10:30-10:45 am
Serafina Gettys
Lewis University
Dr. Rocio Rodriguez
Foreign Language
Sharing experience of teaching languages on-line: an invitation to conversation

10:45-11:00 am
Aaron Reilly & David Carey
Benedictine University
Dr. Larissa Adamiec & Dr. Deborah Cernuaskas
Finance
Attribution Analysis on Benedictine University’s Student Managed Funds

GN 213 - Psychology
10:00-10:15 am
Danielle Maranion
Olivet Nazarene University
Dr. Alison Young Reusser
Psychology
Analysis of Compassion Fatigue Among Undergraduate Students

10:30-10:45 am
Elizabeth Myzia
Olivet Nazarene University
Dr. Dale Smith
Psychology
The Effect of Perspective-Taking and LGBT+ Prejudice on Situational Empathy

10:45-11:00 am
Katherine Miller
Olivet Nazarene University
Dr. Dale Smith
Psychology
The Effect of Level of Need for Cognition on Working Memory Tasks when Interruptions are Introduced in the Environment

GN 212 - Psychology
10:00-10:15 am
Maureen Jones
Sonja Altmayer
North Central College
Dr. Karl N. Kelley
Psychology
The Happy Evaluator: Understanding Emotions and Justice in Organizations

10:15-10:30 am
Isabella Wolf
Olivet Nazarene University
Dr. Alison Young Reusser
Psychology
Hot-Cold Empathy Gap & The Safety of Dog Leashes

10:30-10:45 am
Katherine Gibson
Olivet Nazarene University
Dr. Kristian M. Veit
Psychology
Assessing the Relationship between Key Demographic Characteristics of Work-School Conflict and School Satisfaction in Working College Students

10:45-11:00 am
Devin Kirkland
Olivet Nazarene University
Dr. Alison Young Reusser
Psychology
Conflicting facial and character information on social judgments in college students
**GN 216 - Mathematics**

10:00-10:15 am
Melissa Pickett  
Benedictine University  
Dr. Timothy Comar  
Mathematics
*Quadratic and Cubic Equations in Geometry*

10:15-10:30 am
Uzma Syed  
Benedictine University  
Dr. Timothy Comar  
Mathematics
*Perception of Dimension in Flatland*

10:30-10:45 am
Zeeshan Malik  
Benedictine University  
Dr. Ellen Ziliak  
Mathematics
*Applications of Game Theory*

10:45-11:00 am
Iwona Pasiut  
Benedictine University  
Dr. Ellen Ziliak  
Mathematics
*Mathematics - Invented or Discovered?*

10:00-10:15 am
Zach Suhsen  
Benedictine University  
Dr. Ellen Ziliak  
Mathematics
*Is This Hash Function Secure?*

10:15-10:30 am
Stefano Chiaradonna  
Benedictine University  
Dr. Ellen Ziliak  
Mathematics
*Gröbner Bases and Gene Regulatory Network*

**GN 217 - Mathematics**

10:30-10:45 am
Jakub Jancek  
Benedictine University  
Dr. Timothy Comar  
Mathematics
*The Geometric Relationship between Disparity and Stereopsis*

10:45-11:00 am
Raheem Ashrafi  
Benedictine University  
Dr. Ellen Ziliak  
Mathematics
*Bitcoin Math!*

**GN 111 - Biology**

11:15-11:30 am
John Bowen  
Judson University  
Dr. Amy Styer Greene  
Biology
*Vorticella and Chemical Parameters in Natural Habitats*

11:30-11:45 am
Amir Barmada  
North Park University  
Dr. Yoojin Choi  
Biology
*RNA interference to determine the function of SSD1 gene in Chlamydomonas reinhardtii.*

**GN 313 - Chemistry**

11:15-11:30 am
Lena Hassan  
Saint Xavier University  
Dr. Sharada Buddha  
Biochemistry
*Crystallization of Alpha Synuclein*

11:30-11:45 am
Jordan Shanahan  
Lewis University  
Dr. Daniel Kissel  
Chemistry
*Conductivity and Characterization of Polyaniline/UiO-66 Nanocomposites for Photoelectrochemical Water Splitting*

11:45 am-12:00 pm
Maria Salinas  
Lewis University  
Dr. Jason J. Keleher  
Chemistry
*Uncovering the Effect of Polymeric Filtration Media on Chemical Mechanical Planarization Efficiency*

12:00-12:15 pm
Abigail N. Linhart  
Lewis University  
Dr. Jason J. Keleher  
Chemistry
*Mechanistic Study of Biomimetic Carbon Quantum Dot Synthesis*
**GN 311 - Chemistry**

**11:15-11:30 am**
Daniel Aguilera  
Benedictine University  
Dr. Stefan Stefanoski  
Engineering, Physics  
*Characterization of Li-Ion Batteries for Hybrid Electric Vehicles and Electric Vehicles*

**11:30-11:45 am**
Dany M. Danhausen  
Thomas J. Beckmann  
Lewis University  
Dr. Jason J. Keleher  
Chemistry  
*Antibacterial Characterization of Core-Shell Metal Nanoparticles Using Epi-Fluorescent Optical Trapping*

**11:45 am-12:00 pm**
Rose McDonough  
Katelyn Lanasky  
Lewis University  
Dr. Jason J. Keleher  
Chemistry  
*The Use of Supramolecular Nanocomposites for the Remediation of Heavy Metals from Wastewater*

**GN 216 - Mathematics**

**11:15-11:30 am**
Iwona Pasiut  
Benedictine University  
Dr. Timothy Comar  
Mathematics  
*Geometric 3 - Manifolds*

**11:30-11:45 am**
Dominique Wilson  
Benedictine University  
Dr. Timothy Comar  
Mathematics  
*The Shape of Society: Flatland*

**11:45 am-12:00 pm**
Jonathan Shubert  
Benedictine University  
Dr. Timothy Comar  
Mathematics  
*Morley's Theorem: History, Applications, and Implementation in the High School Classroom*

**GN 217 - Mathematics**

**11:15-11:30 am**
Ferhan Syed  
Benedictine University  
Dr. Kari Stone  
Chemistry  
*Redox Active Ligands Coordinated to Transition Metal Centers*

**11:30-11:45 am**
Marko Saric  
Benedictine University  
Dr. Ellen Ziliak  
Mathematics  
*Covering Systems Of The Integers*

**11:45 am-12:00 pm**
Patrick Wallenberg  
Benedictine University  
Dr. Ellen Ziliak  
Mathematics  
*Groups in Music Theory*

**12:00-12:15 pm**
Isaac Dragomir  
Trinity International University  
Dr. Paul R. Bialek  
Mathematics  
*The Square-Sum Problem*

**GN 311 - Chemistry**

**11:15-11:30 am**
Maryam Zaffer  
Lewis University  
Dr. Daniel S. Kissel  
Chemistry  
*Antimicrobial Properties of a Novel Copper - Cellulose Composite Material Created from the Reduction of the Copper - Based Metal - Organic Framework MOF - 199*

**11:30-11:45 am**
Samuel Baker  
Katelyn Lanasky  
Lewis University  
Dr. Jason J. Keleher  
Chemistry  
*Assessing the Waste Remediation Efficiency of a Cellulose Based Nanocomposite*

**11:45 am-12:00 pm**
Ashley Seay  
Olivet Nazarene University  
Dr. Kristian M. Veit  
Psychology  
*Judgements on The Level of Attractiveness and Its Impact on Potential Candidate Selection in College Students.*

**12:00-12:15 pm**
Becca Stanton  
University of St. Francis  
Dr. Eyal Sagi  
Psychology  
*Psychological Impacts of Prenatal Testing*
1. Micaela Mascha  
Aurora University  
Dr. Chen  
Biology  
The Process of Obtaining Results for EDC Interference in Live Mice Subjects in Conjecture with Type 2 Diabetes

2. Alejandro Magana, Sarah Norman  
Jordan Hansen, Jessika McCleskey & Micaela Mascha  
Aurora University  
Dr. Chen & Dr. Rajan  
Biology  
Effects of Glucose Concentration on Murine Macrophage Cytokine Gene Expression upon Cellular Exposure to Peptidoglycans.

3. Sabina Bukowska & Erik Kerber  
Benedictine University  
Pedro Del Corral, PhD MD  
Physiology  
Systolic Blood Pressure During Exercise And Glucocorticoid Sensitivity

4. Nicolette Vanderwarren & Alexandra Arnh  
Benedictine University  
Ms. Karly Tumminello  
Biology  
Plant-tastic Preservation of the Juraca-Sucky Nature Museum Herbarium

5. Timothy Benjamin  
Benedictine University  
Dr. Leigh Anne Harden  
Wildlife Toxicology  
Using a non-destructive technique to measure mercury (Hg) concentrations in endangered, adult Blanding’s turtles (Emydoidea blandingii) in northeastern Illinois

6. Sumaiya Shahjahan, Rebecca Weber & Alexandra Karwowska  
Benedictine University  
Dr. Leigh Anne Harden  
Biology  
Assessing the hematological health of augmented Blanding’s Turtle (Emydoidea blandingii) populations

7. Emily Gornick, Yechan Kim, Mohammed Haq, Tyler Vavrek, Ugne Dinsmonaite, Hamzah Malik & Sara Checco  
Benedictine University  
Dr. Jayashree Sarathy & Dr. David Rubush  
Biology  
Novel Endoperoxides Increase Apoptosis only in Cancer Cells by Inducing Oxidative Stress

8. Yechan Kim, Emily Gornick, Mohammed Haq, Sara Checco, Ugne Dinsmonaite & Hamzah Malik  
Benedictine University  
Dr. Jayashree Sarathy & Dr. David Rubush  
Biology  
Fluoresceinamine-tagged Chenodeoxycholic Acid (CDCA-FA) causes Epithelial Barrier Dysfunction and Moves Paracellularly in Human Colonic T84 Cells

9. Zubair Farooqui, Simren Singh & Justin Valenta  
Benedictine University  
Dr. Monica Tischler  
Biology  
Microbial Populations in the Feces of Local Canadian Geese and Goslings

10. Lovejoy Bhullar  
Benedictine University  
Dr. Jean-Marie Kauth  
Biology  
Effect of tributylin on DO2 (Type II Diabetes) development on infant laboratory mice (Mus musculus)

11. Emily Zimel  
Benedictine University  
Dr. Robert McCarthy  
Biology  
A Comparison of Brain Growth in Neanderthals, Modern Humans, and Great Apes

12. Areeba Asim  
Benedictine University  
Dr. Cheryl Heinz  
Biology  
Continuing the China Pollination Project (CPP)

13. Samantha Fischer  
Concordia University Chicago  
Dr. Laura Merwin  
Ecology  
A Floral Survey

14. Giorgio Terracciano  
Benedictine University  
Dr. Monica Tischler  
Biology  
Microbial Populations in the Feces of Local Canadian Geese and Goslings

15. Sabina Bukowska & Erik Kerber  
Benedictine University  
Pedro Del Corral, PhD MD  
Physiology  
Systolic Blood Pressure During Exercise And Glucocorticoid Sensitivity

16. Andrea Senyk  
Benedictine University  
Dr. Louis Scannicchio  
Biology  
Dementia: Steps of diagnosis and prevention

17. Kayllynn Couch  
Benedictine University  
Dr. Louis Scannicchio  
Biology  
ADHD: What We Know Today

18. Diana Albor  
Benedictine University  
Dr. Louis Scannicchio  
Biology  
Shingles Prevention and Control

19. Lovejoy Bhullar  
Benedictine University  
Dr. Monica Tischler  
Biology  
Microbial Populations in the Feces of Local Canadian Geese and Goslings

20. Philip G Gilroy  
Benedictine University  
Dr. Louis Scannicchio  
Biology  
Coronary Artery Disease and Coronary CT Angiography

21. Arturo Hernandez  
Dominican University  
Biology  
Coronary Artery Disease: Awareness and Prevention

22. Rebecca Staff  
Dominican University  
Biology  
Aphasia: The loss of the ability to communicate

23. Nicholas Sasso  
Dominican University  
Dr. Louis Scannicchio  
Biomedical Sciences  
CRISPR/Cas9: A Gene-Editing Technique with Biomedical Implications

24. Gabrielle Gardner  
Dominican University  
Dr. Louis Scannicchio  
Biology  
LVADs as a Bridge to Heart Transplant

25. Matthew Davidson  
Dominican University  
Dr. Louis Scannicchio  
Biology  
Chronic Disease Trends in Communities of African Descent: Maywood, IL

26. Wayne Morris  
Dominican University  
Biology  
Rehab Journey After ACL Reconstruction

27. Maria Barraza  
Dominican University  
Biology  
Osteoporosis: A Condition of Aging Bones

28. Olivia Barker  
Dominican University  
Dr. Louis Scannicchio  
Biology  
Osteoporosis: A Condition of Aging Bones

29. Christiana Ansong  
Dominican University  
Dr. Louis Scannicchio  
Biology  
Sickle Anemia and its Treatment
30. Sham Abyad
Dominican University
Dr. Louis B. Scannicchio
Biology
Melanoma Skin Cancer: Causes, Diagnosis, and Staging

31. Pooja Gogana
Dominican University
Biology
Could the Prostate Health Index Test Replace the Prostate Biopsy in Men Being Screened For Prostate Cancer?

32. Sarah
Dominican University
Dr. Louis Scannichio & Dr. Carlissa Hughes
Anatomy and Pathology
Elevated Eye Pressures: A Major Risk Factor for Glaucoma

33. Tanya Wadhwaa
Dominican University
Biology
The Final Stage of Chronic Kidney Disease: End Stage Renal Failure

34. Tania Paez
Dominican University
Natural Science
Zika Virus Awareness

35. Osama Shakir
Dominican University
Dr. Louis B. Scannichio
Medicine
Chronic Obstructive Pulmonary Disease (COPD): Early detection, preventative measures, and treatment therapies

36. Nirali Patel
Dominican University
Dr. Louis B Scannichio
Biology
Microsurgical Flap Transfer: A Reconstructive Tool for Oral Cavity Cancers

37. Sandra Mohama
Dominican University
Dr. Louis B Scannichio
Biology
Periodontal Disease- Cause and Prevention

38. Zachary S. Pierard
Dominican University
Dr. Scannichio
Biomedical Sciences: Global Health
Water Contamination: Its Effect on Underdeveloped Communities

39. Abria Wright
Dominican University
Biology
Magnesium Sulfate Treatment of Preeclampsia

40. Courtney O'Donnell, Nevin Brittain
Kyra Baltas, Kyle Bennett & Damian Solis
Elmhurst College
Dr. Kyle Bennett
Biology
Both Karo Syrup and Honey Reduce Bacterial Growth

41. Lauren Saiki, Teagan Marti & Virdjinija Vuchkovska
Judson University
Dr. Jeffrey Henderson
Biology
Molecular Evolution of RBM45, a Neural Development Protein, in Metazoans

42. Ashley Wojciechowski, Jinsung Bae & Anna Halverson
North Central College
Dr. Gregory Ruthig
Biology
Environmental Detection of Amphibian Pathogens Using Quantitative PCR

43. Luke Archer
Saint Xavier University
Dr. Joseph Dertien
Biology
Comparison of the bacterial populations in commercial topsoil with nutrient media of deep water hydroponic culture of lettuce (Lactuca sativa)

44. Jennifer Chavez & Adam Ahmad
Saint Xavier University
Dr. David Elmendorf
Biology
The Screening and Isolation of Soil from Southwestern Michigan for Antibiotic Producing Microorganisms

45. Hana Tulemat
Saint Xavier University
Dr. Sharada Buddha
Biology, Chemistry, Biochemistry
The Inhibitory Effects of Cinnamic Acid on Bisphenol A and Protein Tyrosine Phosphatase

46. Casey Wiegens & Abigail Lammers
Trinity Christian College
Dr. Clayton Carlson
Microbiology
Comparing Bacteriophage Populations in Chicagoland Area Waterways

47. Charles M. Nystrom & Kristen L. Page
Wheaton College
Dr. Kristen Page
Biology; Parasite Ecology
Dispersal of Baylisascaris procyonis Eggs from Raccoons Held in Captivity

48. Rachel Reamer & Timothy Davis
Wheaton College
Dr. Kristen Page
Biology
Utilization of Stable Isotope Analysis to Improve Understanding of Population Trends of the Raccoon Roundworm Parasite

49. Laura Pax
Wheaton College (IL)
Dr. Kristen Page
Biology
Comorbidities and Opportunistic Infections Among HIV-Positive Patients at Shalom Delhi in New Delhi, India

50. Omar Jafry & Alec Jessen
Benedictine University
Dr. Brooks Maki
Organic Chemistry
Cycloaditions to Access [2.1.2]-Bicyclic Heterocycles Inspired by Lycojaponocumin Natural Products

51. Hajira Nayeemuddin & Robert Szczypa
Benedictine University
Dr. Brooks Maki
Chemistry
Nucleophilic Fluorination with with Small Molecules

52. Maryam Mohamed & Shawn Kumpuckal
Benedictine University
Dr. Brooks Maki
Chemistry
Synthesis of Stable Antioxidants using Oxazolines

53. Lily Feng & Syed Iqbal
Benedictine University
Dr. Brooks Maki
Chemistry
Biomimetic Synthesis of Pyrrole-Based Natural Products

54. Jessica Newhouse
Benedictine University
Dr. Niina J. Ronkainen
Chemistry
Cyclic voltammetry study of select redox-active species of clinical interest

55. Carlos Calderon
Dominican University
Dr. Daniela Andrei
Chemistry
Chemistry of Clean: Synthesis of Soap

56. Roxanne Siuda
Elmhurst College
Biochemistry
Vitamin C Inhibits Bacterial Growth and Biofilm Formation of Streptococcus mutans

57. Arham R Khan & Liana A Bueno
Lewis University
Dr. Daniel Kissel
Chemistry
Antimicrobial Properties of Mil-100 and MOF-5

58. Madison Hill, Neera Mistry & Hafsa Khan
Lewis University
Dr. Jason J. Keleher
Chemistry
Probing Chemical Mechanical Planarization Methodology for Applications Relevant to Advanced Integrated Circuit Devices

59. Dina Nashed & Karlie Cummins
Lewis University
Dr. Jason J. Keleher & Dr. Daniel Kissell
Chemistry
Investigating Amyloid Beta Peptide Aggregation to Explore the Mechanism that Contributes to Neurodegeneration in Alzheimer's Disease

60. Stefanie Cruz
Concordia University of Chicago
Dr. Sumrak
Chemistry
Mechanochemistry: Solventless Diels-Alder Reaction
61. Alexandria Ross
North Park University
Dr. Sunshine Silver
Biochemistry

Social Media for Science

62. Peter Alexander Voss
& Erika Cecilia Zamora
North Park University
Dr. Sunshine Silver
Biochemistry

Isolation and Characterization of
Dandelion (Taraxacum officinale)
Peroxidase

63. Cory Schneider
University of St. Francis
Dr. Daniel Schwert
Chemistry

Synthesis and Characterization of a Novel
MRI Contrast Agent

64. Angel J Lopez
Concordia University Chicago
Dr. Joseph Sumrak
Chemistry

Reusability of Ionic Liquid in a Diels-Alder
Reaction

65. David Nguyen
Benedictine University
Dr. David Rubush
Chemistry

One-Pot Synthesis of Novel
1,2,4-Dioxazinane Anticancer Agents

66. Jonathan Stiles
Benedictine University
Dr. Darya Aleinikava
Physics

Analyzing Nanoclusters to Develop an
Understanding in Chemical Kinetics and
Reactions

67. Michael Sulwer
Lewis University
Dr. John C. Parker
Physics

Nanophotonic Photoemitters with
Enhanced Sensitivity

68. Abdulmjjed Alseari
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

American and Arabic Sign Language
Learning App

69. David Evans
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Determining Chords With PyPitch

70. Francis Eberwein
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Backstage Assistant Android Application

71. Jose Cabrera & Isaiah Perez
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Poker Game in C++

72. Jacob Jancik
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

True Defender

73. Andrew Nicoara, Mansoor Qreshi
Angela Herrera, Salam Hussein
& Marcos Duran
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

University Database Application
Implementation in Oracle

74. Armanii Akinis
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

PyPIR: Python Personal Inquiry Resolver

75. Mohammad Alshammari
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Let's learn Vitamins

76. Salam Hussein & Kevin Salazar
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Date Formatting Program

77. Brian Arredondo, Kevin Salazar
& Jose Cabrera
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Oracle Company Database in Linux

78. Angela Herrera & Noemy Sotelo
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Programming a Tic-Tac-Toe Game in C++

79. Nickolas Aristodemo
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Infinite Sprint App

80. Karl Camp
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Hebrew Verb Parsing App

81. Randall Klagge & Michael Preston
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Design and Implementation of Reusable
Classes For Card Games

82. Eric Tapia & Emmanuel Ogom
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Implementing Rational Number Functions
in C++

83. Marcos Duran & Jacob Stec
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

An Integer Set Implementation

84. Abel Limón
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Java Cross-Platform 2D Game Library

85. Simeon Dyankov & Mark Jungo
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Mail Order Database in Oracle

86. Jacob John
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

An App Market Place Database using
PHP and MySQL

87. Salam Hussein, Angela Herrera
& Brian Arredondo
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

An Implementation and Statistical
Analysis of the Craps Game

88. Christian Solomon & Julian Harrald
Concordia University Chicago
Dr. Victor Govindaswamy
Computer Science

Expected versus Actual Outcomes of
Two-Dice Throw

89. Ahmad Ahmad & Sameen Khurshid
Benedictine University
Dr. Allison Wilson

COPUS
Methods utilized to relay content in
relation to time allotted in-class for
practice

90. Brooklyn Calhoun
Benedictine University
Dr. Jonathan Lewis

Education Gap
Mapping the racial education gap

91. Ciara Nichols & Gabriel Escudero
Saint Xavier University
Dr. Angela Pirlott

Psychology
Does loss of reproductive potential
and inclusive fitness explain prejudices
toward LGB family members?

92. Yesenia Garcia
Saint Xavier University
Dr. Angela Pirlott

Psychology
What predicts Mexican immigrants’ post-
secondary educational attainments?

93. Sabrina Abu-Maizer
Saint Xavier University
Dr. Carissa L. Broadbridge

Psychology
Memory Intensity Depends on Memory
Valence and Recall Session

94. Magdalena M. Pajak
Saint Xavier University
Dr. Carissa L. Broadbridge

Psychology
The Effect of Mood and Valence on
Positive and Negative Event Centrality
The Effect of Induced Mood and Time on Memory Valence

The Effect of Mood and Time on Coded Memory Valence and Emotional Tone of Autobiographical Memory Narratives

Why do people justify a racist system? Understanding the psychological motivator of powerlessness in relation to system justification

Spring in the soul: Does climate predict cultural narratives?

Does Loss of Inclusive Fitness Explain Prejudice Toward LGB Family Members?

Nature vs. Nurture Debate

GEOG 106 Geography and Cartography Project

Peace Building Among Rwandan Post-Genocide Adolescents

Benefits of Early Palliative Care: A Literature Review

Mapping Transgender Socioeconomic Status