



40TH ANNUAL CONFERENCE

SATURDAY

MARCH 30, 2019

A Day to Empower Young Women in 7th, 8th & 9th Grade

CONFERENCE COORDINATOR

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2019 CONFERENCE CONTRIBUTORS (AS OF 11/20/18)

American Association of University Women Fargo-Moorhead Branch
American Pharmacists Association - Academy of Student Pharmacists
Concordia College
Concordia College Exotic Animal Care and Husbandry Club
Concordia College Math Club
Concordia College Sigma Zeta
Concordia College Society of Physics Students (SPS)
Concordia College Student Nurses Association
Concordia College Tri-Beta
CORE Programs
Institute of Industrial and System Engineering (IISE)
Minnesota State University Moorhead
ND EPSCoR
Noridian Mutual Insurance Company/Blue Cross Blue Shield
NDSU Anthropology Association
NDSU Center for Immunization Research and Education
NDSU Civil & Environmental Engineering Department
NDSU Coating & Polymeric Materials Program
NDSU College of Arts, Humanities & Social Science
NDSU College of Engineering
NDSU College of Graduate & Interdisciplinary Studies
NDSU College of Health Professions
NDSU College of Human Development & Education
NDSU College of Science & Mathematics
NDSU Department of Animal Science
NDSU Department of Biological Sciences
NDSU Healthy Eating and Body Image Lab
NDSU IDeA Network for Biomedical Research Excellence
NDSU Office of Teaching & Learning
NDSU Plant Sciences Graduate Student Association
NDSU Public Health Association
NDSU Rho Chi Society
NDSU Student Nurse Association
NuCara Pharmacy
USDA Insect Cryobiology and Ecophysiology Network
Veterans Administration Hospital

CONTRIBUTORS OF DOOR PRIZES (AS OF 11/20/18)

Gate City Bank
NDSU Bookstore
West Acres Shopping Center

Conference Goals

- Increase young women's interest in STEM-Science, Technology, Engineering and Mathematics.
- Foster awareness of career opportunities for women in science and mathematics related fields.
- Provide students an opportunity to meet and form personal contacts with women working in traditionally male occupations.
- Alleviate isolation of young women who are interested in science and mathematics.

Schedule

8:30-9:15 AM *Registration, NDSU Bentson-Bunker Fieldhouse (workshop materials will be distributed)*

9:20 AM *Welcome, announcements and release of registrants to morning workshops*

10 AM - 12:10 PM *Two morning sessions (see workshop listing)*

12:10 PM *Lunch, NDSU Bentson-Bunker Fieldhouse*

12:50 PM *Announcements and release of registrants to afternoon workshops*

1:15-3:25 PM *Two afternoon sessions (see workshop listing)*

3:40 PM *Students may be picked up at NDSU Bentson-Bunker Fieldhouse*

NDSU NORTH DAKOTA STATE UNIVERSITY

Sponsored by the NDSU Office of Teaching and Learning in cooperation with Minnesota State University Moorhead, Concordia College and Essentia Hospital

Individuals needing special accommodations are encouraged to notify Nicole Hagness (nicole.hagness@ndsu.edu), Coordinator of Expanding Your Horizons, in advance of this program.

LIST OF HANDS-ON WORKSHOPS

You will be walking outside from building to building, so please dress for the weather and wear closed-toe shoes and casual clothing that can get messy. These are "hands-on workshops."

1 One Love, One Heart, One Density

We will learn about density by conducting experiments: creating test-tube rainbows and discovering objects' density using various tools from the lab.

Michaela Myhrer, Graeme Wyllie – Physical Science

2 Nursing: The Most Trusted Profession

Explore nursing as a vocation to service in the world.

Tally Tinjum – Nursing

3 How Much Vitamin C is in My Juice?

Using a practice called titrating, we will be able to determine the amount of Vitamin C in both orange juice and Sunny D.

Hannah Gunderson – Chemistry

4 Synaptic Potential!

Measure neuron activity, dissect a mammalian brain, and record zebrafish in action.

Krys Strand, Allyssa Dalen – Neuroscience

5 Zookeeper for a Day

Hands-on learning about the care and enrichment of Concordia's mini zoo of invertebrates, amphibians, reptiles, fish, and more.

Krys Strand, Allyssa Dalen – Biology

6 The Game of SET

Learn how to play the card game SET and some of the math involved in this fun game!

Dan Biebighauser – Mathematics

7 Can Liquids be Magnetic?

We will learn the concept of magnetism and work with several magnetic materials.

Thelma Berquo – Physics

8 Fascinating Fractals

We'll make fractals in two and three dimensions, and learn about how fractals connect math, nature, and art!

Julia Walk – Mathematics

9 How to Teach a Rat New Tricks

You will observe rats who have been trained to press a lever for food and get experience training rats.

Susan Larson – Psychology

10 Radio Telemetry of Campus Squirrels

We conduct radio telemetry to document the location and behavior of red and gray squirrels on the Concordia College campus.

Joe Whittaker, Chloe Whitten, Breann Adamek, Mollie Francis, Jenna Stillwell, Sonja Gilie – Biology

11 You Can Do Rocket Science

Explore what makes things fly and try your hand at a launch with a rocket that you design and build (weather permitting).

Steve Lindaas, Jan Glanzer, Melissa Foley, Isobel Snellenberger, Shannon Poppen – Physics

12 Making Music with Drinking Straws

Learn about the science of waves, and how to use this to make music with straws.

Ananda Shastri – Physics

13 Mapping Your World

Join us to find the hidden treasure! It's closer than you think.

Kay Anderson, David Kramar, Carol Wickenheiser – GIS (Geographic Information Systems)

14 A-Mazing Experience

How fast can you find your way through a maze? Find out how psychologists study learning conditions.

Peg Potter – Psychology

15 The Choice is Yours

Do your decisions involve economics? Let's analyze your choices and find out!

T.J. Hansen, Gregory Stutes – Economics

16 Healthcare Career Exploration

A behind the scenes look at healthcare opportunities and careers.

Patricia Wetzel – Healthcare: Nursing, Surgery, RT, SIM

17 Critical Care Nurses Make a Critical Difference

Hands-on experience of critical care nurses. See your own heart beat using some ICU equipment. Play some fun interactive games.

Work out medical equations and discuss the importance of science with a nursing career. Tamra Bigger, Jess Althoff – Nursing

18 Disaster Response Exercise

Engage in a mock tabletop exercise that looks to handle a series of events happening to Fargo.

Samantha Montano, Amanda Savitt – Emergency Management

19 efargo: Recycle, Iterate, Pulverize

Workshop led by efargo Team to spread intelligence on clean energy and energy reduction through the use of interactive games and activities.

Amy Mueller, Noor Abdelhamid – Architecture

20 Assembly Process for Everyone!

Join us for a fun and interactive introduction to the assembly line process with a card making group activity.

Nita Yodo, Tanzina Arfin, Arup Dev – Industrial Engineering

21 Building Material Design & Engineering

Learn about different construction materials and put your designs to the test!

Ying Huang – Civil Engineering

22 We're All Aging

Experience the aging process through sensory simulation. Learn about the field of aging and health while building empathy for daily lives of older adults.

Gina Aalgaard Kelly – Gerontology, Nursing & Public Health

23 Strong Women: Clinical Exercise Experiments

Experience current technology used in clinical exercise environments that are commonly applied to athletes, astronauts, and everyday people.

Kara Trautman, Donna Terbizan, Stephanie Walzetko – Exercise Science

24 3D Printing Workshop

Explore the Makerspace and technology! We will 3D Scan an object and 3D print a smaller version of it.

Adam Elznic - Technology

25 Color Your World

Participants will experiment with textile dye methods and create a project they can take home.

Sara Sunderlin – Apparel, Retail Merchandising and Design

26 The Importance of Body Positivity

This workshop will include several activities (written and in game form) aimed at teaching and promoting body positivity. Emma Johnson, Kerrie Leonard, Lauren Grant, Victoria Krabbenhoft, Sarah Klein – Developmental Science

27 An Interactive Eye Tracking Session

Learn what an infrared eye tracker is and how it is used with humans to collect data for important research studies. You will be able to see it in action, with you as the participant. Emma Johnson, Kerrie Leonard, Lauren Grant, Victoria Krabbenhoft, Sara Klein – Developmental Science

28 Generation Rx

An interactive presentation on the misuse and abuse of prescription medications with open discussions and fun games with prizes such as candy. Andrea Buzakovic, Ellie Tupper, Kate Astrup – Pharmacy

29 I Want to Hold Your Hand

Learn about the profession of pharmacy and how to make lotions and lip balms using extemporaneous compounding techniques and equipment. Jeanne Frenzel – Pharmacy

30 Nursing: Listen, Feel & Pump It UP

Learn the basics of nursing, including vital signs, heart and lung sounds, and other assessment skills. Aurora Obembe – Nursing

31 Explore the Diabetic Epidemic

Participate in hands-on activities to learn what it's like to have diabetes and how diabetes is managed. Breanna Kompelien, Angela Thompson, Gail Ronsberg – Healthcare

32 Archaeology Simulation

This workshop aims to teach about what anthropology is, specifically archaeology, through a short lecture and an exciting dig simulation. Emily Nelson, Kaitlynn Anderson, Kristen Fellows – Anthropology

33 Communicating Meaningfully with Numbers

Words sometimes are not enough to pass a message across effectively, some form of numbers are required. Students will analyze some media/social media content and be able to tell their stories using numbers. Blessing Okafor, Margaretwagari Githua - Communication

34 Mapping Your Whereabouts

You will personalize Google Earth by creating an XML file. Anne Denton, Megan Bouret – Computer Science

35 Creating Tornadoes

Do you want to see how tornadoes form? In a controlled environment, we will set up conditions favorable for tornadoes to form. This will be the closest encounter with a tornado you will ever have. Adnan Akyuz – Climatology

36 Food Microbes and You

Understanding helpful and harmful microbes in foods through hands-on activities and discussions. Teresa Bergholz – Biology

37 Coatings & Polymers in Our World

Understanding helpful and harmful microbes in foods through hands-on activities and discussions. Mary (Mal) Hedrick – Coatings & Polymeric Materials

38 Physics of Slime & Other Serious Matters

Explore the physics of slime, ooblek, and other exciting experiments like building circuits and imaging human DNA. Brianna Santangelo, Mila Kryjevskaja, Lina Alhalhooly, Rachel Downing, Washthala Amadoru Jayawardana – Physics

39 Disease Outbreak Investigation

Learn how to trace a disease outbreak to its origin, using your epidemiologic skills. Danielle Pinnick – Public Health

40 Who's Your (Calf's) Daddy?

Learn about parentage verification and other DNA technologies in animal agriculture, plus extract your own DNA! Lauren Hanna, Alison Ward – Animal Science

41 Exploring Plant Sciences

Learn about how plants grow, affect the environment, and feed the world. Felicity Merritt – Biology & Genetics

42 The Dirt on Soil

Explore the living wonders of the soil! Using microscopes, students will learn about the microorganisms that live in this underground ecosystem. Mackenzie Ries – Soil Science

43 Brain Food

Eat your experiments and learn about the science on your plate! A field where food meets chemistry, microbiology, and engineering. Jane Snelling, Hanna Gross, Madison Gohl – Food Science

44 How to Train Your Dragon

Explore classic psychological principles to behaviorally train animals - and even humans! Taylor Nelson, Anna Semenko – Psychology

45 Is Class Participation Deadly?

Learn how to use scientific practices to test the hypothesis that class participation can make you spontaneously combust. Anna Semenko, Taylor Nelson – Psychology

46 Bats and Birds: Field Methods

Handle and discuss common tools of the trade to experience life as a field ecologist researching bats and birds! Lydia C. Olson Nixon, Anui Ghimire – Biology

47 See Cancer Cells in Colors

Students will stain cancer cells with different dyes and learn to identify different structures in the cells. Estelle Leclerc, Swetha Thiyagarajan – Biology

48 Mathematics/Combinatorics: Counting Without Counting

Explore the awesome Catalan numbers, some of the cool objects they count, along with transformations between them. Sara Solhjem, Jessica Striker – Mathematics

49 Ribbeting Fun(gi) with Citizen Science!

Learn all about amphibians and fungi, and how to become a citizen scientist! Alicia Schlarb, Rebecca Bradley, Alison Long – Biology

50 Fun with Coding

Use an interactive website known as 'Made with Code' to code at different levels using blocks instead of writing lines of code. Sayantica Pattanayak, Simone Ludwig – Computer Science

51 Insect Jeopardy!

Fun, interactive way to learn about bugs. Will also have insects on display. Mia Park, Liz Cambron, Kayla Earls – Biology

52 Animal Science

Learn about production agriculture by touring Animal Nutrition & Physiology Center and learning about the different animal units and research being done in animal science at NDSU. Kacie McCarthy – Animal Science

Expanding Your Horizons Student Registration and Release Form

A parent or guardian must sign this form for a student to be registered.

Registration fee of \$10 covers cost of lunch, conference expenses and materials. Please enclose check (payable to NDSU) with this form and mail to: *Expanding Your Horizons, NDSU Dept 2020, PO Box 6050, Fargo, ND 58108-6050*. **Registration deadline is February 1!** Preregistration is required. Registration fees refunded until March 1 (by emailing nicole.hagness@ndsu.edu). Registrants will receive a postcard confirming their registration. **PLEASE PRINT AND FILL IN ALL INFORMATION!**

STUDENT'S NAME _____ HOME/CELL PHONE _____

ADDRESS _____
 (Mailing Address) (City) (State) (Zip)

SCHOOL NAME/ CITY _____ GRADE _____ EMAIL (OPTIONAL) _____
 DATE OF BIRTH _____

___ Check if you would like to receive further information from NDSU, MSUM and/or Concordia College

INDICATE NUMBER OF FIRST EIGHT CHOICES FOR WORKSHOPS. Put workshop number in blanks provided. Registration is limited to the first 450 applicants. Workshops will be assigned on a first come, first serve basis. Because popular workshops fill up quickly, and we will assign participants to similar workshops if the ones they chose are full. If similar ones are full, we'll assign students on the basis of availability.)

1st	2nd	3rd	4th	5th	6th	7th	8th
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If all of the above workshops are filled, please circle the areas that you are interested in MATH SCIENCE MEDICAL COMPUTER ENGR

If you want to attend workshops with **ONE FRIEND**, please indicate the name of the friend here and be sure to select the same workshops. Your friend's registration form **MUST** accompany your registration form for you to be assigned to the same workshops.

Name of one friend (please print) _____

Please indicate if you have a physical disability, allergy, or have special needs _____

ASSUMPTION OF RISK AND RELEASE

The undersigned hereby releases, waives, discharges and covenants not to sue North Dakota State University, its officers, agents, employees, and OTL-EYH, all of which hereinafter knows as "NDSU" from all liability to the undersigned in consideration of being permitted to participate in: Expanding Your Horizons.

The undersigned, in full recognition and application of the dangers and hazards inherent in the above activity, does hereby agree to assume all the risks and responsibilities surrounding my participation therein, and further, do for myself, my heirs, and personal representatives, hold harmless, release and forever discharge NDSU from and against any and all liability, damages, claims, demands, actions, or causes of actions, on account of damage to personal property or personal injury or death which may result from my participation therein whether caused by the negligence of NDSU or otherwise. The undersigned hereby assumes full responsibility for, and risk for bodily injury, death or property damage due to the negligence of the releases or otherwise while in, about or upon the premises of NDSU, or while participating in the above described event.

IN WITNESS WHEREOF, I have caused this release to be executed this day.

PARENT/GUARDIAN Signature	Printed PARENT/GUARDIAN Name	Relationship to Student	DATE	Phone
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In an emergency, if I cannot be reached, contact (preferably another parent or legal guardian):

Name	Relationship to participant	Phone
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Please indicate if photographs of your child or other reproductions of your child's likeness may be used in future EYH materials, including EYH websites (without name): _____ YES _____ NO