



Tech Savvy – Gaylord, MI
April 26, 2014

Persist \pər-'sist\: to go on resolutely or stubbornly; to insist or press forward; to continue in spite of interference

SCHEDULE

Program for Girls

Time	Activity	Location
8:30–9:20 am	Check in and Breakfast	Lobby
9:30–9:50 am	Welcome (girls and adults)	U111-112
10 am–12:50 pm	College and Employer Corners	Corridors
10–10:50 am	Workshop #1-7 or College/ Employer Corner	See pg. 5
11–11:50 am	Workshop #1-7 or College / Employer Corner	See pg. 5
12–12:50 pm	Workshop #1-7 or College / Employer Corner	See pg. 5
1–1:45 pm	Lunch with STEM Panel (girls and adults)	GHS Commons
2:00–2:40 pm 2:50–3:30 pm	Savvy Skills Workshops	U111 or M103 See pg. 6
3:45–4:30 pm	Closing Ceremony and Speaker (girls and adults)	GHS Commons
4:30–4:45 pm	Closing Remarks from Organizer (girls and adults)	GHS Commons

Souvenir Photos: Media Center

Video Celebrities: Media Center

Program for Adults

Time	Activity	Location
8:30–9:20 am	Check in and Breakfast	Lobby
9:30–9:50 am	Welcome	U111-112
10–10:50 am	Visit Resource Tables (AAUW, Colleges, Employers)	Central Corridor
11–11:50 am	STEM Career Benefits and Preparation	U111-112
12–12:50 pm	Exploring College and Funding Options	U111-112
1–1:45 pm	Lunch with STEM Panel (girls and adults)	GHS Commons
2–3:30 pm	STEM Inspirations and Keys to Success – Panel	GHS Commons
3:40–4:30 pm	Closing Ceremony and Speaker (girls and adults)	GHS Commons
4:30–4:45 pm	Closing Remarks from Organizer (girls and adults)	GHS Commons



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*"It's not that I'm so smart. It's that
I stay with problems longer." - A. Einstein*

KEYNOTE SPEAKER

3:40–4:30 pm, GHS Commons

Pamela J. Spencer, Ph.D.



Dow Chemical Company, TERC Product Sustainability Consulting Director

Pamela Spencer serves as the Product Sustainability Consulting Director within Toxicology and Environmental Research and Consulting (TERC) for The Dow Chemical Company in Midland. She leads global operations and strategic direction for the consulting group, provides expertise to global product safety scientists, and guides research to define sustainable chemistry practices related to toxicology.

Dr. Spencer was the first woman to achieve Director in Dow's Toxicology department, now in existence for more than 75 years. She is a member of the Health and Environmental Sciences Institute (HESI) where she co-chairs the Sustainable Alternatives Subcommittee.

Pamela has her Ph.D. in toxicology from the University of Michigan, M.S. in biology from Central Michigan University, and B.S. in biology from Saginaw State University. She has twin daughters who are now 22 and will soon graduate from college.



WORKSHOPS FOR GIRLS

Morning “Tech” Workshops

Ragin’ Robotics – Room U101

10–10:50 am, 11–11:50 am, 12–12:50 pm

Learn how to make a robot do simple tasks, then put your ideas into action by working in teams with your own robot.

Presented by Elizabeth VanPate, Mancelona Public Schools

Roller Coasters – Room M105

10–10:50 am, 11–11:50 am, 12–12:50 pm

Explore the physics behind roller coasters, then work in a small group to design your own roller coaster.

Presented by Abbie Diaz, Michigan Science Center

Bridging the Gap – Room M____

10–10:50 am, 11–11:50 am, 12–12:50 pm

Discover the art and engineering involved in building bridges, then design and test your own structures.

Presented by Tess Ahlborn, Michigan Technological University

Diggin’ DNA – Room U109

10–10:50 am, 11–11:50 am, 12–12:50 pm

Learn what a banana, a human, and a dog all have in common and how DNA works. Get a chance to extract DNA from strawberries with hands-on experiments.

Presented by Lisa Marie Tobin, University Center Gaylord

Math in Motion – Room M103

10–10:50 am, 11–11:50 am, 12–12:50 pm

Have some fun using sonic motion detectors and calculators to graph our own changing motion.

Presented by Teresa Collins, Gaylord Community Schools

Rocket Your World – Room U113

10–10:50 am, 11–11:50 am, 12–12:50 pm

Learn how design impacts a rocket’s speed, then work in teams to build and launch your own model rocket.

Presented by Stacy Paul, Belcan Engineering

Elephant’s Toothpaste – Room U107

10–10:50 am, 11–11:50 am, 12–12:50 pm

Conduct experiments involving chemical reactions and create a fun, foamy substance that looks like “elephant’s toothpaste”.

Presented by Claire Whiteman, Chemical Engineer

Afternoon “Savvy” Workshops

Online Etiquette in a Digital Age – Room U111-112

2:00–2:40 pm: Last name beginning with A – M

2:50–3:30 pm: Last name beginning with N – Z

Learn online and social media best practices to assure that you leave a positive “digital footprint” for years to come.

Presented by Elizabeth VanPate, Mancelona Public Schools

Putting Persistence into Practice – Room M103-105

2:00–2:40 pm: Last name beginning with N – Z

2:50–3:30 pm: Last name beginning with A – M

Learn important tips so when the going gets tough, you find help and press forward to achieve your goals.

Presented by Laurie Michael, Mercy Hospital Grayling



PRESENTATIONS FOR ADULTS

STEM Career Benefits and Preparation

11–11:50 am, Room U111-112

Discover a wide variety of career opportunities available in Science, Technology, Engineering or Math (STEM) as well as the many benefits of STEM professions. Also learn how to encourage and support girls in their pursuit of STEM studies and related career development.

Tamara Brown, Praxair

Exploring College and Funding Options

12–12:50 pm, Room U111-112

Gain valuable information regarding resources to assist girls as they plan for the future, steps to take in evaluating college options, and various funding mechanisms to address individual needs and enable girls to attain their educational goals.

Sheila Simpson, University Center Gaylord

Panel Discussion: STEM Inspirations and Keys to Success

2–3:30 pm, GHS Commons

Women who have succeeded in various STEM careers will share stories of their personal journeys, including sources of inspiration and encouragement. They will describe their professional experience and identify keys to overcoming challenges they may have encountered. Followed by Q & A, with audience questions encouraged.

Moderator: Julie Marlette, AAUW Member

Panelists: Teresa Collins, Gaylord Middle School

Brandy Donn, Michigan Department of Transportation (MDOT)

Holly Gohlke, Department of Environmental Quality (DEQ)

Katherine Houpt, PhD, Cornell University

Anita Wadsworth, General Motors



COLLEGE and EMPLOYER CORNERS

10 am–12:50 pm, Central Corridor

COLLEGES / UNIVERSITIES

Lake Superior State University

Table 1

Northwestern Michigan College

Table 2

Michigan Technological University

Table 3

Kirtland Community College

Table 4

Alpena Community College

Table 5

Ferris State University

Table 6

EMPLOYERS

Department of Environmental Quality (DEQ)

Table 7

Huron Pines

Table 8

National Oceanic and Atmospheric Administration

Table 9

Cooper Standard

Table 10



LUNCHEON PANEL

1:20–1:50 pm, GHS Commons

Buffet lunch will be served at 1:00 pm.

The panel discussion will begin once most people have been seated.

Panel Discussion: Young Women in STEM Fields

Meet a number of women from northern Michigan who have pursued degrees in typically male-dominated STEM fields. Learn about their experience, what led to their choice of college and career focus, and how persistence played a role in their success.

Moderator: Sheila Simpson, AAUW Member

Panelists: Kelsey Cooper, Materials Engineer

Bethany Cross, Pharmacist

Betsy Gast, Chemical Engineer

Megan Holborn, Construction Management

Stacy Paul, Aeronautical Engineer



CLOSING CEREMONY

3:40–4:45 pm, GHS Commons

Welcome

Jessica Kane

Tech Savvy Planning Committee

Speaker Introduction

Janice Lampert

AAUW Member

Keynote Speaker

Pamela Spencer

Dow Chemical Company, TERC Product Sustainability Consulting Director

Q&A

Concluding Comments

Mary Fox

Tech Savvy Planning Committee



MEET THE PRESENTERS

Tess Ahlborn

Dr. Ahlborn is an Associate Professor of Civil and Environmental Engineering at Michigan Technological University and the Director of the Center for Structural Durability. She holds BS, MS, and PhD degrees in civil engineering and is experienced in the design of bridges, dams, and hydropower support structures. Dr. Ahlborn's work in concrete materials led to her recognition as a 2013 Woman of the Year by WTS, an organization for advancement of women in transportation.

Tamara Brown

Tamara is the Leader, Community Engagement for Praxair and the founder of the original AAUW Tech Savvy program in Buffalo, NY. With degrees in biomedical and chemical engineering as well as an MBA, Tamara has nearly twenty years of experience in project management, product development and engineering in chemical, medical device, regulatory, and non-profit areas. In 2011, Tamara was honored by the White House as a Champion of Change for her efforts to promote girls' involvement in STEM careers.

Teresa Collins

Teresa is a graduate of Michigan Technological University with a BS in Applied Mathematics. Following college, she joined the Peace Corps and taught math (in French) in West Africa. Upon her return, Teresa completed a teaching certificate at MTU and later obtained her master's degree. She currently teaches 8th grade math in Gaylord where she has taught for 21 years.

Kelsey Cooper

Kelsey Cooper graduated from Johannesburg-Lewiston High School and studied Materials Science and Engineering at Michigan Technological University where she graduated in 2013. During high school, Kelsey participated in Destination Imagination and Robotics and attended a Women in Engineering summer camp. Kelsey now works at Mercury Marine in Wisconsin as a Materials Engineer doing hands on engineering work in a lab environment.

Bethany Cross

Bethany completed her Doctor of Pharmacy (Pharm.D.) degree in 2011 from Purdue University and currently serves as a Clinical Pharmacy Specialist for the VA Medical Center at three outpatient clinics in northern Michigan. Bethany completed residencies in both General and Psychiatric Pharmacy and has served as Adjunct Faculty at Ferris State University and University of Texas College of Pharmacy.

Abigail Diaz

Abbie is an Event Guide for the Michigan Science Center and an Education and Outreach Specialist for the Thunder Bay Marine Sanctuary. She is a 2013 graduate of Central Michigan University where she majored in Anthropology and History.

Brandy Donn

Brandy works for the Michigan Department of Transportation (MDOT) where she is responsible for planning and contracting for road construction projects. She graduated from high school in Traverse City and began college locally before transferring to Michigan Tech where she received her BS in engineering. Brandy worked part-time for MDOT throughout college, an experience which helped her land a full-time position following graduation. She has held several roles at MDOT, including involvement in design, construction, scheduling, and management.

Betsy Gast

Betsy completed her BS in Chemical Engineering from the University of Michigan in December 2013. Raised in northern Michigan, Betsy graduated with honors from Gaylord St. Mary Cathedral High School in 2009. During college, Betsy was active in student service organizations as well as U of M's student chapter of the American Institute of Chemical Engineers.

Holly Gohlke

Holly currently works for the Michigan Department of Environmental Quality in the drinking water supply program. With a BS in biology and a Master's in Public Administration (MPA), Holly has worked in a variety of science related careers and settings, including a veterinarian hospital, teaching, public health, hospital and industrial labs, and the Michigan Department of Agriculture.

Megan Holborn

Megan received her BS in Construction Management from Lawrence Technological University in December 2013. Originally from northern Michigan, Megan attended Vanderbilt Area Schools before completing her last two years of high school at Gaylord St. Mary. Megan currently works for OHM Advisors in Livonia as a Construction and Certified MDOT Technician.

Katherine Houpt

Katherine Albrow Houpt, VMD, PhD is Professor Emeritus at Cornell University College of Veterinary Medicine where she directed the Animal Behavioral Clinic. Her research has focused on clinical animal behavior and welfare, and she has published over 100 papers as well as a textbook, *Domestic Animal Behavior*. Katherine currently directs Animal Behavior Consultants of Northern Michigan and shares her home (Carrousel Ranch) with several animal friends.

Julie Marlette

Julie has been a teacher, small business entrepreneur, and a job training and leadership development specialist. With a BA and MA in education / professional development, Julie worked in an engineering and manufacturing company that designed and built the world's largest, fastest computers.

Laurie Michael

Laurie has a BS in Industrial Engineering as well as her Master of Business Administration (MBA) degree. She worked as an Industrial and Plant Engineer at General Motors prior to teaching drafting, CAD, and business classes at

Johannesburg-Lewiston Schools. Laurie currently serves as the Director of Operations for the Mercy Hospital Grayling Physician Network.

Stacy Paul

Stacy is an aerospace engineer with Belcan Engineering in Grand Rapids where she develops software programs for airplane manufacturers Boeing and GE Aviation. She is a graduate of Johannesburg-Lewiston Area Schools, obtained her BS in aerospace engineering from Embry-Riddle Aeronautical University, and worked for NASA in Houston, prior to returning to Michigan.

Sheila Simpson

Sheila is the Advising and Marketing Coordinator at the University Center Gaylord. She holds both BA and MA degrees from Michigan State University in Speech and Language Pathology. Her career has included public school speech therapy, hospice administration, and higher education roles at Davenport University and Lake Superior State University.

Lisa Marie Tobin

Lisa Marie recently completed her BS from Central Michigan University with a Natural Resources concentration. She is Program Coordinator and an instructor at the University Center Gaylord. A long time Gaylord resident, Lisa has significant conservation experience with the AuSable River Watershed Committee and Trout Unlimited-Mason Griffith Chapter.

Elizabeth VanPate

Elizabeth is the District Media Specialist at Mancelona Public Schools where she is responsible for addressing technology needs throughout the schools, serves as a coach for high school robotics, and has developed classes on social media. Elizabeth grew up in rural northern Florida, and has worked in public, private, and international education. She holds a BS and two master's degrees and is currently working on her doctorate degree in instructional systems design.

Anita Wadsworth

Anita began her career at General Motors as a test engineer after obtaining her BS in mechanical engineering from Michigan State University. She held increasingly responsible roles involving emissions testing on heavy duty engines, managed GM's Vehicle Safety and Crashworthiness Lab, and completed her career as a Validation Engineer for the Powertrain Division. Anita is married with one daughter and has lived in Gaylord for eight years.

Claire Whiteman

Claire has her BS in chemical engineering from Auburn University and has worked for Union Carbide and Dow Chemical. Claire began her career as a production engineer operating distillation columns to purify chemicals used in everyday household items. Later she became involved in the installation of process equipment, energy contracts, and energy conservation, as well as using the Six Sigma methodology to improve various work processes.



MEET THE VOLUNTEERS

Planning Committee

Mary Fox, chair
Marty Goodman, curriculum
Dr. Katherine Hought, curriculum
Jessica Kane, marketing
Margo Noss, volunteers
Ursula Owens, employers
Jane Sekora, AAUW membership
Sheila Simpson, colleges
Lisa Marie Tobin, registration
Mary Tomaski, fundraising

Tech Savvy Volunteers

Janice Adams	Holly Gohlke	Pat Morse
Pam Alexander	Laura Hansmann	Shelly Murray
Katie Amar-Fox	Becky Hoggard	Kym Naryana
Joan Becker	Kate Huddelson	Ashley Ochoa
Mark Berry	Audrie Kirk	Ursula Owens
Kim Broz	Janice Lampert	Doug Reynolds
Leigha Compson	Kelly Lauster	Lynne Ruden
Myah Courterier	Darcy Lewis	Amber Theriault
Bethany Cross	Megan Long	Lisa Marie Tobin
Maureen Derenzy	Julie Lowe	Bonnie Vance
Renee' Elias	Julie Marlette	Susan Webeler
Jeanne Freymuth	Roxanne Merrick	Renee Wolf

This event truly would not have been possible without all of our volunteers. If we have missed naming volunteers who signed up after our program was assembled, we sincerely apologize.

We greatly appreciate all of your time and energy. Thank you!



CONTACT INFORMATION

AAUW – Gaylord Area Branch

PO Box 1455

Gaylord, MI 49734

www.gaylord-mi.aauw.net

aauwgaylord@gmail.com

AAUW National Office

AAUW

1111 Sixteenth St. NW

Washington, DC 20036

800-326-AAUW (2289)

www.aauw.org

connect@aauw.org



AAUW Gaylord Area Branch thanks **Praxair** (p. 17) and these additional sponsors whose generosity has made Tech Savvy possible:

Otsego County Community Foundation Mary Kay (Smith) Sklarczyk Fund

Otsego County Community Foundation Scott and Janice Lampert Fund

Mayfair Plastics, Inc.

Moran Iron Works

University Center Gaylord

We also appreciate these groups and businesses which graciously donated prizes and/or talents to make Tech Savvy exceptional:

Zound Industries

Animal Behavior Consultants of Northern Michigan

Judy Burkhardt's "Transition Class" at Gaylord High School

Gaylord High School Culinary II Crew

Many in our community and the surrounding area believe in our goal to inspire girls toward STEM education and career opportunities. Thank you to everyone who has played a part in the success of this Tech Savvy program.



Praxair is proud to support **Tech Savvy**



At Praxair, 27,000 employees in 50 countries are working together towards a common goal: making our planet more productive. For more than 100 years, Praxair has taken something as fundamental as air and turned it into ways to make plants operate cleaner and more productively, food taste better, breathing easier and manufacturing processes more efficient -- in short, to make all our lives better.

NOTES PAGE