

University of Notre Dame STEM Resource Guide



7th Annual Collaborating for Education & Research Forum

Jordan Hall of Science
University of Notre Dame
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Table of Contents

2	Advanced Diagnostics and Therapeutics Initiative
3	American Chemical Society's Project SEED Program
4	Biocomplexity: Understanding Randomness in Biology
4	College for a Day
4	DNA Learning Center
5	Encouraging Technology and Hands On Science (ETHOS)
6	Energizing Indiana School Education Program
6	Energy Research Experience for Teachers
7	Expanding Your Horizons (EYH)
8	Graduate Research Symposium
8	Harper Cancer Research Institute
9	Hoosier Environmental Council's Our Place
10	Innovative Thinkers Camp (InC)
11	Joint Institute of Nuclear Astrophysics: Art 2 Science Camp
12	Joint Institute of Nuclear Astrophysics: Physics of Atomic Nuclei (PAN)
12	Math Research Experience for Teachers (RET@ND)
13	Michiana Astronomical Society
14	Michiana Science and Technology Center, inc. (MSTCi)
14	National Robotics Week
16	Northern Indiana Regional Science and Engineering Fair (NIRSEF)
16	Northern Indiana Science, Math and Engineering Collaboration (NISMEC)
17	Notre Dame QuarkNet Center
18	Notre Dame QuarkNet Center: BioEYES
20	Notre Dame QuarkNet Center: CMS Masterclass
20	Notre Dame TRIO Programs: Upward Bound and Education Talent Search
22	Project Learning Tree
23	Riverbend Community Math Center
24	Robinson Community Learning Center
25	Sensing Our World Summer Camp
26	Shoder Interactivate
27	Teachers As Scholars Program
28	Notre Dame Center for STEM Education

Advanced Diagnostics and Therapeutics Initiative (AD&T)

"The science of engineering a healthier world."

AD&T is a relatively new research initiative at the University of Notre Dame with over 40 affiliated faculty collaborating in a multi-disciplinary fashion across the Colleges of Science and Engineering. AD&T develops tools and technologies to combat disease, promote health, and safeguard disease in the areas of advanced imaging, laboratory-based and portable/personal diagnostic devices, environmental monitoring, and targeted drug delivery therapeutics. Activities also involve commercializing technologies through corporate partnerships or through the development of start-up companies. AD&T is in the early stage of developing outreach opportunities and is looking for teachers whose interests resonate with initiative activities and who want to participate in building a robust outreach program.

Website: advanceddiagnostics.nd.edu
Contact: Kirk Reinbold (kreinbol@nd.edu)



American Chemical Society's Project SEED Program at the University of Notre Dame

In the summer of 2014, the Department of Chemistry & Biochemistry at Notre Dame, in partnership with the American Chemical Society, will be entering its fifth consecutive summer of hosting the Project SEED Program. Project SEED is a summer research internship program designed to provide economically disadvantaged high school students the opportunity to perform full-time research in the chemical sciences. The students will undertake a research project under the auspices of a Notre Dame faculty member, receiving daily guidance and instruction in chemical and/or biochemical theory and techniques. The program provides a \$2500 stipend for eight weeks of full-time (40 hrs/wk) research. Students who return for a second summer are paid \$3000, and those students who go on to college and plan to major in chemistry (or a closely related major) can receive a \$5000 scholarship. To be eligible, students must have completed at least one high school chemistry course and their maximum family income cannot exceed 200% of the federal poverty guidelines based on family size.

Website: portal.acs.org/portal/PublicWebSite/education/students/highschool/seed/index.htm
Contact: Mary Prorok (mprorok@nd.edu)



Biocomplexity: Understanding Randomness in Biology

The University of Notre Dame's Interdisciplinary Center for Study of Biocomplexity offers online tutorials to foster the understanding of the role of randomness in biology. The center encourages you to explore the underpinnings of modern mathematical biology, all done very gently and with a strong qualitative approach, and discover one of the many directions in which life science is traveling. The primary audiences of these tutorials are high school students and undergraduates. However, teachers, researchers in related fields, and non-specialists are certainly invited to work through some of the tutorials as well. You never know what you are going to uncover that may be new and inspiring.

Website: www.nd.edu/~tutorial/

Contact: mcbg@nd.edu

College for a Day

This college immersion program uses interactive methodologies to engage 7th and 8th grade students in order to provide a "glimpse" of college. The prime objective of the project is to change their attitudes about post-secondary education (and in particular the STEM disciplines) by providing them experiences in authentic venues. College for a Day began as a collaboration between Edison School and the University of Notre Dame. The program now includes Jefferson Intermediate Center, Ivy Tech Community College, IUSB, and Bethel College and is still expanding to include other intermediate centers and university partners.

Website: advanceddiagnostics.nd.edu

Contact: Kirk Reinbold (kreinbol@nd.edu) or Jackie Rucker (jrucker@nd.edu)

DNA Learning Center

The Notre Dame DNA Learning Center is a hands-on science center devoted to modern biology education that will prepare local K-12 students to thrive in the gene age. The director of the center will start in summer 2014 and will begin programming in Fall 2014.



Encouraging Technology and Hands On Science (ETHOS) Science Center

ETHOS Science Center inspires innovation and excellence through a dedicated infrastructure that supports and encourages educators to excel at teaching inquiry STEM curriculums. ETHOS serves as a catalyst for students to be well equipped for the exponentially growing STEM fields and to prepare for college, career, and beyond by providing:

- Management of research-developed materials
- Comprehensive professional development for teachers that builds on teachers' existing skills, providing the essential tools and strategies to create innovative and engaging learning environments for students to fully utilize hands-on inquiry curriculum
- Learning opportunities for students that include field trips to ETHOS' hands-on science museum, science summer camps, robotics programs K-12, and community events that:
 - Capture and build on each child's curiosity
 - Highlight the exciting opportunities of STEM careers
 - The Science2Go Bus, a state of the art mobile science lab, for a unique on-site learning experience
 - Strategies for building and sustaining administrative and community support for STEM education

Website: ethosinc.org

Contact: (574) 266-7149 or email patsy@ethosinc.org



Energizing Indiana School Education Program

Through the Energizing Indiana School Education Program, Energizing Indiana and your local utility provider connect with students in fifth grade to help them learn about energy efficiency and how they can make an impact at their school and home. Fifth grade students at participating schools receive classroom curriculum education and Energizing Indiana take-home efficiency kits filled with energy saving devices designed to open students' and their parents' eyes to the energy-saving potential of simple, easy-to-implement conservation practices. It's a fun and informative program that encourages students and their families to better manage their energy use and make good decisions about the products they buy every day. All the materials are curriculum-based and carry lifelong lessons that students will use as they become energy consumers.

Website: energizingindiana.com/programs/school-programs
Contact: 1-800-722-2231

Energy Research Experience for Teachers

"Engineering a More Sustainable Energy Future"

During this seven week summer program, high school teachers work with faculty mentors in the Center for Sustainable Energy at Notre Dame (cSEND) on current research and develop practical curriculum materials for classroom use. Benefits to teachers include:



- Mentored energy research experience
- On-site curriculum development assistance
- Access to all RET created curricular materials
- Follow-up support from RET administrators and faculty mentors
- Salary stipend and campus parking
- Opportunities for collaboration and networking with other energy interested teachers

Chemistry, physics, and engineering teachers are particularly encouraged

to apply. No previous research experience is required. Applications will be accepted online from January 15 - March 15, 2014. The program is funded by the National Science Foundation and organized by the Center for Sustainability Energy at Notre Dame (cSEND).

Website: ret.nd.edu

Contact: [Elizabeth Westfall \(574\) 631-9106 or westfall.14@nd.edu](mailto:Elizabeth.Westfall@nd.edu)

Expanding Your Horizons (EYH)

Expanding Your Horizons is a conference for girls in middle school (grades 6-8). This day-long event will include hands-on activities in science, technology, engineering, and math (STEM). At the conference, girls will get a chance to meet STEM role models and learn more about careers in those fields. The ultimate goal of EYH is to motivate girls to become innovative and creative thinkers ready to meet 21st century challenges.



Our conference is held in beautiful Jordan Hall at the University of Notre Dame on April 26, 2014. Participants interact with women undergraduate and graduate students from Notre Dame and Saint Mary's College. A program for chaperones is available, and parents can sample activities at the end of the day. A \$10 participant fee is charged and includes a t-shirt, breakfast snack, and lunch.

Website: expandingyourhorizons.org/conferences/notredame
Contact: eyhnotredame@gmail.com



Graduate Research Symposium

The Graduate Research Symposium takes place annually in the Notre Dame Conference Center. The next symposium will be held on February 27, 2014 from 12:30 – 4:00 p.m. This event is free and sponsored by the Graduate Student Union and the Graduate School, as well as the College of Arts and Letters, College of Engineering, and College of Science. The goal of this event is to showcase innovative work completed by Notre Dame graduate students to the Notre Dame community and the public. The symposium is separated into four divisions of the Graduate School: engineering, humanities, science, and social science. Approximately five to seven presentations from each division are made during the event. A special division has been added for K-12 teachers and students to present their research.

Website: gsu.nd.edu/symposium/gsu-symposium
Contact: Zack Terranova (zterrano@nd.edu)

Hoosier Environmental Council's Our Place: Place-Based Education Program

In this program, pre-K-12 teachers and resource professionals work together to facilitate student-driven projects based on environmental issues in their own communities. Participants will receive a stipend for attending a one-day workshop that prepares them to participate in the Our Place program and a stipend for their classroom project. In addition, participating teachers will receive help from a trained resource professional. Through the end of the 2013 academic year, Our Place will be suspended as HEC scales up its staffing. However, feel free to reach our contact below for further information about the program and our plans to re-initiate it.

Website: hecweb.org/
Contact: Falon French (ffrench@hecweb.org)

Harper Cancer Research Institute (HCRI)

"Innovative and integrative basic and clinical research confronting the complex challenges of cancer."

Scientists and clinicians in the Harper Cancer Research Institute are dedicated to conducting innovative and integrative research that confronts the complex challenges of cancer. The institute's programmatic structure fosters multi-disciplinary cancer research by promoting interactions among research groups from distinct disciplines and by training young scientists to work across scientific fields. Clinical partnerships provide key translational insight and strengthen the mission of discovery. The institute is a partnership between Indiana University School of Medicine - South Bend and the University of Notre Dame. HCRI supports a number of high school student researchers in the American Chemistry Society Project SEED program.



Website: harpercancer.nd.edu/
Contact: Angela Cavalieri (cavalieri.2@nd.edu)



Innovative Thinkers Camp (InC)

The Innovative Thinker's Camp (InC) is a two week summer experience created to encourage youth in grades 7–9 to obtain skills that will create a mindset for individual achievement in their academic and future career interests. In addition to helping area students explore their potential, the camp also aims to cultivate a culture of innovation and entrepreneurship in the Michiana region by nurturing the pipeline that feeds local economic development. This experience is designed for students to participate over three consecutive summers:

- Year one, rising seventh graders will focus on learning about entrepreneurship and the skills necessary for individual success;
- Year two, rising eighth graders will focus on project-based learning and will develop the competencies needed to be an effective member of a team;
- Year three, as rising ninth graders, students will polish the skills acquired in the previous two summers with a capstone project that incorporates science, technology, engineering, and mathematics (STEM) disciplines and sustainability.

The camp is sponsored by the following Notre Dame departments: Community Relations, Multicultural Student Programs and Services, Hesburgh Libraries, Talent Search, and the Robinson Community Learning Center, as well as collaborations with Intel, Lenovo, the Lincoln Division of Ford Motor Company, Alpha Kappa Alpha Sorority Inc., La Casa De Amistad, 100 Black Men of Greater South Bend, the Memorial Health Center, Pfeil Innovation Center, and other community partners.

Blog: blogs.nd.edu/innovative-thinkerscamp/

Facebook: [facebook.com/innovativethinkcamp](https://www.facebook.com/innovativethinkcamp)

Contact: Jackie Rucker (rucker.2@nd.edu or (574) 631-3249)

Joint Institute of Nuclear Astrophysics (JINA) Art 2 Science Camp

Students age 8-14 are invited to participate in this year's Art 2 Science Camp, which takes place July 14-18, 2014 in Notre Dame's Jordan Hall of Science. Art 2 Science Camp is an extension of JINA's Art 2 Science program, which introduces children to the wonders of the physical universe. A multidisciplinary approach to learning is utilized by integrating reading, writing, and a variety of art forms with math and the physical sciences. Participants will learn about math, physics, astronomy, and chemistry by creating works of art and hands-on projects. Chosen activities will be designed by collaborations with local science and art teachers, QuarkNet, Riverbend Math Center, the NASA Planck Mission and more! The deadline to apply is March 22, 2014, and fees will be based on a sliding scale.

Website: jinaweb.org/outreach/artCamp/

Contact: jjinaout@nd.edu



Joint Institute of Nuclear Astrophysics (JINA): Physics of Atomic Nuclei (PAN)

JINA has three different PAN programs this summer—one week at Notre Dame for students, one week at Michigan State for students, and one week at Michigan State for teachers. All programs are free and room and board are provided. These programs introduce participants to the fundamentals of the extremely small domain of atomic nuclei and its connection to the extremely large domain of astrophysics and cosmology. During the week, participants will perform a series of experiments using state of the art research equipment to explore topics in modern physics and radiation. Interested students and teachers can apply online by April 7, 2014.

Students should have some background in math and science at the freshman/sophomore level and must be recommended by two teachers (at least one from science, lab, or math).

Website: jinaweb.org/outreach/PAN

Contact: [Micha Kilburn \(Micha.A.Kilburn.2@nd.edu\)](mailto:Micha.A.Kilburn.2@nd.edu)

Math Research Experience for Teachers (RET@ND)

Participating middle and high school teachers will raise their level of understanding of relevant mathematics by engaging important topics in a hands-on way in this workshop. They will be able to transform what they have learned into new curricular materials that will improve the mathematics abilities of their students and hopefully stimulate them to consider a career in science. Each topic is accessible to high school mathematics teachers and leads naturally to many substantial and interesting mathematical issues. The faculty and/or mentors will introduce the topics, providing background and initial exercises as necessary, and the goal will be to shift the focus to the teachers who will pose and investigate questions according to their own interests and



abilities. The faculty and/or mentors will serve as catalysts and advisors in the process. Participants are eligible for non-degree graduate student credits.

Website: ret.nd.edu

Contact: [Alisa Zornig Gura \(azornig2@nd.edu or \(574\) 631-8823\)](mailto:azornig2@nd.edu)

Michiana Astronomical Society

The Michiana Astronomical Society, founded in 1974, is a group of individuals from the South Bend/Mishawaka area who share a common interest in astronomy. Throughout the year, the club promotes astronomy education and public outreach in schools, libraries, camps, and public spaces.

Club members usually meet on the third Monday of each month at 7:00 PM in the Lions Room of the downtown Mishawaka Public Library. The meetings, which often feature a guest speaker, are open to the public. Club gatherings introduce new members and veterans alike to diverse astronomy topics, including basic telescope use, advanced scope techniques, astro-imaging, solar observing, and current astronomy items in the news.

In May, the Michiana Astronomical Society hosts its annual Star Party, which attracts observers with telescopes from across the region. This two-night event is a wonderful way for you and your family to enjoy the splendor of astronomy at a dark site, whether you bring your own equipment or look through the participants' telescopes. If you own a telescope but need support in using it, the Michiana Astronomical Society is eager to help. At the annual Star Party and other scheduled nighttime outings, such as impromptu "Sidewalk Astronomy" sessions, visitors are encouraged to ask questions and investigate the sky in a casual, welcoming environment. See the club's website for opportunities to witness celestial highlights such as planets, nebulae, star clusters, and galaxies.

Website: michiana-astro.org/

Contact: president@michiana-astro.org

Michiana Science and Technology Center, inc. (MSTCi)

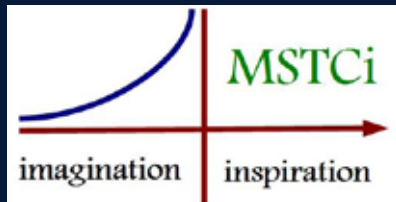
The Michiana Science and Technology Center, inc. (MSTCi) is an education-based organization in the South Bend area designed to nurture interest in science, technology, engineering, and mathematics (STEM) learning by:

- Providing interactive experiences and sustained engagement
- Illuminating pathways to STEM careers
- Developing academic, business, and community partnerships

MSTCi strives to be the premiere location for training, learning, and fun involving science, technology, engineering, and math in the Michiana area. Currently, all events are free of charge. We are accepting donations at this time for those who wish to be Founding Members in this remarkable organization.

Website: mstci.org (MSTCi is also on Facebook)

Contact: Greg Jones, P.O. Box 4162,
South Bend, IN 46634;
(574) 234-4985; mstci@mstci.org



National Robotics Week

The fifth annual National Robotics Week will be held April 5-13, 2014. This week recognizes robotics technology as a pillar of 21st century American innovation, highlights its growing importance in a wide variety of application areas, and emphasizes its ability to inspire technology education. Robotics is positioned to fuel a broad array of next-generation products and applications in fields as diverse as manufacturing, health-care, national defense and security, agriculture, and transportation. At the same time, robotics is proving to be uniquely adept at enabling students of all ages to learn important science, technology, engineering, and math (STEM) concepts and at inspiring them to pursue careers in STEM-related fields.

During National Robotics Week, a week-long series of events and activities are aimed at increasing public awareness of the growing importance of “robo-technology” and the tremendous social and cultural impact that it will have on the future of the U.S.

Website: nationalroboticsweek.org

Contact: LFreed@irobot.com

Notre Dame hosts an annual National Robotics Week event that highlights how labs in various disciplines on campus utilize robotics. The event is held in April, but does not always coincide with the National dates due to student class schedules.

Website: engineering.nd.edu/NDNRW

Contact: Dr. Laurel Riek (lriek@nd.edu)

The Notre Dame Mechatronics Football Club hosts an annual Robotics Blue Gold Game each April. Engineering students design and build robots that function as football players and compete for the Brian Hederman Memorial Robotics Competition Award. Hederman was a Notre Dame student who passed away after his freshman year in 1995. The event is free and open to the public.

Website: sites.google.com/a/nd.edu/rfcd/



Northern Indiana Regional Science & Engineering Fair (NIRSEF)

The Northern Indiana Regional Science and Engineering Fair is for students grades 3-12 in Elkhart, Fulton, Marshall, and St. Joseph counties who have been selected from their Local Fairs to advance to Regional to compete for awards and entry into the Hoosier Science and Engineering Fair. The next event will be held in the Stepan Center on the University of Notre Dame campus on Saturday, March 22, 2014. Students must pre-register through their Local Fair Coordinator to participate. The participation fee is \$10 per student.

Website: sciencefair.nd.edu
Contact: Alisa Zornig Gura (azornig2@nd.edu or (574) 631-8823)



Notre Dame QuarkNet Center

Physicists and K-12 teachers collaborate to make modern physics more accessible to K-12 students and the larger Michiana community. Paid summer research positions are available in physics through the Physics RET Program (Research Experience for Teachers). Participants are eligible for non-degree graduate student credits and PGPs (when applicable). Physics RET teachers may invite students from their high schools to collaborate with them on physics research projects during the summer through the QuarkNet REHS Program (Research Experience for High School). Teachers and physicists also meet weekly during the academic year to discuss physics, teaching, research, and other topics of interest.

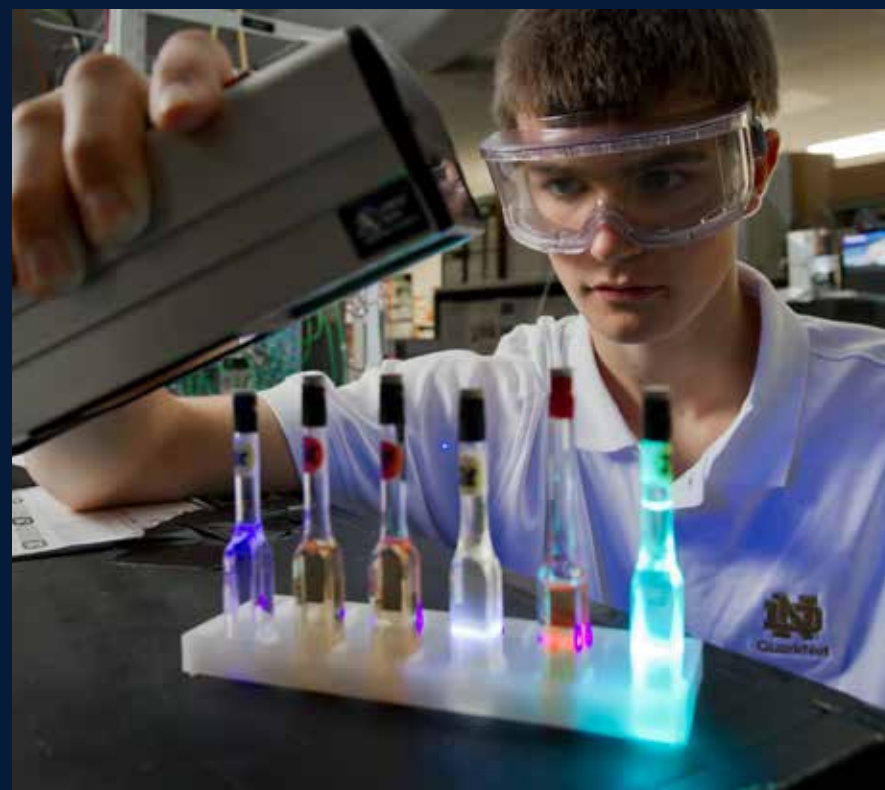
Website: nd.edu/~quarknet
Contact: Anne Zakas (zakas.1@nd.edu or (574) 631-2789)

Northern Indiana Science, Math & Engineering Collaborative (NISMEC)

NISMEC offers professional development opportunities for K-12 teachers in science, technology, mathematics, and engineering (STEM) fields within the context of guided inquiry. NISMEC provides workshops during the summer (with stipends). Follow-up and other workshops are held in the schools during the academic year.

NISMEC is in need of people who can help provide exceptional guided inquiry workshop experiences for high school and middle school science teachers in Indiana. If you are interested in training to be such a leader, or if you are interested in improving student learning in your school's science classroom through guided inquiry, please contact NISMEC for more information.

Website: nd.edu/~nismec/nismec11.htm
Contact: Gordon Berry (hgberry@nd.edu or (574) 631-4012)



Notre Dame QuarkNet Center: BioEYES

BioEYES is a free, hands-on, K-12 classroom-based science learning activity which teaches students about cell biology, embryonic development, and genetics through the mating of live zebrafish and subsequent observation of the resulting translucent embryos, which develop and hatch within five days. BioEYES was initially developed in 2007 by Dr. Steven Farber, a Carnegie Institute molecular biologist, to foster an interest in science in elementary, middle, and high school students. The BioEYES program now has educated more than 50,000 students nationwide and is currently offered only through the University of Notre Dame, the University of Pennsylvania, Carnegie Institution for Science, and Monash University in Australia.

The Notre Dame QuarkNet Center, with the help of a five-year National Science Foundation grant, has offered BioEYES to Michiana schools since 2008. BioEYES currently has Spring 2013 funding from the University of Notre Dame's College of Science and Department of Biology for experienced middle school teachers. Recently, we were awarded grant funding from the Florence V. Carroll Charitable Trust; Stanley A. & Flora P. Clark Memorial Community Trust Foundation; Muessel-Ellison Memorial Trust Foundation; and the John, Anna and Martha Jane Fields Trust Foundation for Fall 2013. The Notre Dame QuarkNet Center is now attempting to procure additional funding in order to continue offering this popular and widely-requested program in our local schools.

Website: erc.nd.edu/collaborations/

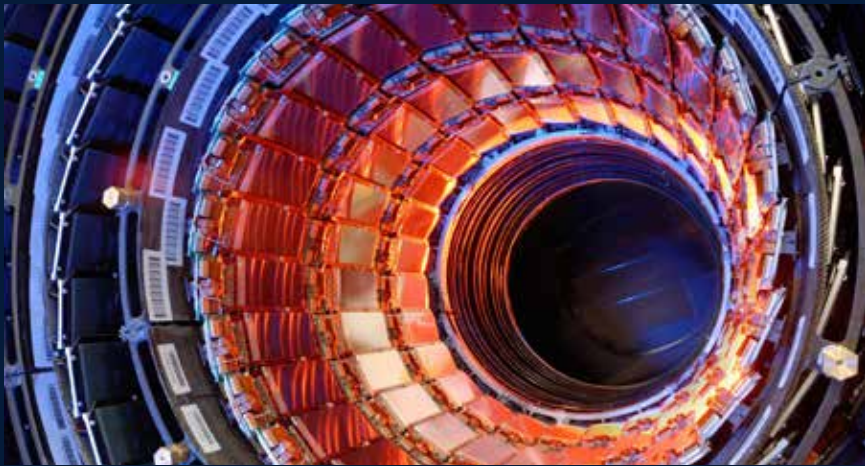
Contact: Anne Zakas (zakas.1@nd.edu or (574) 631-2789)



Notre Dame QuarkNet Center CMS Masterclass

In the Compact Muon Solenoid (CMS) Masterclass, high school students can embark upon a journey to study the smallest building blocks of matter by tracking real data samples online from the CMS experiment in the Large Hadron Collider at CERN with the help of their teachers and mentor physicists. In this Preparation, students will be given the tools to analyze the data from home and get mentoring online. Later, they will participate in a video conference with other groups of students from around the world to review their data measurements and compare their results.

Website: physicsmasterclasses.org
Contact: Ken Cecire (kcecire@nd.edu)



Notre Dame TRiO Programs Upward Bound & Educational Talent Search

TRiO Programs are federal outreach and student services programs designed to assist young people from low-income families and potential first-generation college students as they progress from middle school through college and beyond. The University of Notre Dame proudly hosts two of TRiO's college access and preparatory programs: Talent Search and Upward Bound.

TRiO Upward Bound serves 101 high school students each year. Through intensive academic support and exposure to the college-going experience, Upward Bound equips South Bend high school students to enter and succeed in higher education.

During the academic year, Upward Bound provides students with individualized tutoring and instruction in core subjects. Students also receive academic advising and participate in college-readiness workshops. College tours and a variety of other activities are also offered to connect students to valuable cultural, educational, and career-focused events. In the summer, Upward Bound's Summer Academy offers students opportunities to live on campus and take classes for high school and college credit.

TRiO Talent Search annually assists 899 South Bend youth in grades seven through twelve—empowering them to graduate from high school and continue on to postsecondary education. During the academic year, Notre Dame's Talent Search advisors offer in-school academic counseling to students, as well as workshops designed to equip students with the skills and information needed to prepare for, apply to, and succeed in college. Talent Search students also have access to individual tutoring assistance, SAT/ACT test preparation, college tours, and a variety of other activities that expose them to valuable cultural, educational, and career-focused information. Additionally, TRiO Talent Search hosts a three week Summer Academy for rising eighth grade students on the Notre Dame campus.

Website: trio.nd.edu
Contact: Stephen Ponzillo, Director (Stephen.Ponzillo@nd.edu or (574) 631-9004)



Project Learning Tree

Project Learning Tree (PLT) is an award-winning, internationally recognized environmental education program that provides ready-made lessons and activities for educators. PLT can integrate easily into an existing curriculum and can be used to supplement all subject areas. PLT uses the forest as a "window to the world," helping young people gain an awareness and knowledge of the world around them and their place within it. Students develop skills in creative problem solving, critical thinking, and evaluation and research while having fun.

PLT activities are hands-on interdisciplinary lessons that integrate easily into all subject areas. They are correlated to both state and national educational standards, useful to formal and non-formal educators from pre-school through high school. PLT is designed to teach students HOW to think, not tell them what to think. To obtain PLT materials, you must attend a PLT workshop where the program is introduced, activities are conducted, and many more teaching resources are provided.

Website: in.gov/dnr/forestry/5750.htm

Contact: Donna Rogler (plt@dnr.IN.gov or (317) 234-5143)



Riverbend Community Math Center

The Riverbend Community Math Center is a non-profit organization dedicated to increasing public understanding and appreciation of mathematics. With technology-related fields becoming increasingly important in our economy, people need more opportunities to learn that math can be fascinating and that it can lead to rewarding careers. The center fills this need by providing people of all ages with experiences that build interest and confidence in math, science, engineering, and technology. It offers several opportunities for educators and learners, including:

- The Math Studio, a free drop-in program for people of all ages that provides participants with homework help, as well as math classes and clubs.
- Free support for educators wanting to review or increase their knowledge of math content and pedagogy (including preparation for the new Common Core State Standards).
- The Notre Dame Math Circle Institute, July 7 –11, 2014 is open to mathematicians and teachers from around the country who are passionate about providing rich math education experiences for K-12 students. Children may participate in the afternoon circles from 3:30-4:30pm each day for free.
- Classroom demonstration lessons on math concepts.
- Professional development workshops for teachers at any grade level.
- The Summer Math and Technology Academy will run Mondays-Thursdays from 4:00-6:00pm July 14-Jul 31, 2014

Website: riverbendmath.org

Contact: (574) 339-9111



Robinson Community Learning Center

The Robinson Community Learning Center (RCLC) was established in 2001 as an educational initiative of the University of Notre Dame with local residents and partner institutions. Its mission is to welcome community and Notre Dame partners that strengthen the Northeast Neighborhood of South Bend through relationship building and educational opportunities. RCLC programs are overseen by a program advisory board comprised of residents, program partners, ND faculty/staff, and students. Hundreds of college volunteers participate in the RCLC tutoring program each year, matched one to one with area children.

Enrichment activities in engineering (iRobotics Club), performing arts (Robinson Shakespeare Company), fine arts (Photography Club and art activities), youth leadership (including College Prep and Be Inspired), and science (through partnership with the Biology Dept. at Notre Dame) are offered with a preference for those living in the 46617 zip code. The RCLC offers the Take Ten violence prevention program in schools and community agencies throughout South Bend/Mishawaka, the curriculum of which is delivered by more than a hundred college student volunteers. It also offers a youth entrepreneurship program in partnership with the Gigot Center for Entrepreneurial Studies, Mendoza College of Business at Notre Dame, and a range of classes for adult learners, including senior book clubs and computer classes.

English as a New Language (ENL) classes for adults are offered at RCLC, in partnership with the South Bend Community School Corp. and an ENL Preschool program is provided for children whose parents attend the adult ENL classes. The RCLC also offers literacy tutoring for children in grades K–6 at two Boys & Girls Club sites and El Campito, in addition to providing a high quality technology center at its main location.

Website: rclc.nd.edu/

Contacts: Velshonna Luckey (vluckey@nd.edu or (574) 631-3312) or Jennifer Knapp Beudert (knappbeudert.1@nd.edu or (574) 631-2686)

Sensing Our World Summer Camp (SOW)

Middle school summer science camp SOW is a week-long summer program at the University of Notre Dame designed to expose middle school students to the exciting world of science, mathematics, and technology. Participants meet with various Notre Dame scientists to learn about their research, visit different academic departments and research labs on campus, and learn through intensive hands-on activities. Program instructors include Notre Dame faculty, staff, and graduate students from the physics, chemistry, mathematics, biological sciences, and engineering departments. The program is nonresidential and registration is \$250 per student, but scholarships are available for families in need (free/reduced lunch students). The one-week programs is usually on two or more different dates. In 2013, the program was entitled Sensing the Cosmos; each year a different area of science is the focus. The program is sponsored by NISMEC, with funds mostly provided by the Siemens Foundation, with additional support from the College of Science and the Department of Physics at Notre Dame.

Websites: www3.nd.edu/~nismec/nismec11.htm,
STC.michianastem.org

Contact: Gordon Berry (hgberry@nd.edu)



Shodor's Interactivate

To encourage the use of computational science resources in learning, the Notre Dame QuarkNet Center will offer interactivate workshops upon request. Shodor is a nonprofit organization serving students and educators by providing materials and instruction relating to scientific, interactive computing. Many teachers use Shodor's award-winning, free online education tools to build student excitement in science, technology, engineering, and mathematics (STEM) through interactive explorations using computer enhanced activities.

Website: shodor.org/interactivate

Contact: (Thomas.J.Loughran.8@nd.edu or (574) 631-3362)



Teachers As Scholars Program

The Teachers As Scholars program provides teachers and administrators the opportunity to become students again. Teachers gather with colleagues from neighboring school districts to study, discuss, and reflect upon scholarly issues in an intimate seminar setting.

Notre Dame's Teachers As Scholars program partners with:

- South Bend Community School Corporation
- Diocese of Fort Wayne-South Bend Catholic Schools
- Penn-Harris-Madison School Corporation
- John Glenn School Corporation
- Union-North United School Corporation
- School City of Mishawaka

The two-day seminars take place on the campus of the University of Notre Dame from 9:00 a.m. to 3:30 p.m. Member school districts or schools partner with the University to provide the seminars to their teachers and administrators at no cost to the participant.

Teachers are encouraged to sign up for seminars on topics that interest them, regardless of the grade level or content area they teach or their administrative focus. All seminars are designed to offer engaging, participatory experiences.

Registration takes place each fall for the following calendar year.

Website: tas.nd.edu

Contact: Anne Pillai (pillai@nd.edu)

Notre Dame Center for STEM Education

The Notre Dame Center for STEM Education housed in the Institute for Educational Initiatives, was founded in 2013 to make a lasting impact in STEM education. Through its research and the translation of evidence-based findings into programs and longitudinal teacher professional development, the Center is focused on increasing student interest and learning in the STEM disciplines. The center collaborates with departments and programs across the Notre Dame campus, across the state, and across the nation to address emerging needs in STEM education.

The Center its research and outreach activities in two major areas:
1) improving the quality of STEM teaching and
2) increasing students' access to rich STEM learning experiences.

Current projects include research on the impact and critical components of STEM-focused schools, core science teaching practices, and teachers' use of student performance data to make instructional decisions in science classrooms. Outreach activities include professional development on the Next Generation Science Standards and a host of STEM-focused summer experiences.

stemeducation.nd.edu





Thank you for attending today's forum.



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Additional STEM education information can be found at:
michianastem.org/