2015 AMERICAN PHYSICAL SOCIETY PRAIRIE SECTION MEETING

November 19-21, 2015
University of Notre Dame

Conference Co-Chairs:
Maxime Brodeur
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Session Chairs:
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Daniel Bardayan
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About the University of Notre Dame
The University of Notre Dame du lac (from the French “our Lady of the lake”) is a Catholic research university located in the state of Indiana. The university was established in 1842 by Father Edward Sorin, a French priest of the Congregation of the Holy Cross (CSC) in northern Indiana. The University, famous for its football team, the Fighting Irish, houses a total of approximately 12,000 students and is consistently ranked among the top universities in the United States.

The neo-gothic campus of the University of Notre Dame is 1,250 acres (5.1 km2) and located just north of South Bend. The Basilica of Notre Dame and the main building with its iconic “Golden Dome” lie at the heart of campus.

We encourage you to explore the many beautiful locations across the university during your visit. Widely considered one of the nation’s most beautiful campuses, Notre Dame boasts a number of visitor-friendly sites that are well worth a look. Highlights include the Main Building, the Basilica, the Grotto, St. Joseph’s and St. Mary’s Lakes, the Snite Museum of Art, and the Hammes Bookstore. The Jordan Hall Museum of Biodiversity and the Hesburgh Library Rare Books & Special Collections Room are small but lovely points of interest as well.

About South Bend
With a population of approximately 101,000, South Bend is the fourth-largest city in Indiana, near the St. Joseph River’s southernmost bend, from which the city name is derived. It also serves as the economic and cultural hub of northern Indiana.

Once home to industry giants Studebaker, Bendix, and Oliver Corporation, South Bend is now becoming a significant center for technology businesses in the Midwest. The St. Joe Valley Metronet, named Zing, is a 50-mile dark, fiber optic network encircling South Bend and neighboring city Mishawaka that provides advanced telecommunications connectivity to the entire area, and facilitates a number of significant data centers. One such location, the Union Station Technology Center, was bought from the city in 1979 and is currently Northern Indiana’s largest data center.

Meeting Registration:
Registration will be available on Thursday evening between 5:30-7:00pm near the east entrance of the Hesburgh Library Concourse, just outside the Carey Auditorium, and again on Saturday morning from 8:00-9:00am in the Geddes Hall Coffee House. Registration payment can be made in cash or check, payable to the American Physical Society.
Parking:
Free guest parking passes are available at the main gate just south of the Hammes Bookstore and Eck Visitors Center, accessible from Notre Dame Avenue (turn left at first stop sign on campus), and at the East gate just north of Grace Hall. When you arrive at the gate, simply tell the guard on duty you are attending a conference on campus and ask for a two-day parking pass. This pass will allow you to park at lots D Bulla, C1, or D6.

If you are staying at Ivy Court Inn & Suites, campus is a 20 minute walk to the Hesburgh Library. If you are staying at the DoubleTree Hotel in downtown South Bend, the hotel provides a shuttle to campus.

1. Hesburgh Library—Thursday Registration, Thursday plenary talk, Friday Sessions A1, B1, C1, Friday morning coffee break
2. Jordan Hall of Science—Thursday reception, Friday poster session, Friday banquet and talk
3. Geddes Hall—Friday Registration and breakfast, Friday Sessions A2, B2, C2
4. LaFortune Student Center—Friday Lunch
5. Nieuwland Hall of Science—All Saturday Sessions, Saturday breakfast and coffee break, Department of Physics Office

Interactive map can be found at http://map.nd.edu/
Saint Mary’s College is a Catholic, women’s college in the liberal arts tradition. Physicists at Saint Mary’s have had a long history of collaborating with their counterparts at Notre Dame dating back to 1899 when radiotelegraph signals were sent between the two institutions. Saint Mary’s currently has two full-time physics faculty members, with expertise in nuclear astrophysics and condensed matter. The physics courses offered at Saint Mary’s have historically been at the introductory level with the intention of serving science majors and the general education program.

Donations in Saint Mary’s Faith Always Action Now capital campaign raised $10 million for renovations of Science Hall, the longtime home of biology, chemistry and physics. Construction is nearly complete on the second stage of those renovations, which include a floor dedicated to physics. The physics floor will contain office space, new teaching and research laboratory space and a medium sized classroom. With these renovations and two recently hired physicists, there is more excitement for physics at Saint Mary’s than ever before. The physics faculty anticipate teaching upper-level physics courses in the near future as part of a proposed physics program which will continue in Saint Mary’s tradition of providing women with a solid educational foundation in STEM disciplines by combining passionate students with superior mentoring.

IU South Bend is the third largest campus of Indiana University. The IU South Bend Department of Physics & Astronomy offers B.S. and B.A. degrees in Physics, a Minor in Physics, a Minor in Earth & Science, and a variety of courses for non-majors in physics, astronomy, and geology. Additionally, dual-degree agreements are in place with engineering schools at other universities for those interested in starting at IU South Bend and seeking degrees in both physics and engineering.

The Department includes five full-time faculty members in physics, and they take particular pride in their inclusion of undergraduates in faculty research. Students regularly participate in projects related to faculty research specializations including nuclear physics, astro-particle physics, string theory and mineral physics, and approximately one half of the physics graduates from IU South Bend go on for graduate degrees at Ph.D.-granting universities.
Lunch will be served in the 2nd-floor Ballroom of the LaFortune Student Center on Friday at 12:45pm. At 1:45pm, 2:00pm and 2:15pm tours of the Nuclear Science Laboratory will be offered. Located in the heart of Notre Dame’s campus, the NSL is a facility used by researchers all over the United States as well as 30 other nations worldwide. The NSL hosts nine experimental and three theoretical Notre Dame faculty members, operating two accelerators: the FN tandem accelerator, and the newest accelerator, the vertical 5U single-ended accelerator. They provide highly focused energetic beams to dedicated research areas at the forefront of nuclear physics and nuclear astrophysics research.

A graduate school fair will take place from 1:45pm to 2:45pm in room 202, Nieuwland Science Hall. Conference attendees from graduate school programs represented at the conference will be available to chat with prospective graduate students about their program and the opportunities in their schools. All schools are welcome to join.
**APS PRAIRIE SECTION MEETING**

**November 19-21, 2015**

**Thursday, November 19**
- **5:30pm – Registration/Check-In**
  Hesburgh Library Concourse
  Coffee and cookies provided
- **7:00pm – “Neutrinos are Everywhere: Towards a New Understanding of the Quantum Universe”**
  Plenary Lecture by Nigel Lockyer, Director, Fermi National Accelerator Laboratory
  Hesburgh Library Carey Auditorium
- **8:00pm – Plenary Lecture Reception**
  Jordan Hall of Science Galleria
  Drinks and appetizers provided

**Friday, November 20**
- **8:00am – Registration/Check-In**
  Geddes Coffee House
  Breakfast refreshments provided
- **9:00am – Session A1: Nuclear Astrophysics I**
  Hesburgh Library Carey Auditorium
  Chair: Daniel Bardayan
- **9:00am – Session A2: Biological & Complex Systems**
  Geddes Hall Auditorium
  Chair: Dervis Vural
- **10:30am – Break**
  Hesburgh Library Digital Learning Center
  Coffee and light refreshments provided
- **11:00am – Session B1: Nuclear Astrophysics II**
  Hesburgh Library Carey Auditorium
  Chair: Philippe Collon
- **11:00am – Session B2: Solid State Physics**
  Geddes Hall Auditorium
  Chair: Jacek Furdyna
- **12:45pm – Lunch**
  LaFortune Student Center Ballroom
- **1:45pm – Graduate School Information Session**
  Nieuwland Science Hall 202

**Saturday, November 21**
- **8:30am – Breakfast Refreshments**
  Nieuwland Science Hall 202
- **9:00am – Session E1: Nuclear Physics I**
  Nieuwland Science Hall 127
  Chair: Tan Ahn
- **9:00am – Session E2: Interdisciplinary Condensed Matter**
  Nieuwland Science Hall 123
  Chair: Bruce Bunker
- **10:00am – Break**
  Nieuwland Science Hall 202
  Coffee and light refreshments provided
- **10:30am – Session F1: Nuclear Physics II**
  Nieuwland Science Hall 127
  Chair: Anna Simon
- **10:30am – Session F2: High Energy Physics**
  Nieuwland Science Hall 123
  Chair: Adam Martin