

November 14, 2016



THIS WEEK

MONDAY, NOV. 14

Deadline for Recycling Art Contest See page 9.

United Way Kick-off Bake Sale & Contest

LSB Lobby

Bring goodies

Bring goodies 9:30 a.m. Judging 11 a.m. United Way speaker & raffle 11 a.m.

NOV. 14-30

Children's Book Drive for United Way LSB Lobby See page 8.

TUESDAY, NOV. 15

America Recycles Day UNICOR Electronics Collection 7:30-10 a.m. ◆ Warehouse roll-up door (opposite firehouse) Lunch and Learn movies & snacks 11:45 a.m. ◆ MBG Auditorium

WEDNESDAY, NOV. 16

PPPL Colloquium

4:15 p.m. ◆ MBG Auditorium

Structure-preserving Geometric

Algorithms & Exascale Computing

Hong Qin, PPPL and University of
Science and Technology of China

THURSDAY, NOV. 17

PPPL Colloquium

4:15 p.m. ◆ MBG Auditorium Eagleworks Laboratories: Advanced Propulsion Harold "Sonny" White, NASA

FRIDAY, NOV. 18

Recycling Art Contest judging LSB Lobby

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Neumeyer leads coil design team

By Jeanne Jackson DeVoe

ngineer Charles Neumeyer will head a team charged with designing new poloidal field coils for the National Spherical Torus Experiment-Upgrade and investigating the failure of one of the coils.

Neumeyer is assembling a team of engineers and physicists who are subject matter experts to help him lead the effort.

"We are doing an extensive analysis," Neumeyer said. "In addition to internal reviews, we will have teams of external experts to help ensure that we don't miss anything."



Technician Raymond Granaldi uses a horizontal mill in the RESA building to cut into the coil so that technicians and engineers can perform tests. The machinist made three cuts, each of which took about 89 passes. (Photo by Elle Starkman)

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PPPL physicist receives ExxonMobil grant

By Raphael Rosen

hysicist Egemen Kolemen, who holds positions at both Princeton University and PPPL, is sharing a grant from ExxonMobil to research whether plasma could reduce greenhouse gas emissions associated with oil wells. Plasma is partially ionized gas that has separated into electrons and atomic nuclei, and can be found on Earth as lightning, neon lights, and many other forms. Stars and 99 percent of the visible universe are made of plasma.

Kolemen is a staff research physicist at PPPL and an assistant professor of mechanical and aerospace engineering at the Andlinger Center for Energy and the Environment at Princeton. He will work in partnership with Yiguang Ju, the Robert Porter Patterson Professor of Mechanical and Aerospace Engineering at Princeton, as well as scientists at ExxonMobil. They will determine whether plasma might be used to jump-start chemical reactions that transform methane, the primary component of natural gas, into liquid methanol and other kinds of hydrocarbons that could be used both as transportation fuel and in processes that create other chemicals.

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A new contractor will begin work on IOI after employees move to temporary offices

By Jeanne Jackson DeVoe

ccounting and Procurement staff moved into a new modular office complex last week, a week after PPPL and Princeton University signed a contract with Whiting-Turner Contracting Co. for the \$26 million Infrastructure and Operational Improvements (IOI) Project.

The contract was signed on Oct. 28 after PPPL received CD-3A approval from the Department of Energy on Oct. 19 for construction of the major components of the IOI project: creation of new office space in the Lyman Spitzer Building Annex and creation of centrally-located, modern machine shops in the C-Site Motor Generator (MG) Building. The second phase is the renovation of the Research Storage and Assembly (RESA) Building to create a warehouse and the demolition of Mod 6.



Ewa Kontor, front, and Jane Feng, both from Accounting, transport mats to their new office building, as John Wertenbaker looks on. (*Photo by Elle Starkman*)

"They have provided us with an excellent team and they are highly professional," said Les Hill, head of the IOI project. "I can't say enough good things about them. We're delighted that we have the A team coming to work with us."

"An enormous portfolio of projects"

Hill noted that Whiting-Turner has "an enormous portfolio of projects," including several projects for the federal government. A large national company with headquarters in Baltimore, Whiting-Turner has annual revenue of \$5.7 billion. Founded in 1909, it is one of the largest construction management and general contracting companies in the United States, according to Forbes magazine, which lists it as No. 66 of America's Largest Private Companies and No. 76 of America's Best Midsize Employers.

The company has more than 25 offices in 20 states, according to its website, with a local office in Bridgewater, New Jersey. The company has construction expertise in retail, office, education, health care, life sciences, technology, transportation and utilities, according to Forbes. Its portfolio includes several science laboratories and federal projects such as the GSA Federal Laboratory, a 33-acre development planned for the national laboratory center in Maryland and the USDA Consolidated Laboratory in Ames, Iowa.

Company officials have a series of steps they need to take before Whiting-Turner can begin work on the site by mid-December, Hill said. These include submitting health and



Procurement specialist Marissa Zara, at her new workspace in the Module 1, C34, modular office complex. (Photo by Elle Starkman)



Tori Sikkema, a procurement specialist, moving in. *(Photo by Elle Starkman)*

safety plans and a security plan, as well as a detailed schedule. Staff members from Environment, Safety & Health and Site Protection are helping review the plans.

Whiting-Turner is training 45 to 55 people to work on the construction project. A total of 200 will cycle through PPPL over the 14-month project.

The contractor held a safety boot camp for its staff and sub-contractors at PPPL on Nov. 8. "Safety is the top priority at PPPL," Hill told them. "We will cut no corners." He explained to the contractors that every employee has the authority to stop work under PPPL's Stop Work Authority. "I didn't want there to be any doubt about what the expectations are."

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Dean Peterson, left, and George Roth, both procurement specialists, in Peterson's cubicle. (*Photo by Elle Starkman*)

PPPL Advisory Board meets at the Laboratory



The PPPL Advisory Board met with Laboratory leaders on Nov. 9 and 10 to discuss Laboratory science and operations. Front row from left: Ned Sauthoff, director of US ITER; Steve Cowley, president of Corpus Christi College, University of Cambridge; Ray Fonck, advisory board chair, Steenbock Professor of Physical Science and professor of engineering physics, University of Wisconsin-Madison; Don Rej, program director, Office of Science programs at Los Alamos National Laboratory; Sibylle Günter, scientific director, Max Planck Institute of Plasma Physics. Rear row from left: Tony Taylor, vice president and director of magnetic fusion energy, General Atomics; Anatoly Spitkovsky, professor of astrophysical sciences, Princeton University; Tim Meyer, chief operating officer, Fermi National Accelerator Laboratory; Dennis Whyte, head of Nuclear Science and Engineering and director of the Plasma Science and Fusion Center, MIT; Curt Hillegas, associate CIO, research computing, Office of Information Technology and Princeton Institute for Computational Science and Engineering; Jay Dominick, vice president for information technology and chief information officer, Princeton University. (Photo by Elle Starkman)

PPPL booth at Celebrate Princeton Invention

PPL hosted a booth on Laboratory spinoffs last week at the annual Celebrate Princeton Invention reception held Nov. 10 on the main campus. The event showcased inventions by Princeton University faculty, staff and students. Laurie Bagley, head of the PPPL Technology Transfer office, organized the booth. On display were the Miniature Integrated Nuclear Detection System (MINDS); methods for pasteurizing eggs in the shell; producing the widely used medical isotope Technetium-99m; and plans for a fusion-powered rocket driven by a field-reversed reactor under development at PPPL The booth had a steady stream of visitors interested in the Lab's spinoff inventions.



Technical assistant Andrew Carpe discusses a PPPL spinoff with an interested visitor to the Laboratory booth. (*Photo by Elle Starkman*)



Charles Gentile discusses the Technitium-99m production system. The MINDS poster is mounted behind him. (*Photo by Elle Starkman*)



Chris Brunkhorst, left, and co-inventor David Geveke of the USDA explain their egg pasteurization method. (*Photo by Elle Starkman*)

NSTX-U coil undergoes tests

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Charles Neumeyer

Until recently, Neumeyer was team leader for U.S. contributions to the steady state electrical network (SSEN) for the international fusion experiment ITER, under construction in France. He also served as the Laboratory's **ITER** fabrication department head responsible for both the SSEN and diagnostics contributions to ITER. His SSEN job involved purchasing some \$33 million of transformers and other electrical equipment.

Preliminary work has begun on designing a new poloidal field coil for the NSTX-U, which was removed from the center stack in August after the fault was discovered.



Engineer Joseph Petrella, who supervised the tests, uses a borescope to capture an image of the interior of the coil. (*Photo by Elle Starkman*)



Engineer Weiguo Que, left, and technicians Alexis Sanchez, middle, and Elliot Baer, perform electrical tests on a segment of the coil. (*Photo by Elle Starkman*)

Working in parallel, engineer Irving Zatz is leading a forensic analysis of the coil with a team of technicians and engineers headed by engineer Joseph Petrella, to analyze what may have caused the coil failure. No cause of the failure has been determined and tests are still under way.

The coil was first shipped to a consultant in Pennsylvania where it was X-rayed. When the coil returned to PPPL, technicians cut the coil into three pieces in order to perform a series of tests.

Technicians inserted a borescope, a flexible tube fitted with a miniature camera on the end, to photograph the interior of each of the coil segments. They performed electrical tests, as well as vacuum tests to determine if the segments could hold a vacuum. Another group of pressure tests involved inserting nitrogen, and separately inserting deionized water, and later helium into cooling paths in certain parts of the coil to test for tiny leaks.

Further tests are pending. Zatz and Petrella will issue their conclusions in an initial report by the end of November.

101 update

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Temporary offices near D Site Fence

The company will set up temporary mobile offices at the D Site near the pump house. The upper parking lot was previously considered the likely location but the new location will not interfere with parking and is closer to the LSB Annex, Hill said.

The LSB Annex is to be empty by Nov. 14 after some 70 employees are done moving. Engineering staff members from the LSB Annex were packing up their belongings last week and were scheduled to move into Module 2 (C34), which has 38 office spaces, over the weekend.

Meanwhile, accounting and procurement staff members last week were unpacking at their new offices in Module 1 or "C33," which has 40 office spaces. They packed up their

belongings by Friday, Nov. 4, and movers moved the boxes to their new offices over the weekend. John DeLooper, head of Best Practices, credited facilities and IT staff members with making the move smooth. "This was a tremendous amount of work that has been successfully completed so that we can proceed with the IOI project," DeLooper said.

Settling into new offices

Procurement specialist Marissa Zara was settling into her new office last week. "It's crazy just packing up everything," said Zara. "But we're here. We're excited to be here."

Arlene White, supervising procurement specialist and small business liaison said she was in trailers at the same spot when she first came to PPPL 41 years ago. "So I am back here," she said. "I'm not retiring until I'm back in the LSB Annex!"

ExxonMobil grant

continued from page 1

The grant, worth \$110,000 a year for three years, has come after ExxonMobil officials pledged in 2015 to contribute \$5 million over five years to Princeton E-ffiliates Partnership, a program administered by the Andlinger Center to facilitate collaborations between researchers on campus and in industry for finding sustainable energy and environmental solutions. This year, the grant is funding four other research initiatives that are investigating batteries, photovoltaic materials, Arctic sea ice, and the absorption of carbon dioxide by the world's oceans.

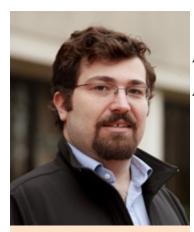
Kolemen's fuel conversion work parallels his investigation of fusion plasmas. His research into methods to control such plasmas involves building devices that scientists can use to manipulate plasma in real time, ensuring that the plasma is not destabilized by waves known as modes. He also studies ways to optimize divertors, components within fusion facilities called "tokamaks" that vent excess heat.

Methane is produced in huge quantities in oil-rich regions around the world. Since pipelines to transport it for processing are too expensive to build in some regions, the gas is either vented directly into the air or burned off in those regions in a process known as flaring.

The quantities involved are enormous. Each year, approximately 150 billion cubic meters — 5.3 trillion cubic feet — of natural gas is flared, according to a 2011 report of the Global Gas Flaring Reduction Partnership, operated by the World Bank. The total burned equals one fourth of the United States' annual natural gas consumption.

Converting methane into methanol would enable the liquid to be stored at the production site until trucks can come to carry it away. Kolemen and Ju believe that plasma might be a crucial component for such conversion. The plasma, which would be heated to around 9,700 degrees Celsius, could provide enough heat to start the chemical reaction that transforms methane into methanol.

"We need to curb the pace towards a warming planet and serve the world's growing energy needs," said Yueh-Lin (Lynn) Loo, director of the Andlinger Center. "This is an interesting win-win proposition that could do both: reduce the flaring of methane, which generates greenhouse gas emissions, while producing transportable fuels. If feasible, this technique could have an impact on the energy industry."



Egemen Kolemen (Photo by Frank Wojicechowski)

There is no guarantee, however, that it will be possible to develop such a technique. "This is a moon-shot kind of project," said Kolemen. "It's not clear that it's possible, but it's worth pursuing because of the many benefits associated with it."

Kolemen and Ju have different roles in the research. Ju will explore the chemical mechanisms that might be required, while Kolemen will develop measurement devices to monitor the state

of the plasma. "Overall we want to see how plasma interacts with methane's chemical composition," Kolemen said.

Princeton is well suited for such research, he noted. "Princeton is unique: the presence of both strong plasma and engineering facilities allows for exploration and collaboration."

Dominguez takes part in National Society for Black Physicists Conference



Arturo Dominguez, a physicist and Science Education senior program leader, speaks to students at the National Society for Black Physicists Fall Conference 2016 at Fermilab in Batavia, Ill. The conference on "The value of the minority physics student: a talent source for America's technical future," drew students from all over the U.S. as well as international students for three days of speakers, workshops and poster sessions. Dominguez had a PPPL booth at a reception on Thursday, Oct. 27. The following day, he participated in a panel discussion on opportunities for undergraduate students and a roundtable discussion with several students about opportunities at PPPL. (Photo by Katie Yurkewicz, Fermilab)

Science Ed. team brings plasma to the people at APS Plasma Science Expo

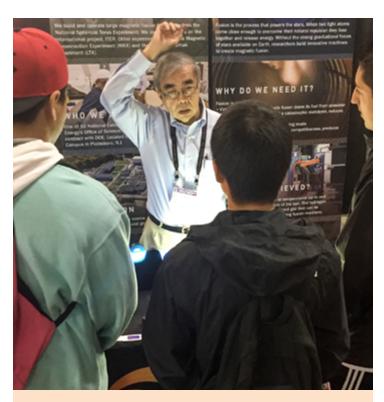
embers of PPPL's Science Education team along with numerous volunteers gave plasma demonstrations at the Plasma Science Expo in conjunction with the American Physical Society's Division of Plasma Physics 58th Annual Meeting in San Jose, California. They met with hundreds of middle and high school students and teachers on Nov. 3 and Nov. 4 at the San Jose McEnery Convention Center.

Physicist Arturo Dominguez, a senior program leader, gave one of the "Plasma 101" workshops to middle school science teachers during the Teacher's Day event. Dominguez will now became the chair of the APS-DPP Education and Outreach Committee.

Several science undergraduate laboratory interns at PPPL last summer presented posters at the conference. Each member of Science Education also presented posters: Andrew Zwicker, head of Science Education and a New Jersey assemblyman, presented a poster on the intersection of science and politics; Dominguez gave a presentation on the Alpha Immersion Workshop held in the summer; Shannon Greco, program leader, presented on female representation in science and physics; and program manager Deedee Ortiz presented on the PPPL undergraduate internship program.



Andrew Zwicker, head of Science Education, left, and Arturo Dominguez, senior program leader, show plasma demonstrations. (Photo by Deedee Ortiz)



Physicist Robert Kaita speaks to students at the Expo. (Photo by Deedee Ortiz)



Shannon Greco, Science Education program leader, left, demonstrates a half-coated fluorescent light. (Photo by Deedee Ortiz)



Andrew Zwicker, head of Science Educaton, center, along with volunteers Luzherta Buzi, left, and Mirjam Scheller, both post doctoral fellows at PPPL, show students plasma demos. (Photo by Deedee Ortiz)



A young woman has fun watching her friend's hair rise as she touches a Van de Graaff generator while Arturo Dominguez looks on. (Photo by Deedee Ortiz)



Andrew Zwicker interacts with a very small visitor and her parents. (Photo by Deedee Ortiz)

A tour for NJBIA Innovation Summit visitors



John DeLooper, head of Best Practices and Outreach, discusses PPPL research in the NSTX-U Control Room during a tour to visitors attending the NJBIA Innovation Summit at PPPL on Nov. 2. DeLooper and tour guide AI von Halle took a total of 40 visitors on a tour that included the NSTX-U test cell. (*Photo by Elle Starkman*)

PPPL'ers get caught "green handed" and win prizes for green habits

PPL's Green Team caught more than 30 PPPL'ers "green-handed" last week for green habits such as carrying their own water bottles or cups, using cloth lunch bags or packing lunch in reusable containers. Team members surprised the green PPPL'ers during breakfast and lunch on Tuesday, Nov. 8, and Thursday, Nov. 9. The spur-of-the-moment contest is aimed at raising awareness of sustainable practices before America Recycles Day on Tuesday, Nov. 15.



Jesus Perez, an intern in Science Education, shows off the bag he won for packing a reusable bottle. (Photo by Elle Starkman)



Dave Hudak of Material Control with the prize he won for packing his lunch in a reusable thermos bag. (*Photo by Elle Starkman*)



Jean Wernock of Human Resources won a prize for bringing her lunch in a reusable container. (*Photo by Elle Starkman*)

Book Drive for Children in Grades 1-5 begins Monday, Nov. 14

Please contribute to the United Way of Greater Mercer County Book Drive by donating gently-used or new books to be used in classroom libraries for children in first through fifth grade. Please bring your donations to a collection bin in the LSB Lobby through Nov. 30. Please do not bring textbooks, encyclopedias, or books for teens or adults.

Contact Ricardo Marquez, <u>rmarquez@pppl.gov</u>, ext. 2221 for a list of suggested books.

United Way kicks off with PPPL Department Bake Sale and Contest

PPPL is sponsoring a PPPL Department Bake Sale and Contest to raise money for United Way on **Monday, Nov. 14**. Judging will take place at **11 a.m. in the LSB lobby**, followed by a drawing for preferred parking spots.

Please bring your home-baked or store-bought cookies, cakes, and other goodies to the **LSB Lobby at 9:30 a.m.** Creativity is encouraged!

Sign up by having a representative from each department contact Ricardo Marquez at rmarquez@pppl.gov, ext. 2221 no later than Nov. 11.

It's time to get your flu vaccine!

Influenza is a contagious disease caused by a virus. It can be spread by coughing, sneezing or nasal secretions.

By getting the flu vaccine, you can protect yourself from Influenza and may also avoid spreading this illness to others.

Please call the OMO at extension 3200 to make an appointment.

Recycling art contest and lunchtime movies highlight America Recycles Day Nov. 15

The short movies, "How Recycling Works" and "Computer Recycling," will be shown in the MBG Auditorium on Nov. 15 at 11:45 a.m. with free snacks for audience members.

Creative PPPL'ers can submit their recycling artwork or fashion pieces to the Recycling Art Contest on Nov. 14. The pieces will be on display from Nov. 14 to 18 and staff members will vote for the winners. The artists with the most votes will receive gift certificates to the Plasma Hutch. Examples of recycled art are in the cafeteria.

"Materials always have more life in them if you take a moment to think about it," said Dana Eckstein, a member of the Green Team who is helping to organize the event. "Don't be afraid to be creative!"

The Green Team will once again be catching staff members with sustainable practices in the cafeteria and awarding prizes in the "Get Caught Green Handed" contest.

Other America Recycles Day activities include:

- Sign a recycling pledge and get a sticker on Nov. 15 in the LSB Lobby.
- Bring your home electronics to recycle for the UNICOR electronics recycling drive on Nov. 15 from 7:30 to 10 a.m. at the warehouse roll-up door opposite the firehouse. (See page 11)
- Donate clean, gently-used clothing in the America Recycles Day Clothing Drive
 Challenge for the Trenton Rescue Mission Nov. 2 to 20. (See below)
- Recycle office supplies and personal protective equipment in Terra Cycle bins in the LSB lobby and the stockroom. (See page 12)

Questions? Contact Margaret King, ext. 3652, Dana Eckstein, ext. 2588, or Leanna Meyer, ext. 2599.

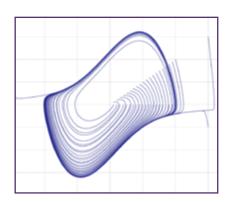
PPPL America Recycles Day Clothing Drive Challenge for The Trenton Rescue Mission

Please deposit clothing that is clean, gently used, and in usable condition in the collection box Nov. 2-20.

Drop off locations: LSB Lobby, Lab Building (by lower lot entrance)

COLLOQUIUM

Structure-preserving Geometric Algorithms & Exascale Computing



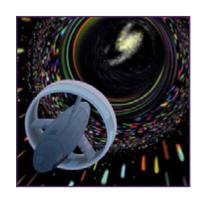
Hong Qin

PPPL and University of Science and Technology of China

Wednesday, Nov. 16

4:15 p.m., M.B.G Auditorium, Lyman Spitzer Building

Eagleworks Laboratories: Advanced Propulsion



Harold "Sonny" White NASA

Thursday, Nov. 17

4:15 p.m., M.B.G Auditorium, Lyman Spitzer Building

Registration for 2017 Young Women's Conference is open!

Registration for the 2017 Young Women's Conference in STEM, taking place on Thursday, March 23, at Princeton University's Frick Chemistry Building, is now open. If you are interested in bringing your student to the YWC, please <u>follow the link</u> and register up to three seventh-to tenth-grade students.

If you or anyone you know might be interested in exhibiting at the next YWC, please contact Deedee Ortiz, dortiz@pppl.gov, ext. 2785.

Donate to the United Way

The Princeton University United Way Campaign takes place Nov. 1 to Nov. 30. Employees can give a one-time contribution or donate a certain dollar amount from their paychecks. They can opt for donations to specific causes or initiatives or a non-profit agency of their choice.

\$25 can buy 100 meals to local food banks

\$60 can provide three literacy kits

\$150 can provide help for 10 students to go to college

UNICOR Electronics Recycling

You may bring the following items from home for recycling on Tuesday, Nov. 15.

Electronic Gadgets:

Cameras

Camcorders

MP3 Players

Gaming Systems

(Handheld & TV

Systems)

Calculators

Microscopes

Telescopes

PDAs

Household Equipment:

Televisions

Cable Boxes

Telephone Systems

DVRs

Copiers/Printers/Faxes

Computer Equipment:

Laptops

Desktop Towers

Modems

Keyboards

Mouses

Monitors (CRT & LCD) • DVDs/Tapes

Printers

Computer Wires

Hard Drives

Circuit Boards Drivers

All items will be collected in front of the warehouse roll-up door opposite the firehouse from 7:30-10 a.m. Do not bring items to the lobby.

Any questions please contact M. King ext. 3652 or L. Meyer ext. 2599

Terra Cycle is collecting office items to recycle in the LSB lobby and personal protective equipment in the stockroom.

Allowable office items:

- Staples
- Scissors
- Pens, markers & highlighters
- Tape, clips, rubber bands
- Mouse pads
- Transparencies

Personal Protective Equipment & other items:

- Eyewear
- Cloth/fabric
- · Work gloves

- Transparencies
- Wrappers & miscellaneous plastic

Please do not discard electronics, organic items or hazardous waste.



NICK PETTI Chef Manager



	Monday November 14	Tuesday November 15	Wednesday November 16	Thursday November 17	Friday November 18
COMMAND PERFORMANCE Chef's Feature	Beef Chili with Combread and Assorted Toppings	Baked Manicotti with Garlic Bread	Maple-Glazed Ham served with Au Gratin Potatoes & Creamed Spinach	Traditional Sauerbraten with Mashed Potatoes and Braised Cabbage	Teriyaki-Grilled Salmon with Raosted Edamame and Rice
Early Riser	Bacon, Egg and Cheese Croissant	Italian Meat & Cheese Omelet topped with Wilted Spinach with Home Fries	Potato, Roasted Pepper & Sundried Tomato Casserole with 2 Eggs any Style	Cinnamon-Raisin Pancakes with Homemade Apple Compote	Brunch Panini with Prosciutto, Provolone, & Strawberry Preserve
Country Kettle	Manhattan Clam Chowder	Potato Corn Chowder	Chicken Noodle	Tomato Soup	Chili Bean
Grille Special	Grilled Ham and 3 Cheeses on Challah Bread	Fried Salami and Cheddar on a Kaiser	Cheese Calzone with Marinara Sauce	Knockwurst & Sauerkraut with German Potato Salad	Chicken Caesar Cheese Steak
Deli Special	Turkey Bruschetta on Ciabatta	Asiago Roast Beef with Grilled Onion, Tomato & Horseradish on Pumpernickel	BBQ Pulled Chicken on a Kaiser Roll	Turkey Pastrami Sloppy Joe	Autumn Chicken Salad on Multigrain Bread
Panini	Pastrami and Swiss Flatbread	Fried Fish Torpedo with Cheddar, Tomato & Tartar Sauce	Breaded Chicken Cutlet with Ham, Swiss Cheese, Lettuce & Honey Mustard Ciabatta	Curried Lentil & Brown Rice Wrap	Texas BBQ Beef topped with Southwest Slaw on a Kaiser Roll

MENU SUBJECT TO CHANGE WITHOUT NOTICE

HEART HEALTHY

VEGETARIAN OPTION



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DEADLINE for calendar item submissions is noon on WEDNESDAY. Other stories should be submitted no later than noon on TUESDAY.

Comments: commteam@pppl.gov PPPL WEEKLY is archived on the web at: http://w3.pppl.gov/communications/weekly/.