For further information on any of the items included here or if you would like to contribute to the next newsletter, send email to Daphne Klemme.

During the summer months the newsletter will be produced every two weeks.

Hints & Tips!
Welcome to our hints and tips section! Please email daphne.klemme@yale.edu with any helpful tips that will help us work to our best ability.

Stockroom Card
Students or Postdocs who need request a stockroom card should have their PI send an email to Cindy Conforte (Cynthia.conforte@yale.edu) with the name of the person who will use the card and the COA the charges are to go on.

Climate and Diversity Committee News
A Note from the Climate and Diversity Committee (CDC).
The CDC convenes once a month. If interested in joining please contact Helen Caines (helen.caines@yale.edu, Chair of CDC). You may contact the whole committee at physics-cdc@mailman.yale.edu

News
Summer is upon us and I need items to keep our Facebook (http://www.facebook.com/YalePhysicsDept) page busy. Please send me a photo and brief statement of your summer research projects so that I can post them — it is exciting to see where everyone goes and what they are doing!

Ramamurti Shankar named the Gibbs Professor of Physics
Ramamurti Shankar, recently appointed as the J.W. Gibbs Professor of Physics, focuses his research on theoretical condensed matter physics and quantum field theory.

Click here for complete story in Yale News (July 16, 2019)
Superconductors) are solid
Majorana modes. Quantum materials (e.g. graphene,
nematic order, topological superconductivity
quantum states of matter, such as pair
discovery and investigation of emergent electronic
with advanced spectroscopic techniques targeting the
since 2016.

He has held an assistant professor position in Physics
Stuttgart) studying high
temperature supercondutors with resonant x
Keimer (Max Planck Institute
the groups of Andrea Damascelli (UBC) and Bernhard
Advanced Research. During that period he worked in
(2013) in Physics from Prince
Toronto,

For more seminars see: http://physics.yale.edu/calendar

Congratulations to Tonima Tasnim Ananna on the successful defense of her
dissertation “Accretion History of AGN: X-
Population Synthesis Model &
Multiwavelength Photometric Redshifts”!
Thesis Advisor: Meg Urry.

Eduardo Da Silva Neto, Ph.D.
Assistant Professor of Physics

Biographical Sketch
Eduardo H. da Silva Neto was born in
Recife, Brazil in 1985. He obtained his
B.A. in Physics and Mathematics (2008)
from Amherst College, and his M.S. (2010) and Ph. D.
(2013) in Physics from Princeton University, where he
worked in the group of Ali Yazdani investigating broken
symmetry states in unconventional superconductors
with scanning tunneling spectroscopy. He was a
postdoctoral researcher at the University of British
Columbia’s Quantum Matter Institute, during which
time he was a Max Planck-UBC postdoctoral fellow and a
Global Scholar for the Canadian Institute for
Advanced Research. During that period he worked in
the groups of Andrea Damascelli (UBC) and Bernhard
Keimer (Max Planck Institute - Stuttgart) studying high-
temperature superconductors with resonant x-ray
scattering and angle-resolved photoemission
techniques. He is moving to Yale from UC Davis, where
he has held an assistant professor position in Physics
since 2016.

Research Program
I conduct experimental studies of quantum materials
with advanced spectroscopic techniques targeting the
discovery and investigation of emergent electronic
quantum states of matter, such as pair-density-waves,
nematic order, topological superconductivity and novel
Majorana modes. Quantum materials (e.g. graphene,
topological insulators, quantum spin liquids, and
superconductors) are solid-state systems that feature
poorly understood exotic electronic quantum phases of
matter. Although all materials require quantum
mechanics to explain their properties, quantum
materials develop actually tangible emergent quantum
effects. These exciting effects include the realization of
exotic emergent topological particles (Weyl and
Majorana states) and unconventional superconductivity
intertwined with charge and spin order, which may
provide new avenues for next-generation quantum
computation and energy efficient materials. My
research currently focuses on the study of topological
materials and unconventional superconductors. To
study the basic quantum mechanics of these materials
my group uses a suite of techniques. First, at Yale, we
will employ low-temperature (sub 1K) and high
magnetic field (11T) scanning tunneling microscopy and
spectroscopy (STM/S) to visualize the quantum wave
functions of electrons at the atomic scale. Second, to
complement the STM/S real-space studies at Yale, we
will measure the electronic states in reciprocal space at
synchrotron facilities around the globe, primarily using
resonant soft x-ray scattering (RXS) and angle-resolved
photoemission spectroscopy (ARPES) experiments.
Current projects include the study of pair-density
waves in heavy-fermion superconductors, the
investigation of superconductivity and Fe-based high-
temperature superconductors and their relationship to
rotational symmetry breaking, and the search for new
topological superconductors.

For more information please see: https://dasilvaneto.faculty.ucdavis.edu/

A recent high-level visit from members of the Office of the
U.S. Secretary of Energy to the ALICE experiment at the
LHC at CERN. Photo of the entourage in the ALICE
cavern with a few accompanying ALICE members,
including Yale Relativistic Heavy Ion Group graduate
student Hannah Bossi (right in the middle of things!).

From left to right: Leticia Cunqueiro (ORNL); Sarah
Charley (CERN-US protocol office); Friederike Bock
(ORNL); Constantin Loizides (ORNL); Thomas (T.L.)
Cubbage (Deputy Undersecretary of Science at the
DOE); Hannah Bossi (Yale graduate student); Jim
Siegrist (Director of High Energy Physics at the DOE);
Kristen Ellis (Chief of Staff for the Undersecretary of
Science at the DOE); Chris Fall (Director of the DOE
Office of Science); Frederico Antinori (Padova/CERN);
Mateusz Ploskon (LBL)

Environmental Health & Safety News
Beat the Heat with Water, Rest and Shade
If you are doing things outside or in an unconditioned
building, please be aware of the signs and symptoms of
Heat-related illness. Take precautions to reduce the risk of heat exhaustion.

If you supervise or oversee others who are involved in activities that take place outdoors or in an unconditioned building, make sure water is available. Consider adding rest periods or even postponing your plans for a cooler day.

Heat illnesses are preventable.

Heat-Related Illness

Remember three simple words: water, rest, shade. Drinking water often, taking breaks and limiting time in the heat can help prevent heat-related illness.

Whether working outdoors or spending time in unconditioned space, for your job or at home, competing on the athletic field or simply spending time outside on or off campus, you may be at risk of heat-related illness. The risk of heat-related illness becomes greater as the weather gets hotter and more humid.

Departments with employees who normally work outdoors or in indoor environments without air conditioning need to address heat stress when planning their work. Supervisors and others who oversee campus activities should review safety precautions and warning signs with their staff and students.

For further assistance, please contact Yale Environmental Health and Safety (EHS) at 203-785-3550. EHS can also suggest appropriate controls to reduce your risk of heat-related illness.

Safety Tips

- Wear light-colored, loose-fitting, breathable clothing such as cotton. Avoid non-breathing synthetic clothing.
- Pace yourself during any activity and gradually build up to heavy work or more intense activity.
- Schedule outdoor work or activities carefully. Try limiting it to the coolest parts of day.
- Take more breaks in extreme heat and humidity. Take breaks in the shade or a cool area when possible.
- Drink water frequently. Drink enough water that you never become thirsty. If you are in the heat less than two hours and involved in moderate work activities, drink approximately one cup every 15-20 minutes.

- Avoid alcohol and drinks with large amounts of caffeine or sugar.
- Use a buddy system. When in the heat, monitor the condition of your family, friends and co-workers and have someone do the same for you.
- Monitor yourself for the signs and symptoms of heat-related illness listed below.

Signs & Symptoms

- Headache
- Dizziness
- Lightheadedness
- Fainting
- Weakness
- Mood change
- Mental confusion
- Upset stomach
- Vomiting

Anyone experiencing the above symptoms should be taken to the nearest hospital emergency department as soon as possible.

Contact Yale Health’s Employee Health Department at 203-432-7978 if you have any questions regarding heat-related illnesses in Yale employees while at work.

Heat Index App

The U.S. Department of Labor (DOL) and Occupational Safety and Health Administration (OSHA) have developed a tool for your mobile phone. The “Heat Safety Tool” allows you to calculate the heat index in your location and, based on the heat index, displays a heat-related risk level.

It is available for iOS and Android. Click [here](#) for more information.

Source: OSHA

WorkLife Newsletter – July/August 2019

Did You Know?
New Haven’s Outdoor Adventure Program

The staff of the City of New Haven’s Outdoor Adventure Program and the New Haven Park Rangers encourage children, youth, and adults to experience unique new, challenging, safe, and fun learning experiences!

Check out the Outdoor Adventure Program

Support for Achieving Wellness Goals

Achieving wellness goals can be challenging, but Yale’s Counseling and Support Services through Magellan can make it easier. Whether you’re looking to be more active, stress less, or lose a few pounds, specialists can help you and your family live healthier lives. Get referrals for gyms and nutrition programs, preventative care, and more. Also, Magellan’s website offers wellness tips, tools, and events, including the Your Healthy Lifestyle educational series. Call 800-327-9240 for additional information.

Learn more

Openings at Yale-Affiliated Child Care Centers

If you are still looking for child care for fall 2019, please consider these possible openings: Phyllis Bodel Childcare Center at the Yale School of Medicine for pre-school (3-5 years); Calvin Hill Day Care Center and the Kitty Lustman-Finding Kindergarten for kindergartners; and the Edith B. Jackson Child Care Program for infants and toddlers. Contact the center directly or email worklife@yale.edu for more information.

Slim Down for Summer with Weight Watchers!

There’s still time to slim down for summer with Weight Watchers! A free “WW Insider’s Box” is available to new members who join before July 26.

Learn more

Announcements

Please click here for updates on the Yale Science Building, including a new logistics plan. The project encompasses the construction of a new state of the art sciences laboratory at the approximate location of the demolished J.W. Gibbs building, a comprehensive renovation of the KBT Plaza, a lecture hall, and a common area at the south end of KBT Plaza.

Opportunities

Max Planck Institute for the Science of Light

The Max Planck Institute for the Science of Light research covers a wide range of topics, including nonlinear optics, quantum optics, nanophotonics, photonic crystal fibres, optomechanics, quantum technologies, biophysics, and links between physics and medicine.

PhD Student Position (m/f/d) in Quantum Opto-Acoustics

We are an independent research group at the Max Planck Institute for the Science of Light. Our research interests span from nonlinear optics to quantum optics with a focus on light-sound interactions and waveguide optomechanics. The physics of optical waves interacting with acoustic or mechanic vibrations is fascinating because it links the two very different domains in terms of frequency, velocity, dissipation, and other properties. We explore these interactions experimentally at the classical and quantum level with suitably engineered microstructured fibres and nanowaveguides to manipulate, in this way, light states. We invite applications from talented and highly motivated students for a 3-year PhD project in the field of experimental quantum opto-acoustics. The project is situated at the interface of quantum optics, nonlinear optics, and quantum information processing. It involves photonic design and fabrication, conception and setup of optical experiments and their analysis and interpretation within the rich theoretical background.

Requirements and skills:

- Excellent Master’s degree or equivalent (German “Gymnasialehreramt”, etc.) in physics, photonics or photonic engineering
- High motivation to conduct experimental research
- Ability to work independently and in a research team, collegiality and enthusiasm
- Desired: experience in optomechanics, quantum optics, nanomechanics

We offer a dynamic group atmosphere in an excellent research environment. We have local and international collaborations with experimental and theoretical groups. The Max Planck Institute for the Science of Light (www.mpl.mpg.de) is a world leading institution in fundamental research in light-matter interaction and quantum optics. The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. Furthermore, the Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply.

For more information and application (including a letter of motivation, CV and the contact details of two possible referees) please contact:

Dr. Birgit Stiller
birgit.stiller@mpl.mpg.de, +49 9131/7133265
Post-Doc Position (m/f/d) in Quantum Opto-Acoustics

We are an independent research group at the Max Planck Institute for the Science of Light. Our research interests span from nonlinear optics to quantum optics with a focus on light-sound interactions and waveguide optomechanics. The physics of optical waves interacting with acoustic or mechanic vibrations is fascinating because it links two very different domains in terms of frequency, velocity, dissipation and other properties. We explore these interactions experimentally at the classical and quantum level with suitably tailored microstructured fibres and nanowaveguides to manipulate, in this way, light states.

We invite applications from highly talented researchers for a 2-year Post-Doc Position (extendable) in the field of experimental quantum opto-acoustics. The successful candidate will work experimentally at the interface of quantum optics, nonlinear optics and quantum information processing. The Post-Doc will be involved in different group projects and have the opportunity to guide MSc and PhD students and play a responsible role in the laboratory.

Requirements and skills:
- PhD degree in physics or photonics
- Relevant publication track record
- Significant experience in some of the following fields: quantum optomechanics, quantum communications, nanomechanics, nonlinear optics
- Ability to work independently and in a research team, collegiality and enthusiasm
- Very good communication skills in English (written and oral)

We offer a dynamical group atmosphere in an excellent research environment. We have local and international collaborations with experimental and theoretical research groups. The Max Planck Institute for the Science of Light (www.mpl.mpg.de) is a world leading institution in fundamental research in light-matter interaction and quantum optics. The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. Furthermore, the Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply.

For more information and application (including a motivation letter, CV, publication list and the contact details of two possible referees) please contact:

Dr. Birgit Stiller  birgit.stiller@mpl.mpg.de, +49 9131/7133265 Max Planck Institute for the Science of Light, Staudtstr. 2, 91058 Erlangen