COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

DEPARTMENT OF APPLIED PHYSICS AND APPLIED MATHEMATICS

July 22, 2014

To: NEW Graduate Students in the Department of Applied Physics and Applied Mathematics

On behalf of the faculty and staff of the Department of Applied Physics and Applied Mathematics (APAM), I'd like to welcome you to the start of a new academic year. We have scheduled times when you can meet with a faculty advisor who will help you with the logistics of registration and program approvals. Please take the time to read the information below and plan to arrive at the specified times.

All new Medical Physics students **must** attend the APAM Department Orientation at **12:30 p.m on Tuesday, August 26th**, **in room 210 Mudd**, **lunch will be provided**, please register using the following link: http://gradorientation.engineering.columbia.edu/register.html. A faculty advisor will be available to meet with students following the orientation session. **Please keep in mind that you will not be allowed to register for classes until after you have met with a faculty advisor who has approved your course schedule for the semester.**

Your liaison in the APAM office is the medical physics program coordinator, Ms. Marlene Arbo. New students should contact Marlene if they have any questions. Should Marlene not be available, students may also contact the APAM student services coordinator Ms. Montserrat (Montse) Fernandez-Pinkley.

New medical physics students are **strongly encouraged** to attend the events of the School of Engineering and Applied Sciences (SEAS) Orientation on **Friday, August 22nd**. You can register for the school-wide orientation by using this link: http://www.eventbrite.com/e/fall-2014-seas-grad-orientation-tickets-11421320477. And if you haven't done so already, please consult the new student check-list for important information about the things you must do **before your arrival on campus** http://gradorientation.engineering.columbia.edu/new-student-check-list.html.

Please note that in addition to submitting a picture of yourself to the ID office online (information on how to do this in included in the new student check-list), we would also like you to send the Department your picture (it doesn't have to be the same one, but it can be; there are no formatting requirements for the department picture.) Please send pictures to seasinfo.apam@columbia.edu with the subject "New Graduate Student Picture."

Classes begin on **Tuesday, September 2nd**. A list of courses, along with a list of the faculty. If you have any questions, the staff in the Department office will be happy to help you.

Finally, I would like to invite you to a welcoming party for faculty, students, and staff on **Friday, September 12th** at 3:00 p.m. On other Fridays that classes are in session, an informal afternoon tea for all students will be held at 3:00 p.m. In addition to our Friday teas, the Department hosts an "APAM Friday" social (happy) hour that takes place approximately once a month at 4:30 p.m. during the academic year, featuring free beer and snacks.

Postscript

English Proficiency: Language proficiency is the responsibility of the student. English communication skills are of critical importance to your current and future academic and/or professional career.

Housing: Students who have been assigned to University housing should have already been informed and given instructions directly by the Housing Office. If you have not heard by now, please contact Dawn Strickland in the Office of Graduate Student Services (phone: 212-854-8930; email: ds3022@columbia.edu). Students who have elected to view a university apartment (not a dorm room), rather than accept an assignment by mail, will participate in a lottery process through the Office of University Apartment Housing (UAH).

Financial aid and FAFSA: Unfortunately, at this time, Departmental Financial Aid is not available for Master of Science students. Graduate students (who are US citizens or permanent residents) desiring financial aid can complete the 2014-2015 FAFSA prior to the start of the fall term; you can apply online at www.fafsa.ed.gov. The school code to be used on the form is E00120. More information can be found at http://gradengineering.columbia.edu/instructions-applicants-0.

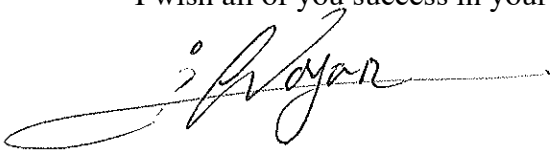
Immunizations: New York State requires that all Columbia students taking 6 or more points show proof of immunity to measles, mumps and rubella. Documentation must be presented to the Columbia Health Services by July 30th.

Meningococcal Meningitis Vaccination Decision: New York State public health law requires that college and university students receive information from their institutions about meningococcal meningitis and the vaccine that protects against most strains of the disease that can occur on university campuses. Columbia students must make an informed decision about being vaccinated and certify their decision online https://ssol.columbia.edu/ssv/crt/menIntro.html. Full instructions are given online, and the process takes two to three minutes. Students must formally indicate their decision about being vaccinated before they will be permitted to register for classes.

General Assistance: After arriving in New York, new students are encouraged to contact one of the continuing graduate students listed below for answers to questions–-academic or otherwise, directions, or friendly advice.

FIELD	NAME	E-MAIL
MEDICAL PHYSICS	Dylan DeAngelis	dad2170@columbia.edu

I wish all of you success in your studies,



I. C. Noyan
Chair, Department of Applied Physics and Applied Mathematics
Co-Director, Medical Physics Program
Professor, Materials Science and Engineering

Columbia University
Department of Applied Physics and Applied Mathematics
Medical Physics Courses 2014-2015: 3-semester program

Course	Registration		Points	Days/Time	Instructor	Room	Call Number
Fall 2014 Term							
APPH	E4010x	Introduction to nuclear science	3	Tu 7-9:30	Ostrow	TBA	13899
APPH	E4600x	Fund/rad. phys & rad. dosimetry	3	W 4:10-6:40	Meli	TBA	11738
APPH	E4710x	Radiation instrumentation lab, I	3	M 5-10:00	Arbo	214 Mudd/174 Terrace	67901
		(lab sessions: P/T students M after lecture; F/T students TBA)				174 Terrace	
APBM	E4650x	Anatomy for physicists & engrs.	3	TuTh 4:10-5:25	Rozenshtein/ Lignelli/Utukuri	PH, Level 1, Rm 303	74735
Spring 2015 Term							
APPH	E4330y	Radiobiology for med. physicists	3	M 5:00-7:00	Zaider	1101 Rosenfield	
APPH	E6319y	Clinical nuclear medicine physics	3	Tu 5:00-6:50	Esser	PH, Level 1, Rm 303	
APPH	E6330y	Diagnostic radiology physics	3	W 5:30-8:20	Jambawalikar/Liang	PH, Level 1, Rm 303	
				(Presbyterian Hospital Bldg (PH), 1st flr. 622 W. 168th St.)			
APPH	E6335y	Radiation therapy physics	3	Th 5:30-8:20	Wuu	Conf Rm 11, Rad. Oncol	
APPH	E4550y	Medical physics seminar	0	Th 4:15-5:15	Arbo	214 Mudd	
*APPH	E4501y	Medical health physics tutorial	0	M-F 9-5	Morgan	TBA	
Summer 2015 Term		*Two-week Medical Health Physics Tutorial, taken at the end of May Full-length Practicum(s) Comprehensive Exam, mid August				***No Summer Registration***	
Fall 2015 Term (Fall 2014 for continuing students)							
APPH	E4500x	Health physics	3	Th 6:30-9	Morgan	214 Mudd	20630
APPH	varies	Practicums (two required):	6	varies			
		E6333x Radiation therapy (prereq: E6335)			Wuu	TBA	11665
		E6340x Diagnostic radiology (prereq: E6330)			Jambawalikar	TBA	72054
		E6365x Nuclear medicine (prereq: E6319)			Esser	TBA	29053
		E6380x Health physics (pre/coreq: E4501/E4500)			Morgan	TBA	71495
Electives (3 points required):							
APPH	E4711x	Radiation instrumentation lab, II	3	TBA	Arbo		13527
APPH	E6336x	Advanced radiation therapy	3	Tu 5-7:30	Amols/Wuu	210 Mudd	64344
APAM	E6650x/y	Research project	1-6	varies	Staff		
APAM	E4999x/y	Supervised Internship	1-3	varies	Staff		

C O L U M B I A U N I V E R S I T Y

MEDICAL PHYSICS PROGRAM

DEPARTMENT OF APPLIED PHYSICS AND APPLIED MATHEMATICS

Faculty and Staff Academic and Clinical Research Interests

I. C. Noyan, Professor (APAM) and Program Co-Director: x-ray and neutron scattering, radiation sources and detectors.

Cheng-Shie Wuu, Professor (Radiation Oncology), Program Co-Director, and Professional Advisor: microdosimetry, biophysical modeling, image-guided radiation therapy, gel dosimetry, dosimetry for radiation-induced secondary cancer.

Howard Amols, Adjunct Professor (Radiation Oncology); Attending Physicist (Medical Physics, MSKCC), past President (AAPM): intensity modulated and image guided radiation therapy, hypofractionated radiation therapy, quality assurance for advanced technology radiation therapy.

John C. Arbo, Associate (APAM) and Academic Advisor: radiation detectors, radiation transport, *in vivo* neutron activation.

Peter D. Esser, Professor *Emeritus* (Radiology): molecular imaging (PET, nuclear medicine, nuclear cardiology), clinical medical physics, clinical image processing and communications.

Sachin R. Jambawalikar, Assistant Professor (Radiology): fast magnetic resonance imaging techniques, quantitative mri techniques, diffusion imaging, relaxometry, arterial spin labeling and DCE pharmacokinetic analysis to evaluate their potential as clinical biomarkers for disease processes.

Yongguang Liang, Assistant Professor (Radiology): CT dosimetry and clinical protocol optimization, mammography, quality control assessment in medical imaging.

Angela Lignelli, Assistant Professor (Radiology): radiology, neuroradiology.

Jerome A. Meli, Adjunct Associate Professor (APAM): brachytherapy, dosimetry, clinical applications of brachytherapy.

Thomas Morgan, Adjunct Professor (APAM); Executive Director, RSP/CRSO: health physics; radiation doses to patients and staff in clinical settings

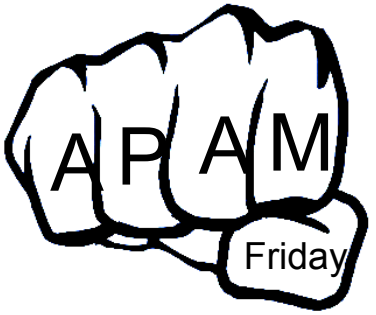
Stephen L. Ostrow, Adjunct Professor (APAM): radiological engineering; standoff detection of explosives, toxic chemicals, and nuclear materials; THz radiation applications.

Lawrence N. Rothenberg, Adjunct Professor (APAM), former Associate Professor of Physics (Radiology, Weill Cornell Medical College), Clinical Member *Emeritus* (MSKCC), past President (AAPM): diagnostic x-ray image quality assessments, mammography and CT dosimetry, radiation protection.

Anna Rozenshtein, Associate Professor (Radiology): radiology, thoracic imaging, imaging of pulmonary vascular diseases.

Marco Zaider, Senior Lecturer (Radiation Oncology); Attending Physicist and Head of Brachytherapy Physics (MSKCC); Professor of Physics, (Radiology, Weill Cornell Medical College): medical physics, biophysical modeling, microdosimetry, quantum chemistry, radiation transport.

APAM Friday Announcement



Please take the following survey:

Are you a new student?
Are you unsure what APAM is all about and how super sweet we are?
Do you want to experience the mind-blowingly awesome event that is "APAM Friday?'
Do you still need to learn what APAM Friday even is?
Do you want to get awesome?

If you answered "Yes" to any of the above questions, answered "No" to any of them, or didn't even read them, you *need* to clear your calendar for **Friday, September 12th**, the semester's first APAM Friday/Welcome Party.

According to the Oxford English Dictionary:

APAM Friday (ā' păm frī' dā) *noun*:
1. the departmental social hour that occurs one Friday every month for the Applied Physics and Applied Math Department at Columbia University
2. informal gathering of students, faculty, and administrators in room 200 Mudd
3. an event organized by grad students with free beer, snacks, and other delightful beverages to promote awesomeness
4. a time to meet and socialize with people within the Department, as well as get awesome
5. the talk of the town among the entire University as being the premiere jammy thrown by anybody, ever, in the history of the world.

Details
What: APAM Friday
Where: Room 200 Mudd
When: Friday, September 12th, 3:00 pm
Who: YOU and the rest of APAM
Why: Because if you are reading this, then you are a new student, and you want to meet everyone in the department. Seriously, let's throw down.