M.S., PH.D. & ENG.SC.D. PROGRAMS IN THE DEPARTMENT OF

APPLIED PHYSICS &

APPLIED MATHEMATICS

WITH MATERIALS SCIENCE & ENGINEERING

Application Deadlines

Fall Admission

M.S. only ...................................................... February 15
M.S. leading to Ph.D. ................................ December 15

Spring Admission

Applied Mathematics M.S. only .......... October 15

Online Application

www.gradengineering.columbia.edu

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In an academic world densely populated with (separate) Applied Physics and Applied Mathematics departments, APAM is unique in housing both disciplines, Materials Science and Engineering and Medical Physics programs within a single, unified, structure. We have found that this arrangement promotes cross-fertilization of ideas, collaborative work and multidisciplinary research; it results in a vibrant, healthy, growing department that is able to deal with emerging problems rigorously and efficiently. **Researchers from all disciplines collaborate on** a diverse set of projects such as advanced computational analysis, nanoscience, energy and the environment, imaging and non-destructive testing, atmospheric and earth sciences, optical physics, condensed matter and materials physics, and biophysics and biomathematics. APAM faculty work closely with each other and with researchers from other departments, schools, national laboratories and companies within and outside the United States. Many hold joint appointments with other departments.

Our department conducts distinct undergraduate and graduate programs in the core disciplines of Applied Mathematics, Applied Physics and Materials Science and Engineering. The Medical Physics Program culminates in a **Master of Science degree**. The **Certificate of Professional Achievement in Medical Physics program is available to post-graduate researchers from qualified institutions**. All students are exposed to research conducted in all disciplines through different venues, giving them broad-based preparation and an appreciation for collaborative, multi-disciplinary, problem solving. This, we believe, is the way research should be done and will be done in the future.

I. Cevdet Noyan
Professor and Chair

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**Applied Physics Graduate Program**

- Theoretical and experimental plasma physics (fusion and space plasmas)
- Solid state physics (semiconductor, surface, low-dimensional physics, molecular electronics)
- Optical and laser physics (laser interactions with matter)
- Nuclear science (medical applications)

**Applied Mathematics Graduate Program**

- Analysis of partial differential equations, large-scale scientific computing, nonlinear dynamics, inverse problems, medical imaging, geophysical/geological fluid dynamics, and biomathematics
- Earth sciences: atmosphere, ocean, climate science, and geophysics

**Materials Science & Engineering Graduate Program**

- Thin films
  - Nanomaterials, electronic, optical, and magnetic materials
  - Mechanical response of materials

For information regarding our CAMPEP-Accredited Medical Physics M.S. Program, see:
apam.columbia.edu/medical-physics

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