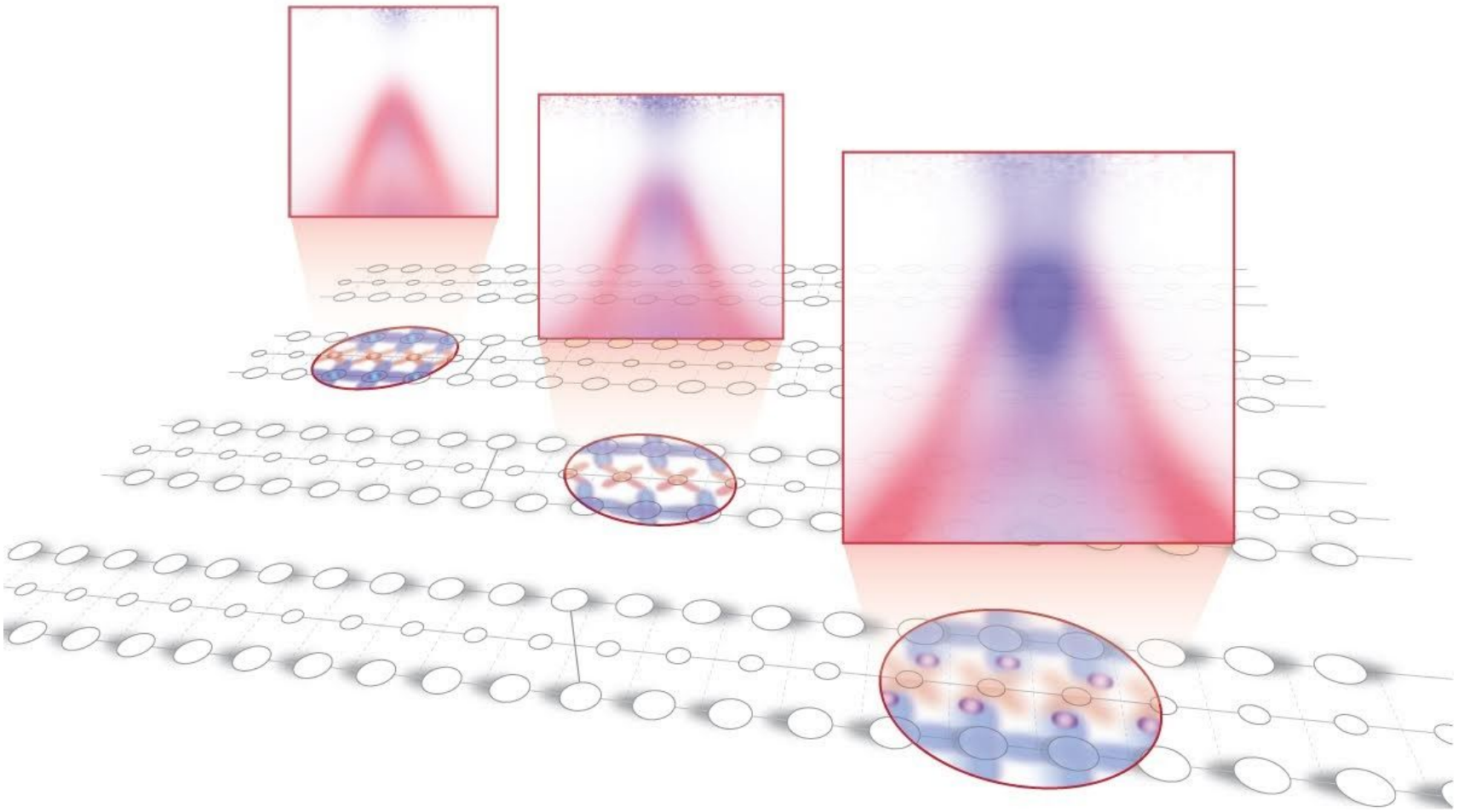
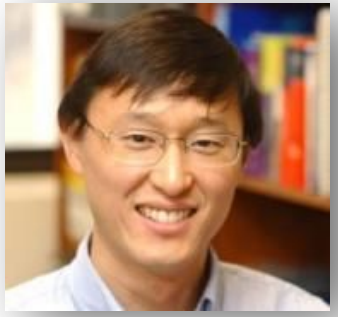
Department of Applied Physics

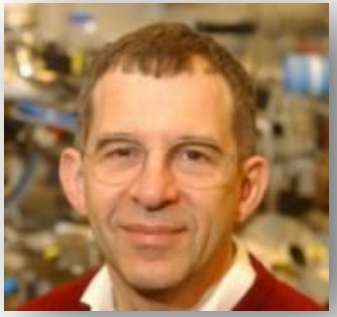


Yale University

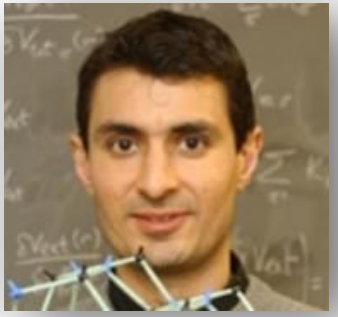
Department of Applied Physics


Charles Ahn


Hui Cao


Michel Devoret


Yu He


Sohrab Ismail-Beigi


Simon Mochrie


Owen Miller


Vidvuds Ozolins


Dan Prober


Shruti Puri


Peter Rakich


Nick Read


Aleksander Kubica


Rob Schoelkopf


Doug Stone


Logan Wright

Department of Applied Physics

15 tenure track faculty + 4 senior scientists

67 AP graduate students + 19 postdocs/ARS

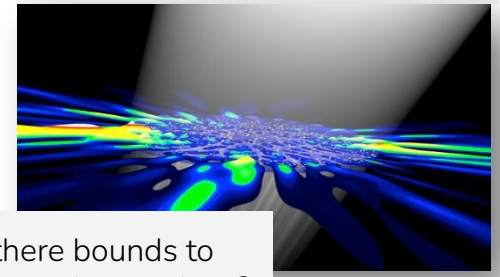
6.3 years on average to completion

3 major areas + interdisciplinary research

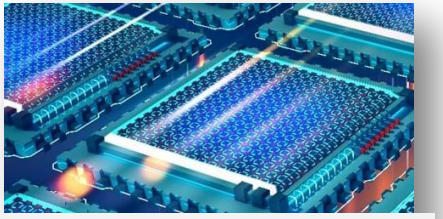
Topical Interests

Why is Tc so high?

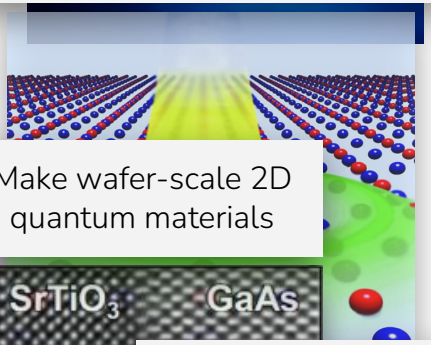
Make random medium lase!



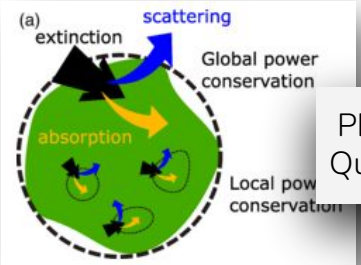
Robust quantum error correction



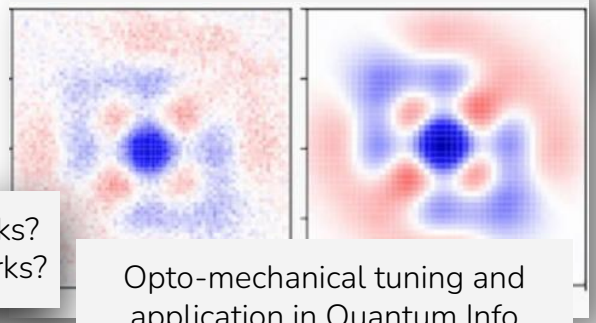
Can F = e^2/r^2 be manipulated?



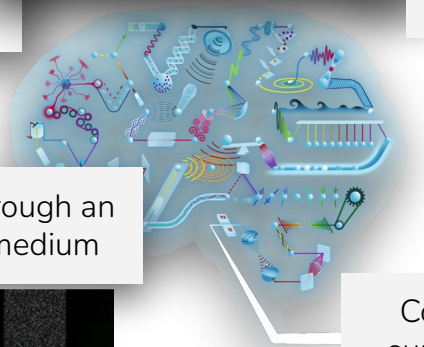
Are there bounds to light-matter interactions?



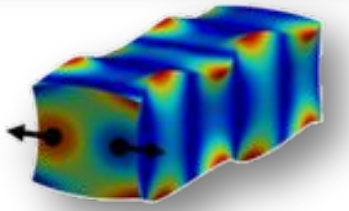
Entangle qubits “on-demand”!



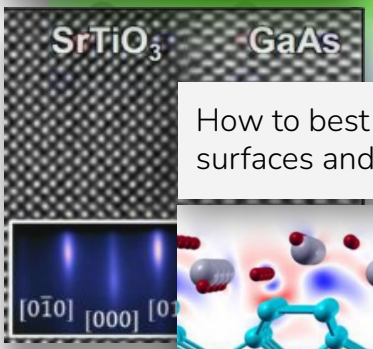
Physical neural networks?
Quantum neural networks?



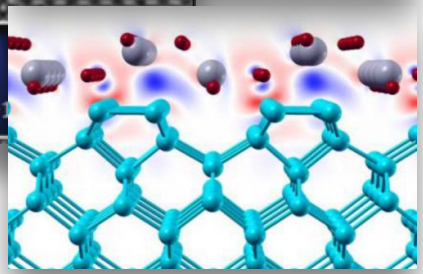
Opto-mechanical tuning and application in Quantum Info



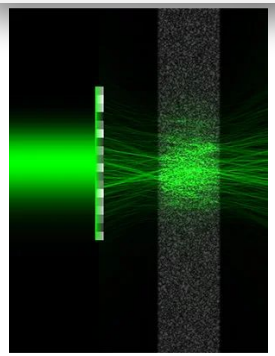
Make wafer-scale 2D quantum materials



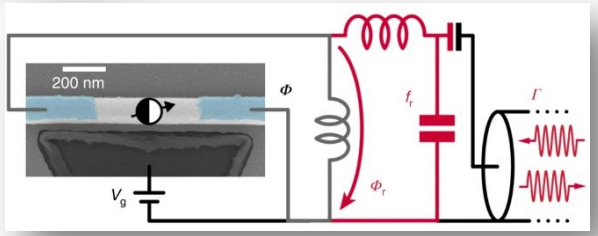
How to best functionalize surfaces and interfaces



Seeing through an opaque medium



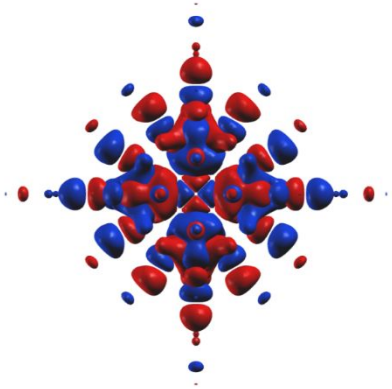
Continuous monitoring of superconducting spin qubit



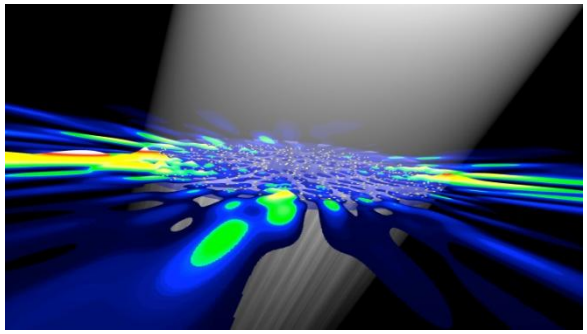
Yale University

Research

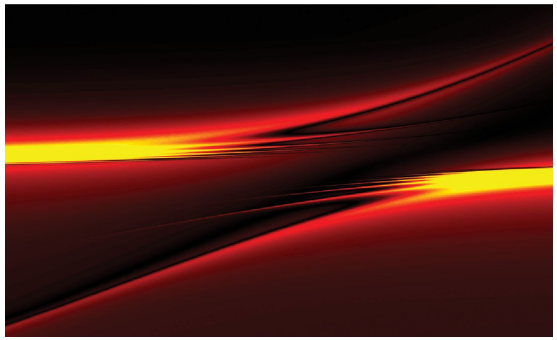
Materials



Optics



Quantum information



Condensed Matter / Solid State Physics	Quantum Information	Optics / Photonics	Biophysics
Charles Ahn	Michel Devoret	Hui Cao	Simon Mochrie (joint)
Yu He	Dan Prober	Peter Rakich	
Sohrab Ismail-Beigi	Rob Schoelkopf	Doug Stone	**Energy Sciences**
Vidvuds Ozolins	Shruti Puri	Logan Wright	Owen Miller
	Aleksander Kubica	Owen Miller	Vidvuds Ozolins
	Nick Read (joint)		

+ Tight collaborations with Physics, ESI, MEMS, ChemE, CS
(Jack Harris, Diana Qiu, Eduardo da Silva Neto, Peijun Guo, Hong Tang, Fengnian Xia…)

Yale University

Why Yale AP?

Faculty awards: 5 Packard fellows, NAS, AAAS, FRS

Research productivity: Top 5 natural sciences yield AY22-23

Infrastructure: YQI, YINQE, Yale Cleanroom, Yale MCC

Big science:

Quantum Information Science Centers (1+1 out of 5)

NSF QLCI center for Robust Quantum Simulation

Partner User Agreement with Brookhaven National Lab

New investments:

Physical Sciences and Engineering Building on Science Hill

University spending on science and engineering (~$2B)

Affordability: Stipend-to-cost-of-living ratio 1.3 - 2.5x peer institutes

Yale University

Postdoc/PhD powerhouse

Princeton

Houck

Berkeley

Siddiqi

Wisconsin

Vavilov

Stanford

Schuster

NIST/CU

Teufel

MIT

Kolpak

Princeton

Tureci

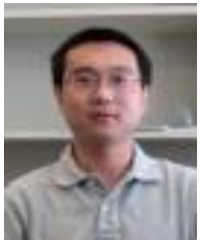
Delft

DiCarlo

Vienna

Majer

Tsinghua



Sun

ETH Zurich

Walraff

UChicago

Clerk

Northwestern

Koch

Erlangen

Marquardt

Cornell

Disa

Colgate

Segall

Innsbruck

Kirchmair

Chalmers

Isacsson

Surrey

Ginossar

Maryland

Manucharyan

Jülich

Catelani

JILA

Lehnert

ETH Zurich

Chu

Yale University

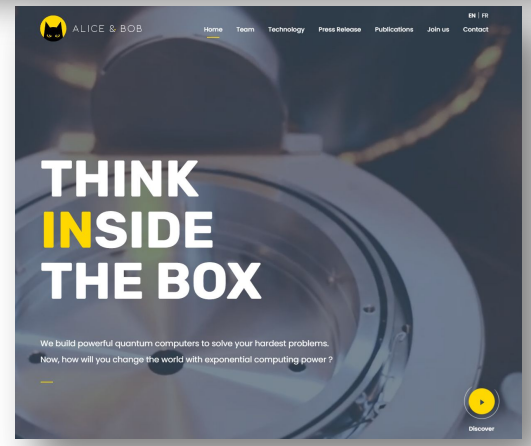
Startups from Applied Physics

NEWS

Quantum Circuits, Inc., a Quantum Computer Startup out of Yale, Opens Lab in New Haven

VIDEO

Robert Schoelkopf talks about the quest to build a quantum computer at the World Economic Forum



STARTUPS

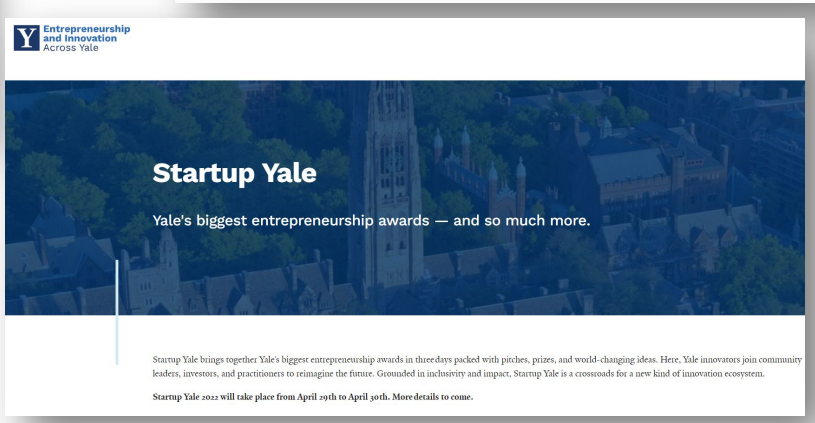
Quantum Science Pioneer Michel Devoret Joins Alice and Bob as Scientific Advisor

By **Matt Swayne** October 12, 2021

Facebook | Twitter | Linkedin | Email

Quantum science pioneer Michel Devoret will be joining the Alice and Bob team as a scientific advisor.

Alice and Bob, a quantum computer startup based in France, announced that Michel Devoret will be joining their team as a scientific advisor.



Yale University

Ph. D. Requirements and Highlights

First year fellowships: all first-year Ph.D. students are financially supported by the department. During the year 1, a student typically will take "Special Investigation".

Teaching experience is an integral part of graduate training; all students serve as Teaching Fellows for one year after year 1.

Area examination in year 3: students showcase breadth and depth of knowledge, chaired by advisor + 2-3 committee members

Course requirements: At least 9 course units (including 2 SI), with strong encouragement of core courses in Quantum Mechanics, Electrodynamics, and Condensed Matter Physics. Require the Intro to AP seminar (AP576) in the fall semester of year 1.

AP Graduate Admissions AY23-24

Alexander Bozzi
Graduate Program Registrar, Applied Physics

GRE: Optional

TOFEL: required if English is not the primary language in college

Deadline: Dec 15, 2023

Fee: $105 (waiver info on Yale GSAS site)

Admitted students from previous years:

- multidisciplinary academic training
- clear objectives in statements
- diverse academic trajectories
- research experience is a plus but not required
- contact faculty encouraged but not required

Yale University

#1 tip for admission

Please **DO** reach out to faculty members AND students to discuss research opportunities!

Concerns/questions on:

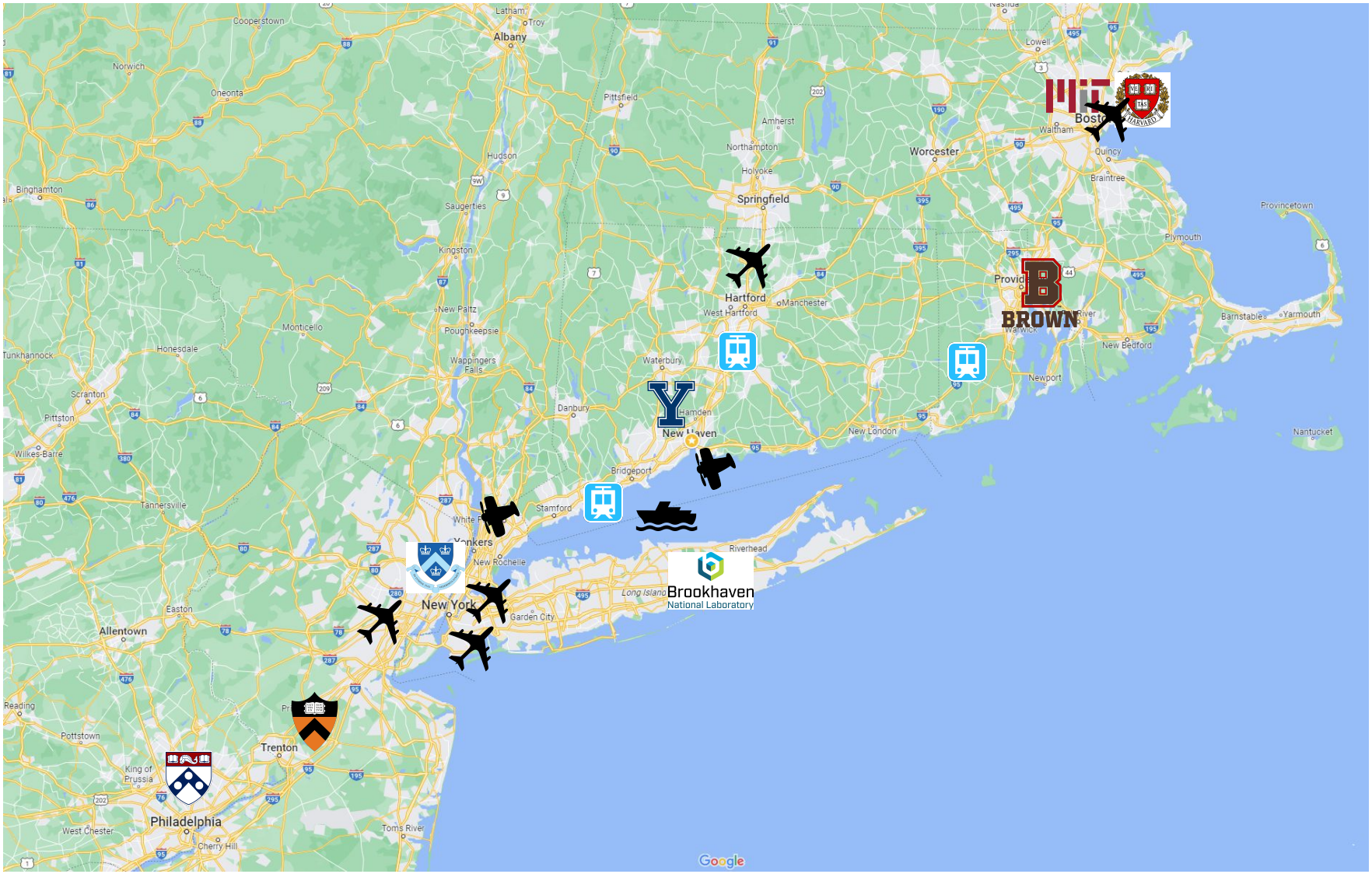
General admission: graduate.admissions@yale.edu

AP admission: alexander.bozzi@yale.edu, yu.he@yale.edu

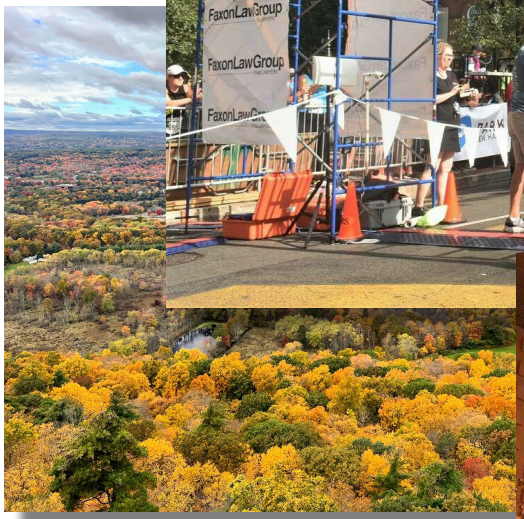
Research opening: email individual faculty member (**important!**)

If you don't hear back from our faculty members, our apologies - a second email reminder always helps!

About New Haven, CT




:59:13
The City of New Haven
FaxonLawGroup
TRIAL LAWYERS
TOWN FAIR TIRE
avelo
AIRLINES




Contact Info

Peter Rakich
Director of Graduate Studies

Vidvuds Ozolins
Chair

Yu He
Director of Graduate Admissions,
Applied Physics

Alexander Bozzi
Graduate Program Registrar,
Applied Physics

Yale University

END

Yale University