With strong support from SUNY and the State of New York and an unwavering leadership commitment to ever higher levels of excellence, Stony Brook is on the move. The College of Engineering and Applied Sciences has seized the opportunity created by new faculty resources to enhance its core strengths and to move boldly in new directions. College leaders in every area have set their sights high and made strategic investments to attract, retain and enhance the best. I am proud to salute the vision that inspired these choices and to welcome the new colleagues who will help to fulfill it.

Dennis Assanis
Provost, College of Engineering and Applied Sciences
This College aspires to reach the first tier of the nation’s engineering institutions, an axis of innovation recognized for leadership in research and scholarship, education and outreach. Our consistently high research performance and our dramatic growth in enrollment — as student quality continues to rise — demonstrate our progress toward that ambitious goal. I am proud to welcome 31 new faculty members to join us and our University on the path toward greatness.

Yacov Shamash
Dean, College of Engineering and Applied Science

Leman Akoglu
Dennis Assanis
Jing Chen
Shikui Chen
Rezaul Chowdhury
Carlos Colosqui
Evangelos Coutsias
Michael Ferdman
Sergio Focardi
Molly Gentleman
Ryan Kent Giles

Phillipa Gill
Anshul Ghandi
Robert Harrison
Xue Liu
Long Lu
Tae Jin Kim
Sotirios Manalis
Thomas MacCarthy
Juhyuk Moon
Peter Milder
Vyas Sekar

Esther Takeuchi
Allen Tannenbaum
Rina Tannenbaum
Jason Trelewicz
Paul Vaska
Harold Walker
Lifeng Wang
Ya Wang
David Westerfeld
Song Wu
EVANGELOS COUTSIAS
Professor, Applied Mathematics and Statistics
PhD, Caltech, 1979

Research Interests
Modeling of nonlinear systems and continua.
Bifurcation phenomena in plasma physics, biology, fluid mechanics.
High accuracy numerical spectral methods.
Robust numerical methods for systems of multivariate polynomials.
Kinematic geometry of protein backbones.

Selected Publications

Grants
SERGIO FOCARDI
Visiting Professor, Applied Mathematics and Statistics
College of Business
PhD, University of Karlsruhe, 2009

Research Interests
Study of factor models of equity prices.
Explaining and predicting market trends, trend reversals.
Market crashes, economic models with multiple inflation rates.
Financial economics with artificial markets.
Economics as a complex system with multiple interacting agents.

Selected Publications
Dr. Focardi has co-authored numerous papers that appeared in major journals and has co-authored ten books published by Wiley and three CFA Institute monographs:
He is a co-worker on a CFA Institute project aimed at understanding the changes needed in the teaching of finance at universities and business schools following the recent financial crisis.

Awards and Honors
• Editorial Board of the Journal of Portfolio Management.

Contact:
sergio.focardi@stonybrook.edu
(631) 632-5482
ROBERT J. HARRISON
Professor, Applied Mathematics and Statistics
PhD, University of Cambridge, 1984

Research Interests
Electronic structure of molecules and solids.
Computational and relativistic chemistry.
High performance and high-productivity computing.
Parallel algorithms and parallel programming.
Computational science and numerical methods.

Selected Publications

Grants
• NSF 2007-2013. “National Institute for Computational Sciences, Kraken”
• NSF 2010-2012. “Desktop to Petaflop”
• NSF 2011-2114. “Blue Waters”
• DOE 2012-2014. “Language and Runtime Support for Effective Exascale Execution”

Awards and Honors
• R&D Magazine, R&D 100, 2011 for MADNESS.
• Gordon Bell finalist, 2009 ACM/IEEE Conference on Supercomputing.
• IEEE Sydney Fernbach Award, 2002.
• R&D Magazine, R&D100, 1999 for NWChem.
THOMAS MACCARTHY
Assistant Professor, Applied Mathematics and Statistics
PhD, University College London, 2001

Research Interests
Computational immunology.
Evolutionary systems biology.

Selected Publications

Awards and Honors
• Outstanding Postdoctoral Research Scholar
Albert Einstein College of Medicine.

Contact:
thomas.maccarthy@stonybrook.edu
(631) 632-1739
SONG WU
Assistant Professor, Applied Mathematics and Statistics
PhD, University of Florida, 2008

Research Interests
Statistical genetics: QTL mapping, linkage mapping, LD mapping
Statistical genomics: microarray, SNP array, MicroRNA array.
Quantitative and population genetics.
Next-gen data analysis: WG-seq, RNA-seq, ChIP-seq.
Gene network; pathway analysis.
Longitudinal data analysis and functional data analysis.

Selected Publications

Grants

Contact:
song.wu@stonybrook.edu
(631) 632-8872
PAUL VASKA
Professor, Biomedical Engineering
Scientist, Brookhaven National Laboratory
PhD, Stony Brook University, 1997

Research Interests
Development of novel technologies for medical imaging.
Detectors and systems for Positron Emission Tomography (PET).
Approaches for combining PET, MRI, and other imaging modalities.
Brain imaging in clinical and preclinical research.

Selected Publications

Awards and Honors
• EEE Outstanding Young Engineer Award, Long Island Section.
• Presidential Early Career Award for Scientists and Engineers.
• Concorde Microsystems Novel Application of the Year for R4/P4 microPET Scanner.

Contact:
paul.vaska@stonybrook.edu
(631) 632-8337
LEMAN AKOGLU
Assistant Professor, Computer Science
PhD, Carnegie Mellon University, 2012

Research Interests
Large-scale graph mining.
Anomaly, event, and fraud detection.
Applied machine learning.
Social and information media analysis.
Recommender systems.

Selected Publications

Awards and Honors
• IBM First Patent Application Invention Achievement Award.
• Facebook Grace Hopper Scholarship.
• Google ECML/PKDD Grant.

Contact:
leman@cs.stonybrook.edu
(631) 632-9801
JING CHEN
Assistant Professor, Computer Science
PhD, MIT, 2012

Research Interests
Theory of computation.
Computational game theory.
Mechanism design.
Auctions.

Selected Publications

Contact:
ingchen@cs.stonybrook.edu
(631) 632-1827
REZAUL ALAM CHOWDHURY
Assistant Professor, Computer Science
PhD, The University of Texas at Austin, 2007

Research Interests
Design and analysis of algorithms.
Data structures for combinatorial problems.
Algorithms for multicore processors (CPU & GPU).
Graph algorithms.
Computational biology & bioinformatics.
Experimental algorithmics.

Selected Publications

Grants

Awards and Honors
• Best Paper Award (Algorithms Track). 24th IEEE International Parallel and Distributed Processing Symposium. 2010.
MICHAEL FERDMAN
Assistant Professor, Computer Science
PhD, Carnegie Mellon University, 2012

Research Interests
Computer architecture.
Efficient server systems.
Application software and operating systems.
Networks.

Selected Publications

Awards and Honors
• Best Paper Award at the 17th International Conference on Architectural Support for Programming Languages and Operating Systems.

Contact:
mferdman@cs.stonybrook.edu
(631) 632-8449
PHILLIPA GILL
Assistant Professor, Computer Science
PhD, University of Toronto, 2012

Research Interests
Computer networking and network measurement.
Network security and performance.

Selected Publications

Awards and Honors
• Best Presentation Award, IBM Workshop for Frontiers of Cloud Computing 2011.
• Anita Borg Finalist, Google 2009.

Contact:
phillipa@cs.stonybrook.edu
(631) 632-8447
Anshul Ghandi
Assistant Professor, Computer Science
PhD, Carnegie Mellon University, 2013

Research Interests
Performance modeling for data center power management.
Analytical performance modeling.
Probability and computing.
Dynamic power management solutions.

Selected Publications

Awards and Honors
• CMU VMware Fellowship nomination. 2013,
• IGCC Best Paper Award. 2011.
• USENIX. 2012.
• IBM Fellowship nomination. 2011.
• IFIP travel grants. 2010.
XUE (STEVE) LIU
Assistant Professor, Computer Science
PhD, University of Illinois at Urbana-Champaign, 2013

Research Interests
Green computing and co-design of green IT with smart energy.
Power aware computing.
Real-time and embedded systems.

Selected Publications

Awards and Honors
• Tomlinson Scientist Award, McGill University. 2012.
• Samuel R. Thompson Professorship, University of Nebraska Lincoln. 2010-2014.

Contact:
xueliu@cs.stonybrook.edu
(631) 632-8470
LONG LU
Assistant Professor, Computer Science
PhD, Georgia Institute of Technology, 2013

Research Interests
Computer security and its intersection with operating systems.
Software engineering.
Programming languages.

Selected Publications

Awards and Honors
• Google Research Fellowship Nomination, 2012
• AT&T Best Applied Security Paper Award Finalist, 2011
• Microsoft Trustworthy Computing Fellowship, 2008

Patents
• US#20120030760. “Method and Apparatus for Combating Web-Based Surreptitious Binary Installations Scareware Detection.”

Contact:
long@cs.stonybrook.edu
(631) 632-8426
Vyas Sekar
Assistant Professor, Computer Science
PhD, Carnegie Mellon University, 2010

Research Interests
Networking, systems, and security.
Innovative in-network services.
Content distribution mechanisms.

Selected Publications

Grants
• Intel Corporation Gift. “Infrastructure and Architecture for a Software-Defined Internet.”

Awards and Honors
• Best paper award at ACM SIGCOMM. 2012.
• Invited paper to CACM Research Highlights.
• Best paper award (systems track) at ACM Multimedia. 2009.

Contact:
vyas@cs.stonybrook.edu
(631) 632-8460
Allen Tannenbaum
Professor, Computer Science and Applied Mathematics & Statistics
PhD, Harvard University, 1976

Research Interests
Computational computer vision, image processing, medical imaging.
Computer graphics, control, and mathematical systems theory.
Control of semiconductor fabrication processes, robotics, operator theory.
Functional analysis, algebraic geometry, differential geometry.
Invariant theory, and partial differential equations.

Selected Publications

Grants
• NIH 2009-2014 ‘Neuroanalysis Center’
• NIH 2010-2014 ‘National Computational Biology Center’
• AFOSR ‘Optimal mass transport for problems in control and signal processing’
• STTR/ONR ‘Image Feature Extraction for Improved WE Classification’

Awards and Honors
• Phi beta kappa, Kennedy Research Prize (Weizmann Institute).
• NSF Research Initiation, IEEE Fellow
PETER A. MOLDER
Assistant Professor, Electrical and Computer Engineering
PhD, Carnegie Mellon University, 2010

Research Interests
Domain-specific languages.
Hardware for digital signal processing.
Communication systems, and computer vision.
Design for field-programmable gate array (FPGA).
Application-specific integrated circuit (ASIC).

Selected Publications

Patents
DAVID WESTERFELD
Assistant Professor, Electrical and Computer Engineering
PhD, Stony Brook University, 2005

Research Interests
Semiconductor light sources.
Mid-infrared lasers, LEDs, and LED arrays.
GaSb material systems.

Selected Publications

Grants

Awards and Honors

Contact:
davidwesterfeld@yahoo.com
(631) 632-1358
MOLLY M. GENTLEMAN

Assistant Professor, Materials Science and Engineering
PhD, University of California Santa Barbara, 2006

Research Interests
Structure-property relationships for inorganic materials.
Oxide based ceramics.
Ceramic coatings.
Tetragonal ceramics.
Wettability and adhesion of fluids on ceramic surfaces.

Selected Publications

Grants
• DARPA. “High Carrier Density, Fast Switching Microscale Plasma Devices Enabled by Exploitation of Plasma Instabilities.”
• Texas Space Grant Consortium Young Investigator Grant. “Design of High Temperature, High Toughness Ceramics for Hypersonic Flight Engines.”

Contact:
molly.gentlem an@stonybrook.edu
(631) 632-8484
ESTHER S. TAKEUCHI
Distinguished Professor,
Materials Science and Engineering and Chemistry
PhD, Ohio State University, 1981

Research Interests
Energy storage including development of new active materials.
New electrode structures and electrolyte systems.
Faradaic and non-faradaic mechanisms.
Battery systems with life limiting processes.

Selected Publications

Awards and Honors
• Fellow Electrochemical Society. 2012.
• National Inventors Hall of Fame. 2011.
• Distinguished Professor. 2010.
• National Medal of Technology and Innovation. 2007.

Grants
• DOE 2009-2013. “SISGR: Bimetallic electrochemical displacement materials yielding high energy, high power, improved reversibility.”
• NIH 2008-2012. “Improved Batteries for implantable cardiac defibrillators.”

Patents
• More than 140 US patents have been issued.

Contact:
esther.takeuchi@stonybrook.edu
(631) 216-7414
RINA TANNENBAUM
Professor, Chemical and Molecular Engineering
Materials Science and Engineering
DSc, ETH-Zürich (Swiss Federal Institute of Technology), 1982

Research Interests
Soft condensed matter and complex fluids.
Bio-based functional materials.
Nanocomposites from renewable resources.
Biomaterials for bone implants and tissue engineering,
bioadhesion and cell biomechanics.
Bio-nanostructures and hierarchical nanoplatforms for
targeted drug delivery, self-assembly of nanostructures.

Selected Publications

Awards and Honors
• Best Paper Award, SAIC paper competition. 2007, 2010 and 2012.
• Distinguished Lecture Series and the WISE 10th Anniversary Speaker, USC. 2009.
• Keynote Speaker and Best Paper Presentation Award, the 2nd International Conference on Advanced Nano-Materials. 2008.
• Plenary Speaker, Cancer Nanotech Conference, Paris, France. 2007.
• The Kunin-Lunenfeld Foundation Award. 1991.
• The Henry Gutwirth Prize for Advancement of Scientific Research. 1990.

Grants
• NIH 2010-2015. “Mechanism of Cell-Surface Interactions.”

Contact:
irena.tannenbaum@stonybrook.edu
(631) 632-4392
JASON R. TRELEWICZ
Assistant Professor, Materials Science and Engineering
PhD, Massachusetts Institute of Technology, 2008

Research Interests
Nanostructured and amorphous alloys.
Thermodynamic nanostructure stability.
Novel multifunctional nanocomposites.

Selected Publications

Grants

Awards and Honors
• SUNY Chancellors Award for Student Excellence. 2004.
• NSF Graduate Fellowship Honorable Mention. 2004.
• Barry M. Goldwater National Scholarship. 2002.

Contact:
jason.trelewicz@stonybrook.edu
(631) 632-1940
Taejin Kim
Assistant Professor, Chemical and Molecular Engineering
Materials Science and Engineering
PhD, Lehigh University, 2007

Research Interests
Fossil fuels and renewable energy sources.
New oil sources of liquid transportation fuels.
Renewable biomass-derived carbohydrates.
Density functional theory calculations.

Selected Publications

Grants
• SBU start-up research funding.

Patent
CARLOS COLOSQUI
Assistant Professor, Mechanical Engineering
PhD, Boston University, 2008

Research Interests
Microscale transport phenomena.
Statistical physics.
Theoretical and computational fluid dynamics.
Colloidal systems, and complex fluids.

Selected Publications

Awards and Honors
• Outstanding Teaching Fellow Award, School of Engineering Boston University, 2008.
• Outstanding Teaching Fellow Award, School of Engineering Boston University, 2007.

Contact:
carlos.colosqui@stonybrook.edu
(631) 632-4758
SHIKUI CHEN
Assistant Professor, Mechanical Engineering
PhD, Northwestern University, 2010
PhD, Chinese University of Hong Kong, 2006

Research Interests
Structural design with shape and topology optimization.
Multiphysics modeling and design optimization of metamaterial.
Nonlinear finite element simulation and sensitivity analysis.
Robust and reliability-based design.
Computational design of compliant mechanisms
Energy harvesters.

Selected Publications

Awards and Honors

Contact:
shikui.chen@stonybrook.edu
(631) 632-8492
SOTIRIOS MAMALIS
Assistant Professor, Mechanical Engineering
PhD, University of Michigan, 2012

Research Interests
Power generation and propulsion systems.
Internal combustion engines.
Modeling of combustion processes.
Alternative fuels.
Automotive systems design.

Selected Publications

Contact:
sotirios.mamalis@stonybrook.edu
(631) 632-8077
LIFENG WANG
Assistant Professor, Mechanical Engineering
PhD, Tsinghua University, 2006

Research Interests
Materials modeling, computational mechanics.
Micro- and nano-mechanics.
Materials testing and characterization.
Rapid prototyping and 3D printing.
Meta-materials and composites.

Selected Publications

Awards and Honors
• Natural Science Award (first class), Ministry of Education of China. 2009.
• National Excellent Doctoral Dissertation Award of P.R. China. 2008.

Patents

Contact:
lifeng.wang@stonybrook.edu
(631) 632-1182
**Ya Wang**

Assistant Professor, Mechanical Engineering  
PhD, Virginia Polytechnic Institute and State University, 2012

**Research Interests**  
Energy harvesting using smart materials.  
Structure dynamics and vibration control.  
Wireless sensors.  
Multifunctional vascular composites with constraints.

**Selected Publications**


**Awards and Honors**

- ASME Student Best Hardware Competition Award in the 2012 ASME conference on Smart Materials, Adaptive Structures and Intelligent System. 2012.

**Contact:**  
ya.wang@stonybrook.edu  
(631) 632-8310
HAROLD WALKER
Professor and Director of Civil Engineering Program
Mechanical Engineering
PhD, University of California, Irvine, 1996

Research Interests
Water and wastewater treatment.
Fate and transport of emerging contaminants.
Membrane technology.
Water-energy nexus.
Harmful algal blooms.

Selected Publications

Grants
• Ohio Water Development Authority. 2012-2013. “Vulnerability of Drinking Water Treatment Plants to Cyanotoxins.”
• Ohio Sea Grant. 2011-2013. “The Role of Sediment in Controlling the Fate and Toxicity of Microcystin.”

Awards and Honors
• Registered Professor Engineer, State of Ohio (E-64515).

Patents

Contact:
harold.walker@stonybrook.edu
(631) 632-8315
RYAN KENT GILES
Assistant Professor, Civil Engineering Program
Mechanical Engineering
PhD, University of Illinois at Urbana-Champaign, 2013

Research Interests
Structural health monitoring systems.
Sensor technology development (wireless, fiber optics, electromagnetic).
Structural dynamics & control.
Sustainable infrastructure.
Historic materials & structural systems.
Adaptive reuse & historic preservation of historic city centers.

Selected Publications

Awards and Honors
• NSF Graduate Research Fellowship 2006-2009.
• Structural Engineering Instructional Fellowship, University of Illinois at Urbana-Champaign, 2011.
• NSF International Research and Education in Engineering Grantee, 2007
JUHYUK MOON
Assistant Professor, Civil Engineering Program
Mechanical Engineering
PhD, University of California at Berkeley, 2013

Research Interests
Sustainable structural materials.
Synchrotron based multiscale experiments.
Multiscale simulations of construction materials.

Selected Publications

Awards and Honors
• Carlson-Polivka Fellowship, CEE Dept. UC Berkeley. 2012.
• Honors Award, Alumni Association of Architecture Dept. Seoul National University. 2008.

Contact:
juhyuk.moon@stonybrook.edu
(631) 632.8718
SBU welcomed a strong inaugural class of 26 freshman to the new Civil Engineering (CE) Program with Dr. Harold Walker as Program Director. The new CE Program also plans to offer MS and PhD degrees and will submit proposals for graduate degrees by the end of the academic year. The program will be recruiting a number of new faculty over the next several years in the major areas of Civil Engineering, including structures, geotechnical, transportation, and water resources and environmental.
Our Engineering programs are accredited by the Engineering Accreditation Commission of ABET, our Computer Science program is accredited by the Computing Accreditation Commission of ABET.

Applied Mathematics and Statistics
BS, MS, PhD in Applied Mathematics and Statistics
AGC in Operations Research
www.ams.stonybrook.edu

Biomedical Engineering
BE, MS, PhD, AGC in Biomedical Engineering
www.bme.stonybrook.edu

Computer Science
BS, MS, PhD in Computer Science
BS, MS in Information Systems
www.cs.stonybrook.edu

Electrical and Computer Engineering
BE, MS, PhD in Electrical Engineering
BE, MS, PhD in Computer Engineering
www.ece.stonybrook.edu

Materials Science and Engineering
BE in Engineering Science
BE in Chemical and Molecular Engineering
MS, PhD in Materials Science and Engineering
Industrial Cooperative PhD Program
www.matscieng.sunysb.edu

Mechanical Engineering
BE, MS, PhD in Mechanical Engineering
BE in Civil Engineering
AGC in Computer-Integrated Engineering
me.eng.stonybrook.edu

Technology and Society
BS, MS in Technological Systems Management
PhD in Technology, Policy, and Innovation (TPI)
AGC in Educational Computing
www.stonybrook.edu/est

Multidisciplinary Programs
MS in Optoelectromechanical Systems Engineering (OEMS)
MS in Systems Engineering

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