

# New faces on campus

By Will Clark

Change.

Much like the chrysalis and the butterfly, every autumn, and every new school year at KAUST, brings with it change. From students to staff, new friends and new neighbors, the anticipation of this change creates a fresh energy, and each year is defined by the contributions of each individual.

This fall, KAUST welcomes five remarkable new faculty members. From different parts of the world and from differing backgrounds, they come to KAUST to contribute to its vision – to share in their knowledge and their experiences, to enlighten, and to be a catalyst for this change.

## Carlo Liberale

Dr. Carlo Liberale joins KAUST as an assistant professor in Bioscience in the Biological and Environmental Sciences and Engineering Division. He previously worked as the team leader at the Italian Institute of Technology (IIT) in Genova, Italy. His main research interests have been devoted to nonlinear optics and biophotonics.

Well rounded in both research and teaching, Liberale has instructed at the IIT, the University of Magna Graecia of Catanzaro, the University of Pavia, and the International Centre for Science and High Technology. His education was completed at the University of Pavia, where he received his Ph.D. in Computer Science and Electronic Engineering.

## Daniele Daffonchio

Dr. Daniele Daffonchio has spent twenty years teaching microbial ecology and biotechnology for agriculture and environmental protection. In that time, he has imparted his extensive knowledge on countless bachelor, master and doctoral students. Coming from the University of Milan in Italy, he joins KAUST as professor of Bioscience with the department of Biological and Environmental Sciences and Engineering (BESE).

With more than 150 papers published in peer-reviewed scientific journals and major multidisciplinary journals, Dr. Daffonchio brings a wealth of research-driven knowledge to KAUST. His primary interests are in the microbial ecology of complex ecosystems in conventional and extreme aquatic and terrestrial habitats. His research spans from basic aspects of microbial ecology through the application of synthetic ecology approaches to applied aspects for the environmental protection and sustainability of agriculture.

Dr. Daffonchio enjoys the outdoors, listing biking and hiking as two of his favorite activities. In his downtime, he loves a good novel and listening to jazz music. When asked what attracted him to KAUST, he stated, "KAUST is providing an invaluable set of state-of-the-art facilities as well as excellent financial resources and administrative support—all features essential to accomplish important research results. Besides these important aspects, KAUST attracted a research environment of outstanding quality where cooperative activities are stimulated for producing multidisciplinary investigations."

## Andrea Falqui

Professor of Bioscience, Andrea Falqui, brings outstanding credentials to the division of Biological and Environmental Sciences and Engineering (BESE). Born, raised, and educated through his Ph.D. in Cagliari, Italy, Dr. Falqui spent his last six years in Genoa, where he was a senior scientist and the electron microscopy laboratory director at the Italian Institute of Technology. There, he helped establish the electron microscopy lab of the institute, and was its principal investigator, working with nanostructure imaging studies.

The co-author of more than 120 scientific publications and one book chapter, Dr. Falqui has taught General Physics (classical dynamics and electromagnetism), Mathematics (differential and integral calculus), Physical Chemistry (ideal and real gases theory, thermodynamics, phase transitions, statistical mechanics, principles of quantum physics and chemical kinetics), and Solid State Physical Chemistry (experimental condensed matter physics, crystallography and electron microscopy).

Falqui enjoys playing and listening to both jazz and classical music, reading novels, and is a lifelong black-and-white photographer. He considers himself a "lucky man" to have the opportunity to work at KAUST. "The human climate, the beauty of the location and architecture, the diffused passion for science and discovery, and a sort of shared feeling to be part of a community that works to build something different and exceptional for this country. Since the first time I was here, I found KAUST wonderful and exciting," said Falqui.

## Ying Sun

Dr. Ying Sun comes to KAUST from The Ohio State University, where she was an assistant professor in the Department of Statistics. In 2011, she secured her Ph.D. in statistics from Texas A&M University. Afterward, at the University of Chicago's research network for Statistical Methods for Atmospheric and Oceanic Sciences (STATMOS), she was a postdoctoral researcher. While there, she also worked closely with the Statistical and Applied Mathematical Sciences Institute (SAMSI) in the uncertainty quantification program.

Her impressive background is not limited to research, as she has a reputation for being an excel-



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Andrea Falqui



Ying Sun



Athanasios Tzavaras

lent teacher. Sun has published research papers in many top statistical journals and subject matter journals. She has won multiple awards from the American Statistical Association and the Transportation Research Board National Academies. The Workshop on Environmetrics and the Conference on Resampling Methods and High-dimensional Data have honored her with best poster awards.

Sun joins the Division of Computer, Electrical and Mathematical Sciences and Engineering at KAUST, where she will be an assistant professor of statistics. Her current research interests include spatio-temporal statistics with environmental applications, computational methods for large datasets, uncertainty quantification and visualization, functional data analysis, robust statistics, and statistics of extremes.

## Athanasios Tzavaras

Born in Athens, Greece, Dr. Athanasios Tzavaras received his Diploma in Naval Architecture and Marine Engineering at Athens' National Technical University. He spent the majority of his remaining formative years in the United States. Attending Brown University, Dr. Tzavaras completed both his M.Sc. and Ph.D. in Applied Mathematics. As an assistant professor, then full professor, his work took him to Purdue University, the University of Wisconsin, and the University of Maryland, before he returned to his homeland as professor of the Department of Applied Mathematics at the University of Crete.

Tzavaras joins the Department of Computer, Electrical, Mathematical Sciences and Engineering at KAUST. His research objective is to build a group on partial differential equations and mathematical modeling of materials. "I find very appealing the strong horizontal structures of the organization of KAUST and hope to develop ties with researchers working on material modeling and computation in other divisions," said Tzavaras.

A lover of jazz, ethnic music and cinema, Tzavaras found the offer to join KAUST too good to pass up. Asked why he chose KAUST, he responded, "Because of the growth opportunities, and the challenge of participating in the development of the Applied Mathematics and Computational Science program in a world-class University." ●

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