

Academic Senate  
2018-19

*Distinguished  
Faculty  
Awards*

February 12, 2019

**UCI** University of  
California, Irvine



The University of California, Irvine's mission is to discover and disseminate knowledge through research, teaching and creative expression in acclaimed academic programs. Our system of governance shared between the Board of Regents, the administration, and the faculty Senate guides the development of our campus and the realization of these goals.

# Program

## *Awards Presentation*

**Linda Cohen**

Academic Senate, Chair

**James Steintrager**

Academic Senate, Chair Elect-Secretary

## *Award Recipients*

Distinguished Faculty Award for Mentorship

**Elizabeth Cauffman**

Distinguished Mid-Career Faculty Award for Service

**Alessandra Pantano**

Daniel G. Aldrich, Jr. Distinguished University Service Award

**Richard Chamberlin**

Distinguished Assistant Professor Award for Teaching

**Amanda Holton**

Distinguished Faculty Award for Teaching

**Georg Striedter**

Distinguished Assistant Professor Award for Research

**Di Xu**

Distinguished Mid-Career Faculty Award for Research

**Nicole Mitchell**

Distinguished Faculty Award for Research

**Paolo Sassone-Corsi**

*Presentation*

The Metabolic Language of Biological Time

**Paolo Sassone-Corsi***Closing Remarks***Provost and Executive Vice Chancellor Enrique J. Lavernia***Reception***Committee on Scholarly Honors and Awards  
2017-18****Members**

Olivier Civelli, Chair

Barbara Doshier

Marcello Fiocco

Michael Goodrich

Natalia Komarova

Health Sciences

Social Sciences

Humanities

Information &amp; Computer Sciences

Physical Sciences

**Ex Officio**

Vice Provost Michael Dennin

Vice Chancellor Pramod Khargonekar

Division of Undergraduate Education

Office of Research



## Elizabeth Cauffman

*Professor*

### **Distinguished Faculty Award for Mentorship**

*Department of Psychological Science*

As a Professor in the Department of Psychological Science in the School of Social Ecology, my research and teaching focuses on adolescent development and juvenile justice. Based on this interdisciplinary focus, I also hold courtesy appointments in the Department of Criminology, Law & Society, the School of Education, and the School of Law. Before joining the faculty at UCI in 2004, I received my Ph.D. in Developmental Psychology from Temple University and completed a post-doctoral fellowship at the Center on Adolescence at Stanford University.

Over the course of my career, I have published more than 100 articles, chapters, and books on a range of topics in the study of contemporary adolescence, including adolescent brain development, risk-taking and decision-making, parent-adolescent relationships, and juvenile justice. While I enjoy conducting research, my passion is to translate these findings to guide both practice and policy. For example, findings from my research were incorporated into the American Psychological Association's amicus briefs submitted to the U.S. Supreme Court in *Roper v. Simmons*, which abolished the juvenile death penalty, and in both *Graham v. Florida* and *Miller v. Alabama*, which placed limits on the use of life without parole as a sentence for juveniles. In addition, I was a member of the MacArthur Foundation's Research Network on Adolescent Development and Juvenile Justice, served on the National Academies of Sciences, Engineering, and Medicine's Committee on the Neurobiological and Socio-behavioral Science of Adolescent Development and Its Applications, and currently have the honor of directing the Center for Psychology & Law at UCI (<http://psychlaw.soceco.uci.edu/>).

It has always been my belief that the pursuit of high-quality research agenda and the delivery of exceptional teaching and mentoring experiences need not be mutually exclusive. I believe in immersing students in all stages of the research process, and I am extremely proud of their accomplishments. This enthusiasm for teaching also led me to develop and now direct an online Master's Program in Legal & Forensic Psychology (<https://mlfp.soceco.uci.edu/>). This new program embodies the goals of bridging research with practice by encouraging working professionals to re-engage with science and continue to learn. With the help of

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my colleagues from Psychological Science, Criminology, Law & Society, and the School of Law, all of whom are leaders in their fields, we just graduated our first class in spring of 2018.

Throughout my career, I have worked to ensure that we not only advance the understanding of adolescent development and juvenile justice through rigorous research but that such knowledge is not confined solely to academic journals and conferences. My goal has been to help my students design, conduct, and disseminate research that advances the field and enables practitioners and decision-makers to put such information to practical use. I am honored to support the next generation of scholars by equipping them with the tools to make meaningful, evidence-based change in society's treatment of adolescents.

**Fun Fact:** *I am a licensed soccer coach and have been coaching girls club soccer (for the Pateadores) for 8 years.*



## **Alessandra Pantano**

*Associate Professor of Teaching*

### **Distinguished Mid-Career Faculty Award for Service**

*Department of Mathematics*

I am a dedicated educator, with a passion for pedagogy, outreach and research in mathematics. My mom was a high school teacher and she instilled in me a passion for mathematics that I have carried with me for all these years. After graduating with a BS degree in mathematics from the University of Rome, Tor Vergata, I decided to leave Italy to pursue a PhD in the US. At Princeton and MIT, I studied and performed research in Representation Theory, a branch of Abstract Algebra. Upon graduation, in 2004, I obtained a wonderful job as a HC Wang Assistant Professor at Cornell. Throughout my PhD and my years at Cornell, research was my main job; nonetheless, I developed an exceptionally strong passion for teaching, and in particular for finding novel and creative avenues to communicate complex mathematical concepts to students.

When I moved to UCI as a Lecturer in 2007, and subsequently as an Assistant and Associate Professor of Teaching in the Mathematics Department, my focus clearly shifted from research to education. While it was hard to stop doing research in Representation Theory after all those years, I came to a very powerful realization: the enormous diversity of the student population at UCI, and the neighboring communities, were an incredible platform for my educational goals. I am a strong advocate for diversity and inclusion, and nothing makes me happier professionally than fostering equity and inclusive excellence in mathematics.

For the past decade at UCI, I have worked hard to share my passion for mathematics with a wide range of UCI and K-12 students, and to create a supportive environment where all students can thrive in their pursuit of mathematics. I absolutely enjoy teaching, and I have cherished the many opportunities to mentor undergraduates through teaching, academic advising and supervised research. Improving climate and diversity in the graduate program, and more generally in the department, and fighting to reduce to the underrepresentation of women and minorities in the mathematical sciences, has been an exciting challenge.

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In addition to contributing to the educational mission of the Math Department at UCI, in the past ten years I have had the pleasure of initiating and developing a number of outreach activities for middle and high school students in our community, including a variety of K-12 math competitions and two successful Math Circles for mathematically talented students who are eager to learn interesting mathematics beyond the standard school curriculum. The project I am most proud of is the creation of UCI Math CEO, along with my colleague Li-Sheng Tseng, back in 2014. Math CEO is a unique form of math outreach that features mathematical enrichment sessions and STEM-focused field trips for middle school students from underserved communities, as well as bilingual college-orientation workshops for their parents. Every week, about 175 students are bused to our campus from Santa Ana and San Juan Capistrano, to work on exciting mathematics with a team of caring mentors, comprised of UCI faculty and students that receive weekly training on both math content and pedagogy. The children not only learn math, but acquire familiarity with college and STEM careers.

I enjoy my teaching professor position, because it allows me to make a big impact on students, both here at UCI and in the community, and I am thrilled to be recognized by UCI for my contributions to service.

**Fun fact:** *I have an identical twin sister.*





## **Richard Chamberlin**

*Chair and Professor Emeritus*

### **Daniel G. Aldrich, Jr. Distinguished University Service Award**

*Department of Pharmaceutical Sciences*

*Department of Chemistry*

I have been associated with UC all of my life, literally. I was born at the UCSF hospital in San Francisco, but my family soon moved from the Bay Area to Chico, CA, in the early 1950's. Until college, my first love was sports, which I took a little too seriously; my third grade teacher remarked on my report card that I had I could do much better in class except I was "... a terrible clock-watcher and lives for recess." In high school, though, I had several science great teachers (and another in English) who sparked a new passion, in chemistry, that started me off on the pathway leading ultimately to UCI.

My connection with UC might have been reestablished in college at UC Berkeley, but I went against family tradition and decided on Stanford instead (sorry, dad). One factor in that decision was an opportunity to play for the Stanford baseball team. But within a week of arriving on campus it was clear to me that baseball and chemistry at the college level were both a lot more demanding than I had expected. So I made the sensible decision to focus on chemistry, in which I had a reasonable chance of succeeding professionally, in contrast to baseball.

My first job after my 1971 graduation was as a chemist at SRI International in Menlo Park, CA, working on a project that was part of President Nixon's at-the-time new "war on cancer," which we are still fighting today, almost 50 years later. My job there was analyzing a very large number of naturally occurring molecules that were being tested as anti-cancer agents, and it was during that period that I developed a strong interest in small molecule therapeutics. How did those interesting complex structures isolated largely from plants, algae, and marine invertebrates manage to kill human cancer cells selectively? How did nature make such complex structures, and why? After a brief interlude to marry Kathleen Elliott, I went to UC San Diego to earn a Ph.D. with those questions and others buzzing around in my head. Four years later, I graduated but with aspirations of an academic career. So it was off to Harvard for a two year postdoctoral.

During job interviews in Fall Quarter of 1980, UCI's Chemistry Department immediately stood apart because of the obvious cohesiveness of their outstanding faculty. Being so newly established (only 15 years), it was still in a growth phase, and there was a sense of optimism and determination to build a truly outstanding

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department. I knew that's where I wanted to start my independent career even before I got on the plane back to Cambridge, and fortunately I got the chance. Starting in 1980, I formed a research group of 15 graduate students and postdoctorals investigating some of the basic molecular mechanisms of brain chemistry and cellular signaling. Over the next 35 years, I trained more than 50 graduate students and postdoctorals for careers in the pharmaceutical and biotechnology industries and academia, not to mention teaching Organic Chemistry to thousands of undergrads.

During that time I played a role in building UCI's Organic Chemistry Graduate Program, now rated in the top 10 in the nation, and I found that to be very rewarding. After some experience on Senate Committees (e.g., chair of the Committee on Committees) and as a Chemistry Vice Chair, I was selected to serve as Department Chair, from 1996-2001. I found it to be enormously satisfying to do what I could to lead an already outstanding department to even greater levels of success. After stepping down and reviving my research after five years as chair, I began to miss the job, at least most aspects of it, as well as "the good old days" when the department was much smaller and still building at a furious-but-controlled pace. Then, in 2006, the perfect opportunity presented itself, the chance to help build a new department from scratch. So, I volunteered to become the founding chair of Pharmaceutical Sciences, which had the potential, only now being realized, of being the cornerstone of a new School of Pharmacy and Pharmaceutical Sciences. It's been a fantastic experience, and after only a dozen years PharmSci has more than 600 undergrad majors, a growing PhD program of 40, 18 faculty (after the consolidation with the SoM Pharmacology Dept), and a ranking (Academic Analytics) in the 20 percent or so among 80 peers nationwide. This was truly a group effort that I have merely coordinated, but it has been the most rewarding of my many experiences at UCI.

**Fun Fact:** *One of my ancestors was, appropriately for a professor like me, a founding member of the Phi Beta Kappa chapter at Yale.....most other forebears were less academically inclined, though, and include a bigamist, a saloon keeper in the Wild West, one of the executed Salem witches, an uneducated '49er from New Jersey who became a Nob Hill millionaire, three Puritan Mayflower passengers, and a Chamberlin family with five sons who were denounced by their 18th century Vermont church as being "a rowdy bunch, and not very pious."*



## Amanda Holton

*Associate Professor of Teaching*

### **Distinguished Assistant Professor Award for Teaching**

*Department of Chemistry*

I knew since taking 10th grade chemistry that I was going to be a chemistry major. I loved the subject, loved the problems, loved helping my friends do their homework, and just general-

ly loved the way that the chemistry textbooks and instructors taught me to look at the world. Even though several of my jobs during high school and undergrad consisted of tutoring math and science, I'd never actually considered any form of teaching career before graduate school. In fact, in an extended half-hearted state of teenage rebellion against my educator father, I often claimed I would never be any type of teacher or professor. Then I came to UCI for my Ph.D. work in biophysical chemistry and started working as a teaching assistant. Though I liked my research and working together as a research team to answer new and exciting scientific questions in the field of NMR, I was happiest when working with the freshmen chemistry students. I worked as a teaching assistant throughout graduate school; always asking professors who taught general chemistry if I could teach for them. When a position to become a Lecturer with Security of Employment (LSOE) was announced, I leapt at the chance to make a lifetime career out of helping students enjoy chemistry as much as I do.

Once hired as a LSOE at UCI, I delved into the reasons behind student learning, or lack thereof. Working with collaborators in the School of Education we analyze how students learn during normal lectures, during active learning and in online environments. I look at how subgroups of students learn, and ways to help under-prepared students catch up to their peers. I want to make sure everyone has the opportunity to learn chemistry to the best of their desires and abilities using any medium that fits them and their lifestyle.

I also have a desire for scientific literacy to extend well beyond the completion of particular general chemistry topics. Scientific and statistical literacy are important concepts for all global citizens and I have been exceptionally lucky to be afforded the opportunity to teach these topics to sophomore honors students, sophomore and junior CalTeach students, and to freshmen seminar students. This allows me to share my love of the greater world of science rather than only the more

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limited arena of general chemistry topics and hopefully instill an interest and foster deeper understanding of how the scientific methods, media and scientific literature interact in wider cultural arenas.

I've been incredibly fortunate to have a wide variety of teachers and professors to learn from and model my own teaching after. And I am happy for the continued opportunities to pass on the knowledge and experience that was given to me.

**Fun Fact:** *I like to stretch my love of science into my hobbies. Jiu-jitsu combines the complex biology of injuries and nutrition, with the physics of falling, fluid dynamics and leverage and the chemistry of chemical cleaning agents, caffeine and electrolyte balance.*



## Georg Striedter

*Professor*

**Distinguished Faculty Award for Teaching**

*Department of Neurobiology & Behavior*

I don't have an "e" at the end of my name because I was born in Germany. I came to the US at age 15, going through high school in the Boston area. After college in upstate New

York, I did short stints in Austin and Ann Arbor for graduate school, eventually getting my PhD from UC San Diego. There I met my wife, Anna, who studied Comparative Literature. Together we moved to Pasadena, where Anna gave birth to our son, Ian (who is now studying trombone in Boston). Shortly thereafter, in 1995, I was offered an assistant professorship at UCI, in what was then the Department of Psychobiology and is now "Neurobiology and Behavior."

As a youngster, my main interests were photography and biology, especially the study of animal behavior. I managed to combine those interests, at least somewhat, by becoming a comparative neuroanatomist, since neurons — and brains generally — are photogenic. In my doctoral dissertation, I compared the brains of goldfishes, catfishes, and various electric fishes, relating differences in their neural circuits to evolutionary changes in behavior. As a postdoc, I applied similar techniques to learning how the brains of parrots differ from those of songbirds and other birds. In particular, I wanted to know how those neuronal differences relate to evolutionary changes in behavior, notably the evolution of learned vocalizations. I continued this work as an assistant professor, discovering why parrots imitate sounds — the males do this to impress females — and how their brains process auditory information.

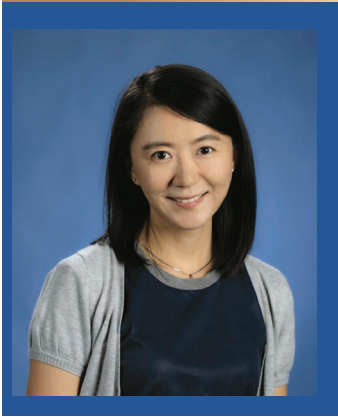
After tenure, I wrote a book entitled *Principles of Brain Evolution* and, in the process, discovered that I enjoy the cognitive work of synthesizing large bodies of research and then making the conclusions accessible to a broad audience. In short, I caught the book-writing bug. This explains why I published a second book, entitled *Neurobiology: A Functional Approach*, in 2015 and just completed a third book, entitled *Brains Through Time: A Natural History of Vertebrates* (co-authored with my former thesis advisor). I am now thinking about how the comparative approach might be useful in biomedical, translational research, where species differences are usually ignored. This new project may be too

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ambitious, and only time will tell where my efforts will lead. I am happy to report, however, that modern biology still has some room for such wide-ranging, perhaps old-fashioned, scholarly research.

It was also at UCI that I discovered my love for teaching. Like book-writing, teaching requires careful thought about the interests and background of your audience; and both activities can have profound impact on “other minds.” My own mind was clearly shaped by some key books (those of Charles Darwin and Stephen Jay Gould come to mind) and a long line of dedicated teachers. One professor at Cornell taught in the pure Socratic method, merely asking questions and refusing to speak if his students were unprepared; this was my introduction to what we now call “active learning.” Another Cornell professor captivated his students with entertaining lectures that involved student volunteers acting out various insect behaviors, homework that included collecting “bugs,” and test questions that truly tested your understanding. Although I learned many great teaching strategies from former instructors, I also pay attention to modern pedagogical research and incorporate some of its findings into my teaching. Still, I feel that great teachers have existed for a very long time (Socrates, for one), and that their dedication and skills are sometimes underappreciated; hence this shout-out to them!

**Fun Fact:** *I love to figure out what's going on in “other minds”, especially animal minds. I currently get to exercise this passion with Samson, our 100 lb Bernese Mountain dog. Samson may not be able to talk, but we communicate extensively, e.g. when we negotiate which paths to take on our morning walks.*



## Di Xu

*Assistant Professor*

### **Distinguished Assistant Professor Award for Research**

*School of Education*

My research agenda uses theories and methodologies in the field of Economics to understand policy relevant issues in higher education, particularly how education resources and policies affect disadvantaged students who have been underrepresented in higher education. During my doctoral studies at Teachers College, Columbia University, and early career as a faculty at UCI, I have led or co-led several projects that provide policy- and practitioner-relevant findings regarding how to improve the academic success of college students, with a special focus on students enrolled at community colleges. A large proportion of community college students are academically underprepared for college-level work, from a lower socioeconomic background, or first-generation students who often face a variety of challenges as they attempt to complete courses and progress toward a degree. My research seeks to achieve a thorough understanding of the obstacles these students face and potential strategies to support them. Through my prior and current work on community colleges, I have built collaborative relationships with several state public higher education systems as research collaborators. These are all interactive relationships in which I work closely with state agencies and colleges to design research and to work on implementing changes and reforms implied by the research. The findings from my research have directly influenced policies regarding distance learning and developmental education in many colleges across these states.

More specifically, my current research addresses the following topics: (i) seeking potential strategies to improve the effectiveness of virtual learning environment at community colleges as well as four-year universities (including UCI); (ii) examining students' educational choices and the returns to different postsecondary pathways and programs; (iii) identifying effective college instructors and instructional practices; (iv) assessing the impacts and effectiveness of various policies and interventions that intend to better support students who are underprepared academically, such as developmental education and cohort programs; (v) finally, I also have an international research agenda, where I partner with researchers and policy makers in several developing countries to address education equity and quality issues, particularly how advancement in technology could be used to enable low-income countries to leapfrog constraints to development.

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My research has been funded by various organizations, including a five-year CAREER grant by the National Science Foundation to explore strategies that can better support online learning at community colleges and the National Academy of Education/Spencer Postdoctoral Fellowship to research the impact of different types of college instructors on students' academic and labor market outcomes. Results of my research have been published in several top-ranked education and policy journals, including the American Educational Research Journal, Child Development, Educational Evaluation and Policy Analysis, Educational Researcher, Economics of Education Review, Journal of Higher Education, Journal of Human Resources, Online Learning, Journal of Research on Educational Effectiveness, PLOS One, and the invitation-only journal New Directions for Community Colleges, among others. In addition to contributions to academic research, results from my research have been widely disseminated to college administrators and policy makers to help inform institutional practice and policy. The findings from my studies have also been widely cited in various news outlets including the New York Times, ABC News, the Chronicle of Higher Education, The Atlantic, Inside Higher Ed, Diverse Issues in Higher Education, and other outlets.

**Fun Fact:** *I am a piano and accordion player.*





## Nicole Mitchell

*Professor*

### **Distinguished Mid-Career Faculty Award for Research**

*Department of Music*

As a faculty member of UC Irvine, my intent in teaching and service is to facilitate creativity, independent thinking, and peaceful coexistence of diversity on campus. The PhD

program in Integrated Composition, Improvisation and Technology (ICIT) encourages diverse and experimental forms of music making. In ICIT, I offer approaches I gained from Chicago's experimental music scene, while pushing them beyond their comfort zones in their creative approaches to composition and improvisation. My teaching in ICIT has included leading jazz and creative music ensembles, teaching composition and improvisation, and mentoring PhD students on the development of their dissertation projects, which combine scholarly research, music composition and performance.

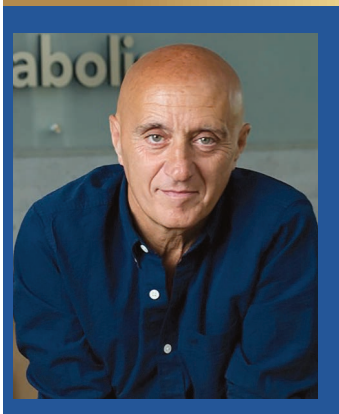
I am in awe of the powerful legacy of contemporary African American culture, its ongoing expression of resistance and resilience, its intriguing dialogue within the African diaspora and its transformational impact on culture throughout the globe. As a creative flutist, composer, poet and educator, I have spent over twenty years developing experimental artistic projects which bridge "the familiar and the unknown," much inspired by my experiences as a member and former president of Chicago's Association for the Advancement of Creative Musicians. My music interacts freely between the realms of jazz, creative music and Western new music, mostly through the creation and performance of music composition for contemporary ensembles that incorporate improvisation and a wide aesthetic expression, ranging from soulful to extremely experimental. In my creative work, teaching and service, I'm compelled to explore subtopics such as diversity, coexistence, inclusivity, Black identity, mystery, and the amplification of women's voices.

For 20 years, my Chicago-based Black Earth Ensemble (BEE) has been my primary compositional laboratory. As a woman-led, gender-balanced, intergenerational and multicultural institution, it has operated flexibly in stylistic approach, instrumentation and size, depending on the project, having hosted over forty members. BEE has made ten recordings, and performed my work at festivals and

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art venues throughout Europe, Canada and the U.S. My recognition as a 2018 recipient of the “Champion of New Music Award” from the American Composers Forum, was a positive response to the output of work with Black Earth Ensemble over the years. My mission as a creative flutist has been to model a new language of improvisation through the use of extended techniques, while informed by jazz, classical and world music traditions of flute playing. I’ve been fortunate to be the recipient of the “Top Jazz Flutist” awards from Jazz Journalists Association and Downbeat Magazine from 2010-2018. Much of my creative work has been inspired by literature and narrative, with a special interest in Afrofuturism. This direction has been informed by the work of award-winning author Octavia Butler’s compelling utilization of science fiction to raise questions on social justice. My first Afrofuturist project, Xenogenesis Suite, commissioned by Chamber Music America, sonified the process of fear informed by Butler’s fictional account of being ripped from one’s community and reality and faced with survival with extraterrestrials. I’m deeply interested in using music as a symbol to model diversity by creating compositional spaces for the meaningful coexistence of contrasting musical identities. This approach was the focus of my Mandorla Awakening project (FPE, 2017), which combined Afrofuturism with intercultural collaboration, chosen by the New York Times as the #1 jazz album of 2017. Bamako\*Chicago Sound System, my most recent intercultural collaboration project, commissioned by the Hyde Park Jazz Festival with support of a MacArthur International Connections grant, featured compositions between myself and Malian kora artist Ballaké Sissoko to merge Chicago experimental jazz with the West African griot tradition and explore Black identity and African diasporic musical dialogue.

**Fun Fact:** *I love rollerskating on the beach.*



## Paolo Sassone-Corsi

*Donald Bren Professor*

### **Distinguished Faculty Award for Research**

*Director, Center for Epigenetics and Metabolism*

*Department of Biological Chemistry*

*School of Medicine*

### **Achievements**

During the past three decades my research has focused on the molecular mechanisms of gene regulation in response to changes in cellular metabolism. These studies reveal that the genome is able to adapt to changes in the environment, thereby pointing to the key role of epigenetics.

I uncovered the specific role of epigenetic control in circadian biology, the process by which all life forms adapt to the 24-hr day-night cycle. I deciphered how metabolic circuits intimately connect to the circadian system, linking epigenetics to environmental stimuli such as light, nutrition and exercise.

More recently I revealed how nutritional challenges reprogram circadian homeostasis, explored the molecular mechanisms that link NAD<sup>+</sup>-energy metabolism to epigenetics, and previously unforeseen pathways of circadian control that connect to nutrition, cancer and aging. These studies provide novel leads towards therapeutic strategies for metabolic disorders.

The high impact of this research is witnessed by the numerous high-profile publications, numerous invitations as plenary speaker at high-profile conferences and by an h-index of 124 (with more than 150 publications cited more than 100 times).

### **Positions and Honors**

Positions: After PhD in Italy and postdoctoral studies in France and at The Salk Institute in La Jolla (1980-1988), I established my research group in France, with the position of Directeur de Recherche (1989-2006). I moved to the University of California, Irvine as Distinguished Professor and Chair of the Department of Pharmacology (2006-2011) and then as Director of the Center for Epigenetics and Metabolism (2011-present) and Donald Bren Professor (2011-present). I am also External Professor of the Max-Planck Institute (Germany).

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Honors (partial list): EMBO Gold Medal (1994); Grand Prix Liliane Bettencourt, France (1997); Grand Prix Charles-Léopold Mayer of the Académie des Sciences, Paris (2003); Edwin B. Astwood Award, Endocrine Society, USA (2004); Ipsen Award in Endocrinology (2011); Transatlantic Medal of The Society of Endocrinology, UK (2012); Fellow of AAAS (2014); August and Marie Krogh Medal, Denmark (2015); Leonardo da Vinci Gold Medal, FMSI Federation, Italy (2016); Albert Hogan Memorial Award Lecture, University of Missouri (2017); UCI Distinguished Faculty Award for Research (2018).

**Fun Fact:** *I started being fascinated by science very early. My parents gave me and my brother a small telescope, I was 10 years old. The first object we checked, by total serendipity, was Saturn. Looking at the planet with rings was such an emotional moment that triggered my love for science.*

## **Presentation: The Metabolic Language of Biological Time**

Each morning we wake up from a night of sleep, and each day we eat our regularly timed meals, go through our normal routines, and fall asleep again for another night. This rhythm, so called circadian - after the Latin words circa diem ("about a day") - underlies a wide variety of physiological functions, including sleep-wake cycles, body temperature, hormone secretion, locomotor activity, and feeding behavior. Circadian rhythms are omnipresent in all life forms since based on the most ancient feature of our environment: the astronomical rotation of Earth on its axis and the rhythmic repetition of days and nights. These rhythms are driven by biological clocks, complex molecular machineries that control a staggering number of genes and thereby govern a large array of cellular and metabolic functions. The discovery that all tissues and virtually all cells contain intrinsic clocks revolutionized the field, providing a conceptual framework towards the understanding of organismal homeostasis and physiological tissue-to-tissue communications. An intimate link exist between circadian clocks, metabolism and epigenetics - so that disruption of normal rhythms can lead to a number of pathologies, including accelerated aging, metabolic disorders, depression and anxiety, diabetes and cancer.



