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Modern Cooking Evolution and Its Pioneers and Practitioners

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After studying this chapter you should be able to:

- Name the key people, events, and dates leading up to the first workshop on molecular gastronomy
- Explain the study of molecular gastronomy as a science
- Identify pioneer chefs and practitioners, and their contributions to modern cooking applications



Molecular gastronomy is defined as the application of science to culinary practice. It includes using new tools, ingredients, and methods, and many consider it a gastronomical phenomenon. This style of cooking is also known as avant-garde cuisine, deconstructed cuisine, experimental cuisine, techno cuisine, modern cuisine, progressive cuisine, and molecular cuisine; however, *molecular gastronomy* is the term most commonly used by chefs and professionals.

MODERN HISTORY OF MOLECULAR GASTRONOMY

The term *molecular gastronomy* originally referred to the scientific investigation of cooking; however, the term was adopted by a number of people who applied it to cooking, and now it describes a particular style of cuisine. In 1969, Nicholas Kurti, a Hungarian-born physicist who presented "The Physicist in the Kitchen" to the Royal Society in Oxford, England, first contributed to the establishment of this field. Subsequently, Hervé This, a French chemist affiliated with the Institute National de la Recherche Agronomique (INRA), joined Kurti's study and named their research "Molecular and Physical Gastronomy," which eventually became known as "Molecular Gastronomy" after Kurti's death in 1998. In the late 1990s and early 2000s, the term "molecular gastronomy" began to be used to describe a new style of cooking.

In 1992, Kurti organized the International Workshop on Molecular and Physical Gastronomy (previously known as Science and Gastronomy) at the Ettore Majorana Foundation and Centre for Scientific Culture in Erice, Italy, and invited chefs and scientists from

around the world to participate. Yet, according to science writer Harold McGee's blog "Curious Cook," he states that this workshop has another version of its start and its origin is credited to Elizabeth Cawdry Thomas, who ran a cooking school in Berkeley, California. Thomas and Professor Ugo Valdrè of the University of Bologna agreed that the science of cooking was an unrecognized subject and decided to organize a workshop in the late 1980s. Thomas and Valdrè approached Nicholas Kurti to be the director of the workshop, with Hervé This and Harold McGee as coorganizers. Regardless of who initiated the movement, this workshop was a significant step for molecular gastronomy by opening doors for chefs to become more aware of the science behind cooking.

Hervé This continued the research and began focusing on the culinary transformations and sensory phenomena associations of molecular gastronomy. A select number of chefs began to explore new possibilities in the kitchen by embracing science; research; technological advances in equipment (including the use of sous vide, centrifuge, rotary evaporators, etc.); and various cooking methods to enhance flavor, texture, aroma, and appearance of food.

The success of this molecular gastronomy workshop has continued; between 1992 and 2004 six additional workshops took place. Participants, primarily scientists and renowned chefs, examined the science behind the practices carried out in the kitchen, including discussing the role of emulsions and the effects of cooking methods on food quality and food flavor. Harold McGee, who stepped down after the initial workshop, subsequently became involved again and wrote detailed accounts about the "Erice" workshops and the types of people who attended. According to McGee's records, of the 30 to 40 individuals who participated in each workshop, the majority of them were scientists and only 1 out of 5 were professional cooks.

Defining Molecular Gastronomy

Beyond the act of cooking, the application of scientific knowledge has become identified as molecular gastronomy

But it is also important not to confuse molecular gastronomy with cooking. Although cooking is considered a craft by some, it is the ideas and thoughts that transform and elevate basic cooking or food to an art form.

The culinary arts are defined as the skill of preparing and/or cooking foods. Knowledge of the science behind foods and an understanding of diet and nutrition are also truly beneficial in becoming a successful chef.

Cooking is simply the process of preparing food by applying heat in some instances. This is done using a wide range of tools, methods, and techniques (many of which have been known and used for hundreds of years). Cooking methods include baking, roasting, sautéing, stewing, frying, grilling, barbecuing, smoking, boiling, steaming, braising, and microwaving. During the process of cooking, the flavors, textures, appearances, and chemical properties of the ingredients are greatly altered.

Molecular gastronomy focuses on these physical and chemical changes that occur while cooking (e.g., the effect when creating an emulsion for a mayonnaise or the effects of searing the surface of a steak, thereby causing a Maillard reaction). Furthermore, it incorporates the transformations of food ingredients and the sensory phenomena associated with eating. This includes how new cooking methods may produce improved results in texture and flavor.

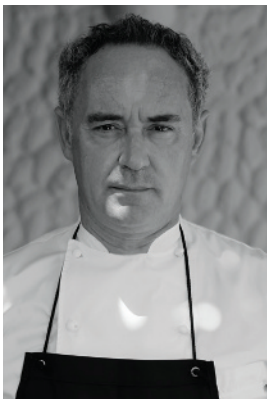
Molecular gastronomy is considered a new science and a subdiscipline of the food sciences. The ultimate goal of this study is to combine scientific understandings and knowledge of physical properties in the exploration of cooking. Food science is generally categorized as one of the life sciences; it is the study of all science-related aspects of food (This includes the cooking process and the consumption of the food item. While these two disciplines may overlap somewhat, they are considered to be separate areas of food science.)

One of the important principles of molecular gastronomy is to respect the ingredients and to present the food in its purest form, while finding ample grounds to modify classic recipes and apply different techniques. Among these explorations is the utilization of various gums (food hydrocolloids) to replace fats and oils, resulting in particular textures. One goal is to use various new food hydrocolloids to enhance the product's richness and preserve its nutritional value by exploring the physical and chemical reactions that occur during cooking.

It is often incorrectly believed that the term "gastronomy" refers exclusively to the art of cooking; in actuality it studies the relationship between the senses and the food. In other words, it views and treats enjoyment at the table as a specific form of science. This area of study was further verified as a significant area of science when in 2004, the founders of the Slow Food movement established the University of Gastronomic Sciences in Bra, Italy, devoted to the principles of gastronomy.

The work of the pioneers of this movement has evolved over the last two decades; chefs of the new generation are advancing molecular gastronomy by establishing their own styles while influencing each other. The prominence of molecular gastronomy is increasing; it has established its position in the contemporary culinary world. Yet those in molecular gastronomy aim not to replace the conventional way of cooking but rather to elevate it to a higher level. Molecular gastronomy simply is a progressive and evolutionary journey of cuisine. Like the imagination, its possibilities and potentials are infinite.

1962 to Present: Ferran Adrià



Ferran Adrià
Courtesy of El Bulli

Often called the Salvador Dalí or the Pablo Picasso of cuisine, Ferran Adrià changed the face of gastronomy through innovations such as deconstruction. Adrià is best known for extraordinary techniques such as spherifications, which are flavored liquids captured in small spheres (e.g., melon caviar), and culinary foams, now used by chefs around the world. His restaurant, El Bulli (which closed in July of 2011), was only open for a limited number of months during the year because Adrià and his chefs experimented with foods and techniques for the rest of the year. In 1997, El Bulli received its third Michelin star, and it was named Best Restaurant in the World by *Restaurant Magazine* for a record four consecutive years from 2006 to 2009. Adrià shocked the world of high cuisine by closing El Bulli. He then announced the creation of a research foundation called the elBulli Foundation that will serve for further exploration in food techniques. The foundation is tentatively set to open in 2015 in Roses, Spain.

Adrià had the same humble beginnings as most dedicated chefs. He started his career as a dishwasher in a French restaurant in Castelldefels, Spain, where he picked up classic cooking skills from the head chef. These skills carried him through various jobs in other small restaurants, as well as his service in the military.

Adrià's career was never the same after attending a conference in Nice in 1987 during which Chef Jacques Maximin defined creativity as "not to copy." Those three words ignited his passion for change, and for more than 20 years Adrià has spent countless hours manipulating ingredients and experimenting with new techniques and unconventional cooking styles. His creations are designed to surprise and enchant his guests, but taste is always the ultimate goal. This marked the beginning of a collaboration of chef and scientist; Adrià spends six months of the year with scientists and designers perfecting recipes in his Barcelona workshop El Taller.

Both Adrià and his restaurant are recognized for their research in the realm of molecular gastronomy—a term that Adrià has renounced. He believes there is nothing molecular about his practice and prefers to use the term "techno-emotional" cuisine, which includes his studies on the microproperties of specific foods, spices, and ingredients that have led to the development of unique recipes. Harvard's School of Engineering and Applied Sciences agreed to provide El Bulli with scientific and technical knowledge about the configuration of foods, textures, and structures. Adrià was also the first chef to be invited to participate in the 2008 German contemporary art exhibition *Documenta*, which is comparable to the Olympic games of the art world as only the most talented and world renowned artists can exhibit there.

He has been traveling across the world, and took part in the G9 World Summit of Gastronomy in Tokyo in 2009 and 2012. Adrià remains an inventor of eccentric and description-defying food that has influenced chefs and has changed dining experiences and the way many eat and think about food.

1966 to Present: Heston Marc Blumenthal



Heston Marc Blumenthal
Photo by Alisa Connan

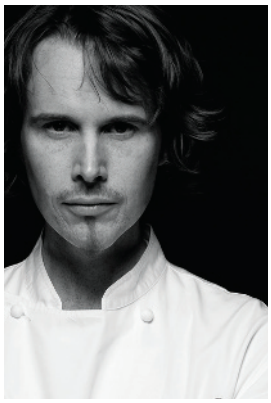
Chef Heston Marc Blumenthal has been described as a culinary practitioner for his innovative style of cooking. Blumenthal's style marries French haute cuisine with experimentations born of boundless curiosity about gastronomic techniques. His combinations are legendary—dishes such as bacon-and-egg ice cream, snail porridge, and triple-cooked chips. His world-renowned, three-Michelin-star restaurant, The Fat Duck, in Berkshire, England, was ranked first in 2005 by *Restaurant Magazine* and ranked second in 2006 through 2009; and in 2007 through 2009 it was named "the best restaurant in the UK." In December 2010, Blumenthal's latest restaurant, Dinner by Heston Blumenthal, opened in the Mandarin Oriental in Hyde Park, London; it earned one Michelin star in 2012 and was named the ninth best restaurant by *Restaurant Magazine*'s World's 50 Best Restaurants in the same year. Blumenthal continues to win accolades and Dinner by Heston Blumenthal was ranked seventh in *Restaurant Magazine's* World's 50 Best Restuarants in 2013, with the Fat Duck ranking number 33.

Blumenthal's beginnings were unconventional. Books such as *On Food and Cooking* (1984) by Harold McGee revolutionized the way he thought about cooking and encouraged him to think about how to apply science in the research of his recipes. This self-taught chef opened his own research and development kitchen in early 2004. His fame is also based upon molecular gastronomy, a term that he (similar to Ferran Adrià) dislikes. Blumenthal is a proponent of low-temperature, ultra-slow cooking (a technique that does not melt fat or release many juices); other signature techniques include the use of a vacuum jar and sous vide–style cooking.

Blumenthal has collaborated with many scientists, such as Peter Barham, author of *The Science of Cooking* (2001); Charles Spence, an experimental psychologist at Oxford; and Tony Blake, vice president of research at Firmenech, among others, to expand upon a complete sensory experience with food. Working with these scientists has resulted in, for example, the concept of using headphones during eating to enhance the interaction of sound and taste—completing the eating experience through all five physical senses by playing sounds of the seaside when serving his signature dish "Sound of the Sea" during a seafood course. Blumenthal has published and collaborated on numerous books, including *Kitchen Chemistry* (2005), which is intended to be an educational tool for students in chemistry.

Blumenthal has become deeply interested in the history of British gastronomy and has begun to incorporate his signature touches, the results of his exploration and reinterpretation of traditional British dishes, at his restaurant The Fat Duck.

1974 to Present: Grant Achatz



Grant Achatz
Courtesy of Grant Achatz

Grant Achatz has received worldwide attention for dynamically yet delicately prepared hypermodern dishes, such as the All-American Peanut Butter and Jelly Sandwich, served with bread wrapped around a grape on a specially made service piece.

Achatz won awards for Rising Star Chef of the Year in 2003 and for Outstanding Chef in 2008, both from the James Beard Foundation, in addition to winning various other awards from major culinary organizations. As a teenager working at his parents' restaurant in Michigan, Achatz acquired basic cooking skills and developed enthusiasm for the culinary world. He decided to pursue his skill further and enroll at the Culinary Institute of America. After graduation, Achatz gained experience at several prestigious restaurants, including Thomas Keller's French Laundry in the Napa Valley. In 2001, Achatz returned to the Midwest and became the executive chef at Trio in Evanston, Illinois, which had a four-star rating from the *Mobile Travel Guide.* Achatz's talent continued to flourish, and with him at the helm, Trio received four stars from the *Chicago Tribune* and *Chicago Magazine* and garnered five stars from *Mobile Travel Guide* in 2004.

In 2005, Achatz opened his own restaurant, Alinea, in Chicago; that has been awarded three Michelin stars since 2010 and is now recognized as the cutting edge of progressive cuisine. By 2009, Alinea was rated one of the top 10 of the 50 best restaurants worldwide by *Restaurant Magazine,* reaching number 6 in 2011, number 7 in 2012, and number 15 in 2013, in addition to being named the Chef's Choice Restaurant in the same year. Achatz opened Next, his second restaurant, in 2011.

1976 to Present: Homaro Cantu



Homaro Cantu
Courtesy of Homaro Cantu

Among the most eye-popping creations of Chef Homaro Cantu is edible paper—a soybean and potato starch paper printed using a fruit and vegetable ink—which was chosen as one of the best ideas of 2005 by *The New York Times.*

Cantu enjoyed science and experiments as a young boy; he organized his kitchen as his laboratory and generated numerous inventions. After graduating from Le Cordon Bleu in his hometown of Portland, Oregon, he worked on the West Coast for several years and traveled to Chicago to take a position as sous chef at Charlie Trotter's. Cantu opened his own restaurant, Moto, which features postmodern cuisine (i.e., molecular gastronomy), including his polymer box oven (which cooks tableside in front of the guests) and unique aromatic utensil, just a few of his worldwide-recognized creations.

Cantu utilizes everything from liquid nitrogen to helium to ion particle guns in his kitchen to create his edible specialties such as Caramel Apple and Sweet Bacon or CO2 Fruit.

Selections of Cantu's patented inventions are on display at the Smithsonian Cooper-Hewitt, National Design Museum, New York, and at The Museum of Science and Industry, Chicago.

1970 to Present: Wylie Dufresne



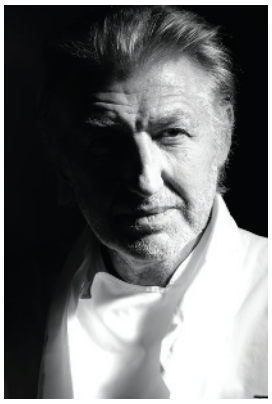
Wylie Dufresne
Courtesy of Wylie Dufresne

Wylie Dufresne is chef and owner of wd~50 and Alder restaurants in New York City. He added his own modern flair of molecular cooking to the fundamental culinary techniques that he believes are very significant. He took Ferran Adrià's innovative use of warm gelatin and applied it further with the use of gellan, thus creating the possibility to serve gelatin not only warm but deep-fried. This technique was utilized when a beef tongue sandwich Dufresne once served at Dufresne's restaurant wd~50 was deconstructed and its shape transformed into his famous Pickled Beef Tongue with Fried Mayonnaise.

Born in Providence, Rhode Island, Dufresne completed a bachelor's degree in philosophy at Colby College, Maine, in 1992 and enrolled in the French Culinary Institute in New York City. From 1994 to 1999 he worked for Jean-Georges Vongerichten's restaurants, at JoJo and Jean-Georges in New York, and at Prime in Las Vegas. In 1999, he returned to New York to become the first chef at 71 Clinton Fresh Food on Manhattan's Lower East Side; and in 2003, he opened wd~50 with his business partners, Jean-Georges Vongerichten and Phil Suarez.

Dufresne and wd~50 have garnered countless accolades, including one Michelin star from 2006 to 2013 and Best Chef, New York City, from 2007 to 2010, from the James Beard Foundation. In May of 2007, Wylie received an honorary Doctorate of Culinary Arts from Johnson & Wales University, Rhode Island.

1950 to Present: Pierre Gagnaire



Pierre Gagnaire
Courtesy of Pierre Gagnaire

Pierre Gagnaire is a three-Michelin-star chef, famous for his highly personalized cooking combining exceptional creativity and a mastery of techniques. One of the most contemporary chefs in the last century, he has been dubbed the "maestro of French traditional cooking." He gained interest in the field of molecular gastronomy when working to expose French culinary art from around the world. In 2001, Gagnaire contacted Hervé This and proposed they work as a team developing his menu. Since then, Gagnaire and This have come a long way, composing a 10-course tasting dinner—the Science and Cuisine menu—showcasing their work. Their recent study concerns the use of seaweed products, such as nori and agar-agar, which often appear on Gagnaire's menus. These are prime examples of modern-day molecular gastronomy.

Gagnaire started his career in Lyons, France, when he took apprenticeships to acquire fundamentals of traditional French cooking. In 1974, he moved to Paris and worked at Lucas Carton, where Gagnaire was influenced to begin constructing his own vision of new cuisine as an art form.

He soon returned to his family's restaurant, Le Clos Fleury, near Saint-Étienne; and in 1977, Gagnaire earned his first Michelin star. Since opening his first restaurant in 1981 in Saint-Étienne, Gagnaire has continued to add Michelin stars to his empire; he now has total of seven stars in 10 of his restaurants around the world and has been on *Restaurant Magazine*'s World's 50 Best list for 10 years. His latest addition to his empire is the Michelin-starred restaurant Les Solist at the Waldorf Astoria in Berlin, 2013.

Gagnaire is iconic not only for his highly praised restaurants but also for his contributions to fusion cuisine by introducing new ideas for combining global ingredients to achieve new flavors and textures. In 2000, Gagnaire presented a "science and cooking" menu at the Academy of Sciences Conference during his lecture on molecular gastronomy; the movement quickly spread among scientists and professional chefs. In 2006, he was presented the Chevalier de la Légion d'Honneur.

1969 to Present: José Andrés

Chef Andrés is credited for introducing the United States to innovative avant-garde Spanish cuisine that embraces science and technology, as well as traditional Spanish small- plates dining known as "tapas." Andrés states "the connection of your brain, eyes, taste buds, and palate" are interrelated, and it is his avant-garde approach to cooking that has put him at the top of his field. Some of his signature dishes include Cotton Candy–wrapped Foie Gras, Deconstructed Clam Chowder, a Hot and Cold Cocktail, and Dragon Popcorn.



José Andrés
Photo by Jason Varney

Born in the northern region of Asturias and raised outside of Barcelona, Andrés first learned the art of cooking from his family, and at the age of 16 he enrolled in the prestigious Escola de Restauració i Hostalatge de Barcelona. Soon after, he worked alongside his friend and mentor, world-renowned chef Ferran Adrià, at El Bulli.

In 1990, Andrés made his way to New York City to work for the Barcelona-based restaurant El Dorado Petit. Two years later, he moved to Washington, DC, and became chef of Jaleo. Andrés then went on to transform Café Atlántico into a celebrated restaurant and to open some other celebrated dining concepts in Washington, DC, including minibar by José Andrés; Zaytinya; Oyamel Cocina Mexicana; and, most recently, America Eats Tavern, a collaboration with the National Archives.

Having expanded his reach, Andrés also has dining destinations in Los Angeles and Las Vegas with The Bazaar by José Andrés at the SLS Hotel at Beverly Hills and China Poblano and é by José Andrés at The Cosmopolitan of Las Vegas. He also extended The Bazaar by José Andrés at the SLS Hotel South Beach Miami—and his first concept outside of the United States: Mi Casa at the Ritz Carlton Reserve at Dorado Beach, Puerto Rico.

Often referred to as Spain's unofficial ambassador to the United States, Andrés has played an important role in popularizing Spanish food culture. He is the executive producer and host of the Public Broadcasting Service (PBS) series *Made in Spain,* the first television series to promote Spanish wine and food in the United States. He has published several cookbooks on Spanish cooking, and in 2010, the government of Spain awarded him the prestigious Order of Arts and Letters medallion for his achievements in promoting Spanish culture worldwide. Since arriving in the United States, Andrés has also received the praise of the press, his peers, and the public. In 2011, he received the Outstanding Chef award from the James Beard Foundation. Andrés also teaches science and cooking at Harvard University in Cambridge, Massachusetts.

1964 to Present: Joan Roca



Joan Roca
Courtesy of El Celler de Can Roca

Chef Joan Roca has become well known for his work with aroma, flavor, and avant-garde experiments to fuse the two. He respects tradition but is not bound to it in his cooking, nor does he hesitate to embrace modern techniques. Roca utilizes sous vide to create some of his dishes, such as Iberian Suckling Pig and a unique twist on surf and turf that involves distilling soil and using it to create a gel that is applied to an oyster dish.

Roca is co-owner and head chef of El Celler de Can Roca, along with his younger brothers Josep, the sommelier, and Jordi, the pâtissier. The restaurant is located in Girona, Catalonia, Spain, and in 2009, was voted fifth best in the world by *Restaurant Magazine,* in addition to being awarded three Michelin stars. In 2010, El Celler was voted fourth best, and in 2011 and 2012, it was voted second best. El Celler de Joan Roca won the top award in *Restaurant Magazine*'s World's 50 Best Restaurants in 2013, retaining its third Michelin star.

Roca's first contact with the profession was at the family restaurant. He began helping out in the kitchen when he was 11 years old and learned traditional Catalan cuisine from his mother and grandmother. He studied at Girona Catering School (*Escola d'Hostaleria de Girona*), along with his two brothers, and eventually became a teacher. In August 1986, the three brothers opened El Celler de Can Roca, where they presented modern cooking style utilizing the most advanced techniques.

In 2003, the brothers opened their second restaurant, Moo, in Hotel Omm, Barcelona, which earned one Michelin star from 2006 to 2013.

Roca has also published several books. *La cocina al vacio* (*Sous Vide Cooking*; 2003) introduces the substantial advantages and the results that the sous vide technique bring forth through recipes from El Celler de Can Roca. In the fall of 2010, Roca gave a lecture on molecular gastronomy at Harvard University and presented amazing dishes, such as cigar smoke ice cream, mushroom ice cream accompanied by a caramel balloon filled with oak smoke, and prawns cooked in sherry wine vapor.

1975 to Present: Dani García

Dani García is best known as one of the pioneers of using liquid nitrogen (LN2) in the kitchen. Some of his creations, such as Frozen Raff Tomato Popcorn with Raw Motril Baby Shrimp and Cold Olive Oil Semolina with Ham and Croutons, are excellent examples of his innovative technique.

Born in 1975, in Marbella, Andalucía, Spain, García studied at La Consula School of Hostelry in Málaga. In 1996, he completed an apprenticeship in the restaurant of Martín Berasategui in Lasarte, País Vasco. At the age of 24, he started working at the famous Tragabuches Restaurant in Ronda, where he became known for his innovative cooking. In 2005, García opened Calima Restaurant, situated in the Grand Hotel Meliá Don Pepe in Marbella, which earned two Michelin stars.

At Calima, García developed the culinary use of liquid nitrogen in collaboration with Raimundo García del Moral, a professor of pathological anatomy at the University of Granada. As a result of his research, he went on to promote Andalusian cuisine, and he worked alongside the Ministry of Tourism to introduce Spanish cuisine worldwide. He combines traditional Andalusian ingredients with modern techniques of cooking. As one of the most recognized chefs in Spain, García was awarded the Best Chef Award in 2008 by Spain's Royal Academy of Gastronomy, particularly for his contribution to the promotion of Spanish cuisine.

In early 2008, García took charge of the Meliá hotel bars and restaurants, renaming them UNO by Dani García. Later in the same year, Calima was reopened after extensive structural alterations to expand both the kitchen and dining areas. García also announced his personal culinary concept, called *cocina contradición*, which brings together conventional flavors and contemporary preparations. Since July 2008, his cuisine has been available at the Calima Palacio de Isora, within the Hotel Gran Meliá Palacio de Isora on the Canary Island of Tenerife. In 2012, García opened Manzanilla, a 6,600-square-foot Spanish restaurant in New York City.



Dani García
Courtesy of Dani Garcia

A new genre of cooking that emphasizes the science behind flavors and textures is developing throughout the culinary world. The chefs listed within this textbook are a fraction of the people who have helped pioneer this new phase and, undoubtedly, more chefs are to come.

Among other chef/practitioners of this movement are:

- Andoni Luis Aduriz: Mugaritz (San Sebastian, Spain)
- Dave Arnold: Museum of Food and Drink (MOFAD) (New York, USA)
- Juan Mari Arzak: Arzak (San Sebastian, Spain)
- Oriol Balager: Oriol Balager (Madrid, Spain)
- Peter Barham: professor at the University of Bristol (UK)
- Martin Berasategui: Martin Berasategui (Lasarte-Oria, Spain)
- Jacob Jan Boerma: De Leest (Vaassen, Netherlands)
- Massimo Bottura: Osteria La Franzescana (Italy)
- Davide Cassi: professor of theoretical physics (University of Parma, Italy)
- André Chiang: André (Singapore)
- Alberto Chicote: NO-DO (Madrid, Spain)
- Jonantan Gómez-Luna Torres: Le Chique (Cancun, Mexico)
- Peter Goossens: Hof Van Cleve (Belgium)
- Mitsuo Hazama: Terakoya (Tokyo, Japan)
- Daniel Humm: Eleven Madison Park (New York, USA)
- Rasmus Kofoed: Geranium (Copenhagen, Denmark)
- Alvin Leung Jr.: Bo Innovation (Hong Kong, China)
- Thierry Marx: Mandarin Oriental (Paris, France)
- Harold McGee: science writer, author of *On Food and Cooking: The Science and Lore of the Kitchen*
- Adam Melonas: Sunbar (Brisbane, Australia)
- Nathan Myhrvold: cofounder of Intellectual Ventures (Washington State, USA)
- Yoshihiro Narizawa: Les Creations de Narizawa (Tokyo, Japan)
- Enrique Olvera: Pujol-Cosme (Mexico, New York, USA)
- Daniel Patterson: Coi (San Francisco, USA)
- René Redzepi: Noma (Copenhagen, Denmark)
- Cristiano Rienzner: Maremoto (Germany)
- Paco Roncero: La Terraza del Casino (Madrid, Spain)
- Jorge Ruiz: associate professor (University of Extremadura, Spain)
- Koji Shimomura: Edition (Tokyo, Japan)
- Yoshiaki Takazawa: Takazawa (Tokyo, Japan)
- Hervé This: INRA (Paris, France)
- Paco Torreblanca: Paco Torreblanca (Alicante, Spain)
- Chikara Yamada: Yamada Chikara (Tokyo, Japan)
- Seiji Yamamoto: Nihonyuri Ryu Gin (Tokyo, Japan)



As the most influential movement in modern cooking, molecular gastronomy is similar to any artistic field; it contains controversies ultimately debated by the leading figures of this movement. How these leaders apply science to modern cuisine, whether to stimulate new exotic flavor combinations or to invoke properties not normally seen in food, remains the creative difference between the two perspectives. As individuals, these chefs have taken it upon themselves to push the limits beyond what is expected or common within the culinary boundaries of the dining experience.

In Chapters 8–11 of this book, techniques used with modern cooking applications are detailed by recipe; through personal experience you can learn which style (e.g., spherification or the use of liquid nitrogen) best enables you to personalize a recipe. Evolving and polishing skill sets to utilize modern techniques will create essential background knowledge, and an awareness of the work of the movement's founders and current trendsetters will enable young chefs to develop new and greater creations. The question is: What will be created tomorrow?