

ABSTRACT BOOK

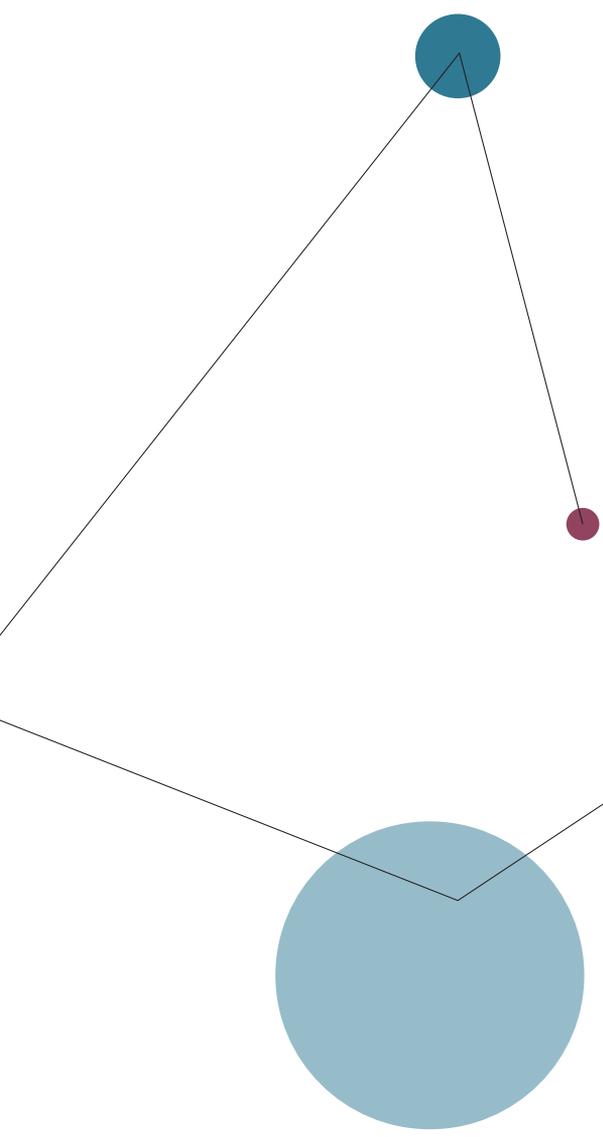
**IPSEN BIOSCIENCE  
GRAND OPENING**

**Wed. 1 April 2015**  
Cambridge, MA, USA

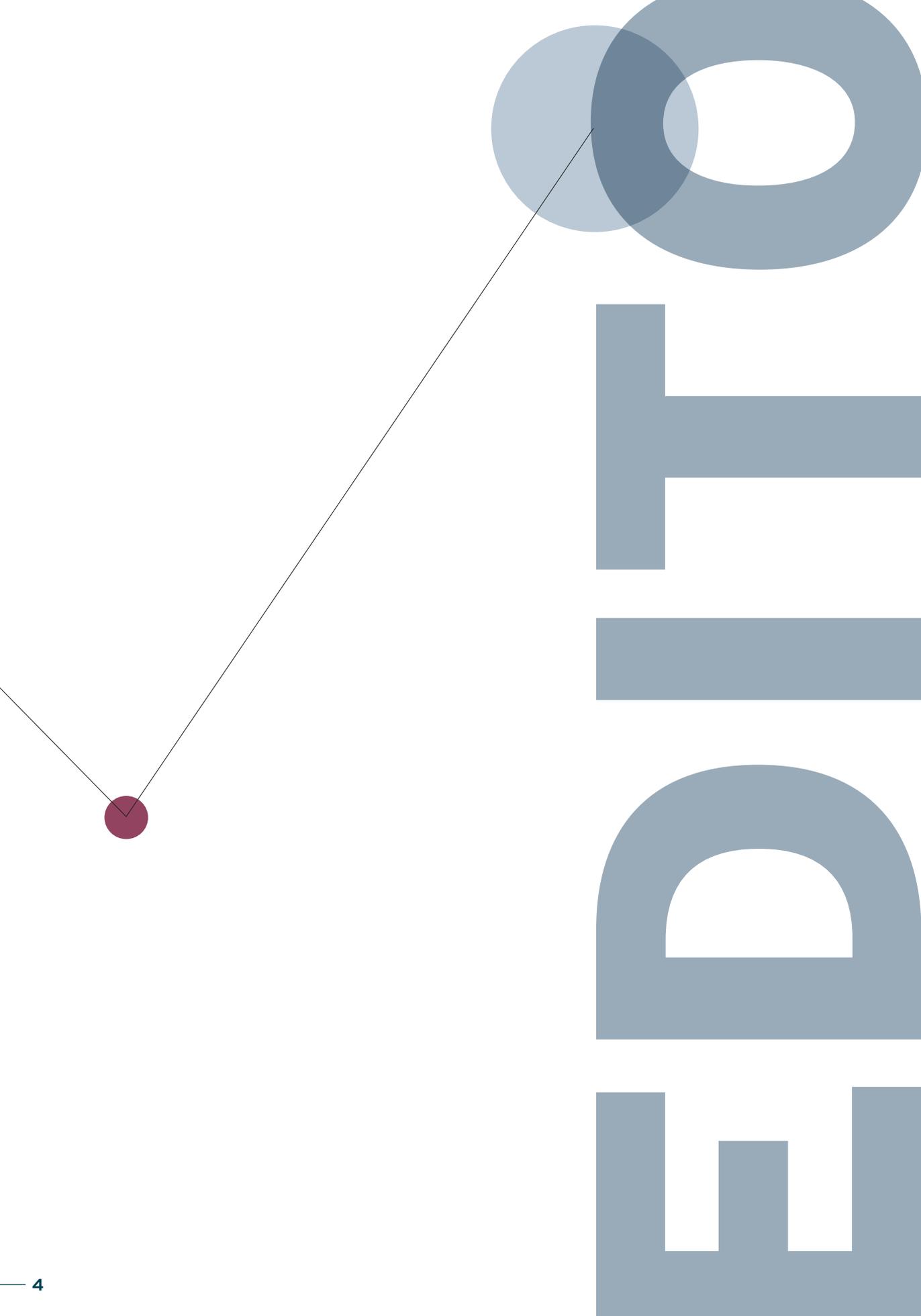


CONNECTING WITH CREATIVITY

# PERFORMANCE PROGRAM



- 
- 1:30 pm**      **CLAUDE BERTRAND**  
Ipsen R&D and CSO - Paris  
OPENING REMARKS
- 1:45 pm**      **STEVEN SHAPIN**  
Harvard University, Cambridge - MA  
CREATIVITY'S HISTORY
- 2:15 pm**      **STEVEN PINKER**  
Harvard University, Cambridge - MA  
ANALOGY AND COMBINATORICS: THE INGREDIENTS OF CREATIVITY
- 2:45 pm**      **ANTONIO DAMASIO**  
University of Southern California, Los Angeles - CA  
WHY, WHAT AND HOW DOES CREATIVITY CREATE?
- 3:15 pm**      **BREAK**
- 3:45 pm**      **ROBERT WEINBERG - CHAIR**  
Massachusetts Institute of Technology - Cambridge - MA
- 3:45 pm**      **MICHAEL BISHOP**  
University of California - San Francisco, San Francisco - CA  
CONNECTING TO CREATIVITY: THE ANATOMY OF A DISCOVERY
- 4:15 pm**      **PHILLIP SHARP**  
Massachusetts Institute of Technology - Cambridge - MA  
RNA BIOLOGY: INSIGHTS INTO CANCER AND THERAPEUTIC AGENTS
- 4:45 pm**      **ROBERT LANGER**  
Massachusetts Institute of Technology - Cambridge - MA  
CREATIVITY AND BIOENGINEERING
- 5:15 pm**      **DAVID EDWARDS**  
Harvard University - Cambridge - MA  
SENSORY DELIVERY FOR BETTER HEALTH
- 5:45 pm**      **MARC DE GARIDEL**  
Chairman and CEO, Ipsen - Paris  
CLOSING REMARKS



To mark the occasion of the opening of its new R&D center, Ipsen hosts an international scientific symposium dedicated to “Creativity and Innovation”, where pioneering scientists coming from different horizons and approaching creativity in different ways will deliver lectures.

Ipsen’s state-of-the-art R&D center is located in Cambridge, one of the world’s most vibrant biomedical science and biotechnology hubs, with the exceptional environment of universities and academic institutions (Harvard University, Massachusetts Institute of Technology), prestigious hospitals (Massachusetts General Hospital, Brigham & Women Hospital...), major players in pharmaceuticals, biotechnologies and start-ups including some Ipsen’s partners (e.g., Rhythm, Radius, PeptiDream...).

In other words, Ipsen wants to be at the heart of biological revolution currently underway and to partner with pioneers that drive it.

This meeting and the outstanding caliber of the chairs and speakers represent a true testimony of Ipsen’s longstanding commitment to science and innovation and a dedication to bringing together the very best minds in the world of academia to transform knowledge into novel and differentiated medicines for patients in needs.

This unique event gathers prominent international academics who have contributed to major advances in life

sciences over the last decades. We are thus honored to welcome three Nobel Prize laureates and leading scientists who revolutionized cancer and brain research, biology, gene therapy, and the biological and molecular understanding of fatal diseases. They will share their views on how breakthrough science is intimately linked to creativity, innovation and the capacity of inventors to advance their achievements from basic research to new therapeutic solutions and ultimately to patient benefit.

Ipsen has been present in the US for many years in R&D, especially as a leader in peptide drug discovery and formulation. Ipsen will dedicate its resources to combine the Group’s peptide and toxin expertise and knowledge to introduce new therapeutic solutions for debilitating diseases. Ipsen aims at becoming a leader using its differentiated technologies, to address a range of therapeutic areas such as oncology, endocrine and neuromuscular disorders.

We would like to take this opportunity to thank the speakers and chairs who will bring their expertise to “Connecting with Creativity”, and also Cambridge town and the Massachusetts State for their continuous support to Ipsen, in addition to France representatives in the United States, who evidence what open innovation means in the real life.

Yours sincerely,

*Marc de Garidel*  
Chairman and CEO, Ipsen

*Claude Bertrand*  
EVP, R&D, CSO, Ipsen

1:30 pm

## Claude P. Bertrand

Pharm.D., Ph.D.

Executive Vice-President, Research & Development  
Chief Scientific Officer, Ipsen - Paris



*Claude P. Bertrand has a doctorate in pharmacy (Pharm.D.), a Master, and a PhD in Pharmacology from the University of Strasbourg, France. He then did a post-doctoral fellowship at the University of San Francisco, USA, under the supervision of Pr. Jay A. Nadel, M.D.*

*Claude P. Bertrand joined Ipsen in November 2009. Claude Bertrand started his career at Novartis (previously Ciba-Geigy) in Basel (Switzerland). Then, he moved to the Inflammatory Disease Unit at Roche (Palo Alto, California, USA). In 1999, he was recruited as Director of Biology R&D of Pfizer in France and was a member of the management team of Pfizer Global R&D. Since 2004, Claude Bertrand was R&D Vice-President, then R&D Senior Vice-President of AstraZeneca where he was responsible of the Respiratory and Inflammatory Therapeutic Area and later in charge of the Mature Brands portfolio and Life Cycle Management programs.*

## Marc de Garidel

*Chairman and CEO, Ipsen - Paris*

*Marc de Garidel is a graduate from the French Engineering School ESTP, and has an Executive MBA from Harvard Business School.*

*Marc de Garidel started his career with Eli Lilly with various responsibilities in countries like US, Germany, France. Between 1995 and 2010, he held executive positions at Amgen including Corporate Controller of the group in the US as well as increasing line management responsibilities, including the biggest region of Amgen International operations.*

*Marc de Garidel joined Ipsen as Chairman and CEO in November 2010. He also holds a number of other visible positions for the industry: Chairman of the group of French health care companies (G5 santé), nominated by the last 2 French governments as Vice-President of the French Health Care Strategic Committee.*

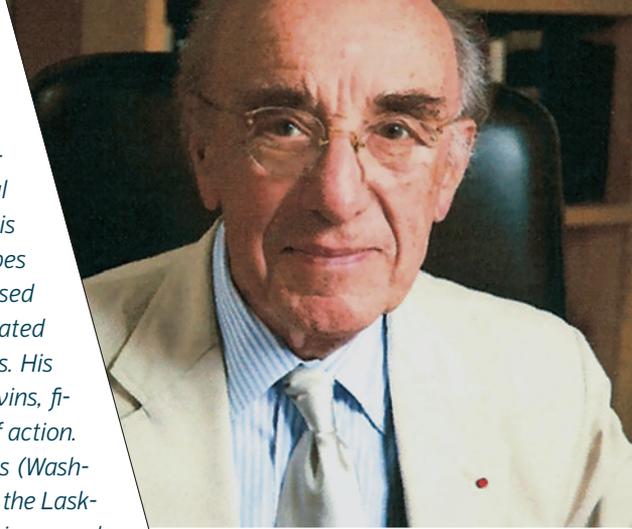
*Marc de Garidel has been recently appointed Vice-President of EFPIA, the European Pharmaceutical Trade Association. He is distinguished as Chevalier de la Légion d'honneur.*



## Roger Guillemin - Chair

Salk Institute for Biological Studies - La Jolla - CA

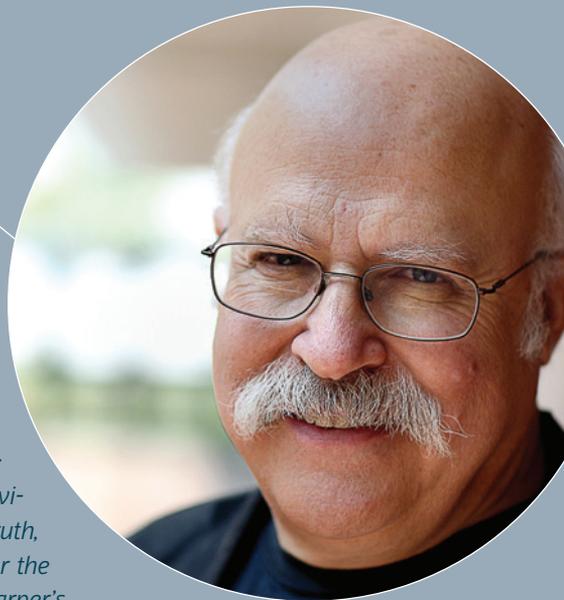
*Roger Guillemin is a Distinguished Professor at the Salk Institute. His research group discovered an entire new class of substances of brain origin shown to be important for the physiological regulation of growth, development, reproduction and responses to stress. The impact of Dr. Guillemin's studies has been profound for a variety of diseases and disorders, including thyroid diseases, problems of infertility, diabetes and several types of tumors. One of these hormones, called somatostatin, is used to treat acromegaly, other pituitary diseases and several types of cancers. Another called growth-hormone releasing factor, is used to treat several types of growth deficiencies. Guillemin first isolated the endorphins, brain molecules known to act as natural opiates. His laboratory was also involved in the discoveries of inhibins, activins, fibroblast growth factors, their molecular structures and modes of action. Dr. Guillemin is a member of the National Academy of Sciences (Washington), the French Académie des Sciences (Paris), a recipient of the Lasker Award, the Dickson Prize in Medicine, the National Medal of Science and the Nobel Prize in Physiology or Medicine. Dr. Guillemin is also one of the early proponents of digital computer paintings.*



## Steven Shapin

Harvard University, Cambridge - MA

*Steven Shapin is Franklin L. Ford Research Professor of the History of Science at Harvard, with previous academic appointments at the Science Studies Unit at Edinburgh University, and the Department of Sociology at the University of California, San Diego. He has written extensively about 17th-century science; the history of ideas about food, drink, and taste; the sociology of scientific knowledge; and entrepreneurial science in modern America. His books include *Leviathan and the Air-Pump* (with Simon Schaffer), *A Social History of Truth*, *The Scientific Revolution*, and *The Scientific Life*. He writes regularly for the *London Review of Books* and has written for *The New Yorker* and *Harper's Magazine*. His awards include the 2005 Erasmus Prize (with Simon Schaffer) and the 2014 Sarton Medal of the History of Science Society.*



## CREATIVITY'S HISTORY

Creativity has a history. That history consists - in one sense - of the accumulated record of creative acts and creative people. One could inspect that historical record to learn how we might stimulate more creativity or even to summon it into being by well-informed policies. There is a lot written about such things.

But there are other senses in which creativity has a history: what people have meant by creativity in different times and places, what has been regarded as its source, how people have understood the means by which creative thought has been elicited - and all of these display immense variability over time and from one culture to another. Creativity is not a durable and stable category: it is, rather, a marker of what cultures value about the traditional and the novel. Not much has been written about such things.

Does creative inspiration come as a result of purposeful effort or does it arrive when it will? Is its origin human or divine (or even diabolical)? Are creative people ordinary

mortals or do they have special gifts that mark them off from the all-too-human? Is there a mundane biological or psychological basis for creativity? What is the relationship between inspiration and perspiration, between genius and method, between spontaneous thought and arduous courses of preparation? What has been thought about the role of serendipity in creativity? Does creativity belong to a unique and self-contained individual or is it a property of an organization or a form of social interaction? Can we make creativity happen? And, finally, are creative thoughts and actions recognizable by inspection or do we see them as creative - wholly or partly - in retrospect, through their consequences and later evaluations?

This talk considers how one might account for such changes over time in the notion of creativity. And it briefly explores the consequences of historically changing notions of creativity for how we might envisage its possible future.

2:15 pm

## Steven Pinker

Harvard University, Cambridge - MA



Steven Pinker is an experimental psychologist and one of the world's foremost writers on language, mind, and human nature. Currently Johnstone Family Professor of Psychology at Harvard University, Pinker has also taught at Stanford and MIT. His research on visual cognition and the psychology of language has won prizes from the National Academy of Sciences, the Royal Institution of Great Britain, the Cognitive Neuroscience Society, and the American Psychological Association. He has also received eight honorary doctorates, several teaching awards at MIT and Harvard, and numerous prizes for his books *The Language Instinct*, *How the Mind Works*, *The Blank Slate*, and *The Better Angels of Our Nature*. He is Chair of the Usage Panel of the American Heritage Dictionary, and often writes for *The New York Times*, *Time*, and *The New Republic*. He has been named Humanist of the Year, *Prospect* magazine's "The World's Top 100 Public Intellectuals" *Foreign Policy*'s "100 Global Thinkers" and *Time* magazine's "The 100 Most Influential People in the World Today."

## ANALOGY AND COMBINATORICS: THE INGREDIENTS OF CREATIVITY

The creative process is a topic in scientific psychology, which has documented that introspection and personal reminiscences are unreliable sources of evidence on the workings of the mind. Reports by creative artists and scientists on their own creative process are frequently contradicted by biographical sources and are more likely to reflect romantic folk theories of creativity than the actual mechanisms. I propose that the creative process is made possible by two features of cognition: the recursive, combinatorial nature of thought, in which complex new ideas may be formed out simpler old ones, and the capacity for analogical and metaphorical abstraction, in which representations of concrete situations may be applied to more abstract ones.

The challenge for the study of creativity is explaining not just the novelty of creative products but their quality (their truth, beauty, appeal, or utility). Two likely explanations are the fact that creative people intensively immerse themselves in their fields and thus feed already-proven elements and themes into their creative combinations, and the fact that the world is governed by laws of complex systems that make disparate fields obey similar principles, opening up the possibility for analogies to be accurate and not just poetic.

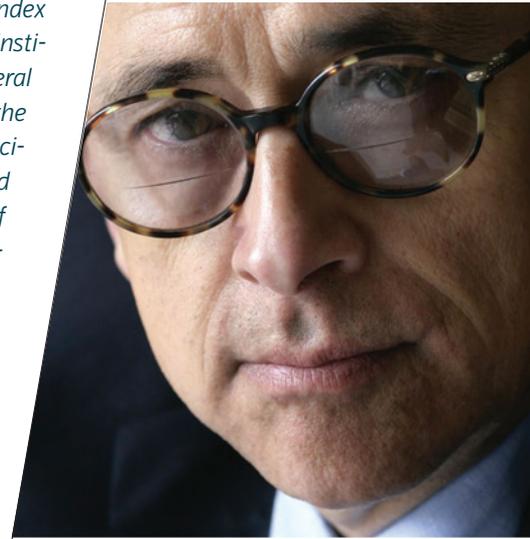
## Antonio Damasio

*USC College Brain and Creativity Institute,  
University of Southern California, Los Angeles - CA*

*Antonio Damasio is University Professor, David Dornsife Professor of Neuroscience, and Director of the Brain and Creativity Institute at the University of Southern California; he is also an adjunct professor at the Salk Institute in La Jolla, California. A. Damasio has made seminal contributions to the understanding of brain processes underlying emotions, feelings, decision-making and consciousness. He is the author of numerous scientific articles (Web of Knowledge H Index is 83; over 32,000 citations; named "Highly Cited Researcher" by the Institute for Scientific Information.) His research has received continuous Federal funding for over 30 years. He is the recipient of many awards (including the Grawemeyer Award, 2014; the Honda Prize, 2010; the Asturias Prize in Science and Technology, 2005; and the Signoret Prize, 2004, which he shared with his wife Hanna Damasio). A. Damasio is a member of the Institute of Medicine of the National Academy of Sciences and a Fellow of the American Academy of Arts and Sciences, the Bavarian Academy of Sciences, and the European Academy of Sciences and Arts. He also holds Honorary Doctorates from several Universities.*

*He has written several books, among them *Descartes' Error*, *The Feeling of What Happens*, *Looking for Spinoza*, and *Self Comes to Mind*, translated and taught in universities worldwide.*

*For more information go to the Brain and Creativity Institute website at <http://www.usc.edu/bci/> and the Dornsife Imaging Center website at <http://brainimaging.usc.edu>.*



## WHY, WHAT AND HOW DOES CREATIVITY CREATE?

The simplest answer to the why has to do with need, specifically homeostatic need. Although humans create plenty that they do not really "need", historically a significant part of what has been created was required to reduce discomfort or even pain or to promote well-being and flourishing. In brief, we create because the regulation of life is a complicated challenge, and because it can always be improved by generating a more appropriate response to a regulatory problem than existed before. This leads us right into the what: the range of creativity is wide, from the arts (they come into everyone's minds when the term "creativity" is mentioned), to all forms of technology (from fire and wheels to housing, writing, and flying), to science, and, perhaps most neglectedly, to the cultural instruments we know by such terms as governance, philosophical attitudes, religious beliefs, moral systems and justice, and economics. In brief, the what encompasses cultures and their products in the widest sense.

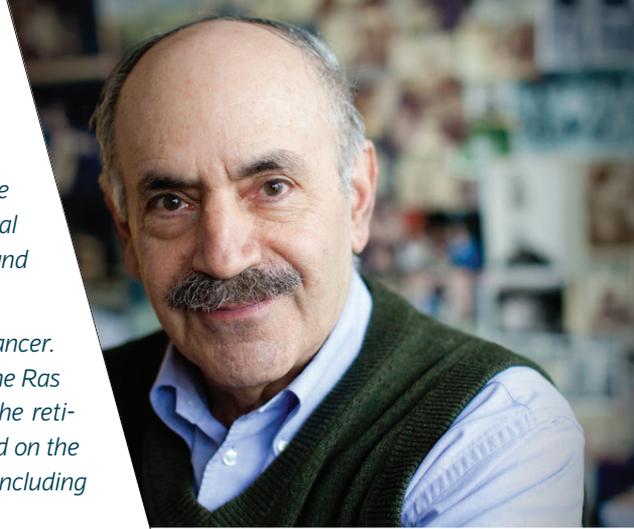
The how is no longer a complete mystery. Feelings, good and bad, provide the impetus. Yet, the corrective that results from the created object requires intellectual power, a means to diagnose the problem to be addressed by the creation and a way to invent a novel response - a device, an idea, a system of operations. Memory, imagination, reasoning, and the guidance of language, these are some of the cognitive devices of creativity. How such devices are implemented in the human brain, from the homeostatic interface of feelings to intellectual invention, is being gradually made clear by neurobiology.

## *Robert Weinberg - Chair*

*Massachusetts Institute of Technology  
Cambridge - MA*

*Robert A. Weinberg received his B.S. and Ph.D. degrees in biology from the Massachusetts Institute of Technology (MIT) and taught during 1965-66 in the Department of Biology of Stillman College, Tuscaloosa, Alabama. He undertook postdoctoral research at the Weizmann Institute, Rehovot, Israel and at the Salk Institute, La Jolla, California before returning to MIT in 1972. In 1982, he was appointed Professor of Biology at MIT. He is a founding member of the Whitehead Institute for Biomedical Research, the Daniel K. Ludwig Professor for Cancer Research, and Director of the Ludwig Center for Molecular Oncology at MIT.*

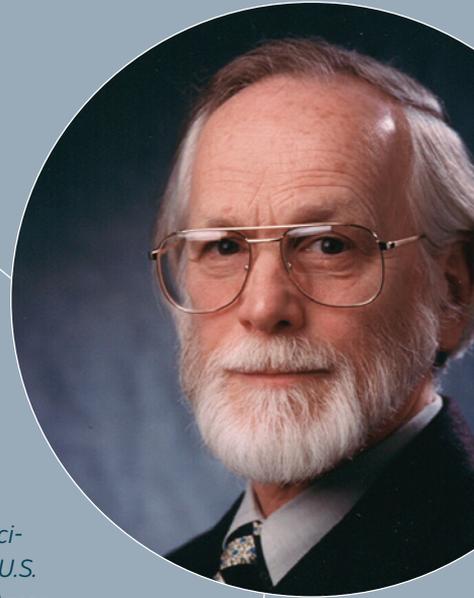
*His research has been focused on the genetic basis of human cancer. His laboratory isolated the first human-cancer-causing gene - the Ras oncogene - and the first known tumor-suppressor gene - Rb, the retinoblastoma gene. Over the past decade his research has focused on the molecular and cellular mechanisms of malignant progression, including cancer cell invasion and metastasis.*



## J. Michael Bishop

University of California, San Francisco - CA

*J. Michael Bishop is University Professor and Director of the G.W. Hooper Research Foundation at the University of California, San Francisco (UCSF). He is a graduate of Gettysburg College and Harvard Medical School. After postdoctoral training at the National Institutes of Health and a year as a visiting scientist in Hamburg, Germany, he joined the faculty of UCSF in 1968. He has devoted his career to research on the molecular pathogenesis of cancer, the teaching of medical and graduate students, and service as chancellor of UCSF from 1998 to 2009. Dr. Bishop's honors include the Albert Lasker Basic Medical Research Award, the U.S. National Medal of Science, and the Nobel Prize for Physiology or Medicine. He is a member of the U.S. National Academy of Sciences, the American Academy of Arts & Sciences, the American Philosophical Society and the Royal Society of London. His publications include more than 350 research articles, and the book *How to Win the Nobel Prize: An Unexpected Life in Science*.*



## CONNECTING TO CREATIVITY: THE ANATOMY OF A DISCOVERY

In 1911, Peyton Rous reported the discovery of a virus that can cause sarcomas in chickens. Disparaged by many and neglected for decades, Rous Sarcoma Virus (RSV) eventually emerged as a highly tractable experimental system with which to probe the secrets of the cancer cell. RSV posed two great puzzles: how might its RNA genome be stabilized in the host cells, and how does the virus convert cells to malignant behavior? The first puzzle was solved by the discovery of reverse transcriptase, an enzyme in the viral particle that copies RNA into DNA, which is then inserted into the host genome. The second puzzle was solved when the virus was found to have an “oncogene” (v-src) whose only function during the viral life cycle is neoplastic transformation of the host cell. The fact that v-src plays no role in viral replication raised the possibility that its presence in the virus was not the product of natural selection, but instead had been acquired by accident from an external source. That proved to be the case, when a

virtually identical homologue of v-src (c-src) was found in avian and other vertebrate cells. By elaborate molecular gymnastics, a cellular gene (or “proto-oncogene”) had been copied into the viral genome, in the process suffering mutations that created an oncogene. It soon became apparent that normal vertebrate cells contain a large variety of proto-oncogenes, perversions of which have been implicated in the genesis of human cancer. A first step had been taken towards the realization that all cancer arises from the malfunction of genes. The identification of proto-oncogenes was connected to creativity by multiple strands, including faith in the universality of nature, a judicious disregard for received wisdom, an eye for the main chance, the liberty and motive to take a chance, reasoning from evolution, the advantageous choice of an experimental system, technical innovation and persistence.

4:15 pm

## Phillip Sharp

Massachusetts Institute of Technology  
Cambridge - MA

*Phillip A. Sharp is Institute Professor and faculty member of the Department of Biology and the Koch Institute at MIT. He was recruited in 1974 and since then his lab made many contributions to the cell biology of gene expression, particularly in mammalian cells relative to processes that cause cancer. He received the 1993 Nobel Prize in Physiology or Medicine for his co-discovery in 1977 of split genes and analysis of RNA splicing. Over the years, his laboratory has developed technology for the biochemical characterization of protein complexes and interactions of factors with DNA and RNA. More recently, his laboratory contributed to the recognition of the fascinating roles of noncoding RNAs in processes related to RNAi and gene regulation. He has more than 400 publications and received numerous prestigious cancer research awards including the National Medal of Science. He has served on many advisory boards for the government, academic institutions, scientific societies, and companies. He is elected member of the National Academy of Sciences, the Institute of Medicine, and the Royal Society, UK. Dr. Sharp earned a Ph.D. in chemistry from the University of Illinois, Champaign-Urbana. He is co-founder of Biogen (now Biogen Idec) and Alnylam Pharmaceuticals Inc.*



## RNA BIOLOGY: INSIGHTS INTO CANCER AND THERAPEUTIC AGENTS

Change in regulation of genes by RNA is emerging as an important aspect of cancer. In fact, it is probably central to many types of cancer. The most common RNA-based regulatory mechanism known today in mammalian cells is microRNAs. They interact with at least half of all mRNAs and directly or indirectly control the expression of almost all genes. Changes in microRNA control is common in cancer and can be mediated by a variety of mechanisms such as mutation of genes critical for their synthesis, suppression by binding proteins, and down-regulation by titration of their activities by competing endogenous mRNAs. The conditions under which the latter can be observed has been characterized by the quantitation of both microRNA abundance per cells and their high affinity targets.

RNA interference was discovered a little over ten years ago and subsequently was shown to be mediated by intracellular double stranded small RNAs approximately 21 nucleotides in length (siRNA). In mammals, these RNAs enter the microRNA pathway, present in all cell types, are

loaded into a complex containing the critical Argonaute protein, and target its activity to cleave and cause degradation of specific complimentary mRNA. Thus, in principle with the appropriate design of the siRNA any target gene could be silenced. Over the past years, the challenge of effective delivery of the hydrophilic siRNAs to cells has been advanced to where it is now possible in a therapeutically attractive fashion to silence genes expressed in the liver of humans with a sugar-based conjugate of a chemically modified siRNA. These therapeutic agents are modular in structure, where one constituent provides a gene-specific component whose modulation of expression is beneficial, while the other agent targets and facilitates delivery to the inside of cells. This modular property greatly reduces the time required to develop therapeutics to new disease modifying genes and is an example of future developments in pharmaceuticals. Examples of these types of agents will be discussed. The activities of small RNA based agents will be set in the context of the known biology of small non-coding RNAs.

## Robert Langer

Massachusetts Institute of Technology  
Cambridge - MA

*Robert S. Langer is the David H. Koch Institute Professor. His lab work is at the interface of biotechnology and materials science. A major focus is the study and development of polymers to deliver drugs, particularly genetically engineered proteins, DNA and RNAi, continuously at controlled rates for prolonged periods of time. Work is in progress in the following areas: investigating the mechanism of release from polymeric delivery systems with concomitant microstructural analysis and mathematical modeling, studying applications of these systems including the development of effective long-term delivery systems for insulin, anti-cancer drugs, growth factors, gene therapy agents and vaccines and developing controlled release systems that can be magnetically, ultrasonically, or enzymatically triggered to increase release rates.*

*He has written nearly 1,300 articles and has nearly 1,080 patents worldwide. He served as a member of the United States Food and Drug Administration's Science Board, from 1995 to 2002. In 1989 Dr. Langer was elected to the Institute of Medicine of the National Academy of Sciences, and in 1992 he was elected to both the National Academy of Engineering and to the National Academy of Sciences. Robert Langer has been awarded the 2015 Queen Elizabeth Prize for Engineering for his revolutionary advances and leadership in engineering at the interface with chemistry and medicine. Forbes Magazine (1999) and Bio World (1990) have named Dr. Langer as one of the 25 most important individuals in biotechnology in the world.*



## CREATIVITY AND BIOENGINEERING

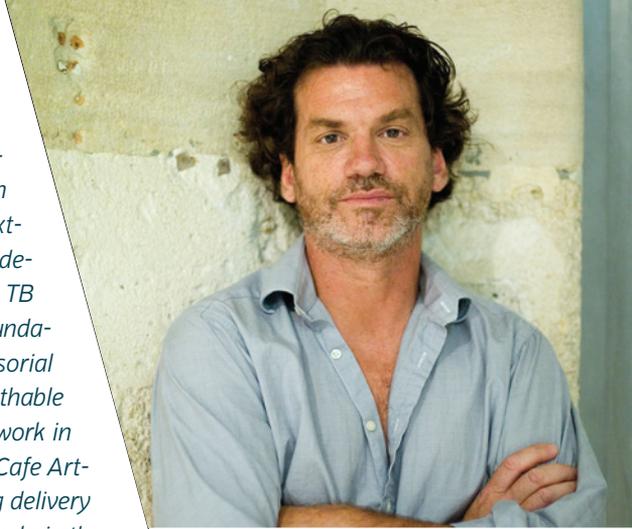
For me, creativity involved having exposure to two very different areas chemical engineering and surgery.

Many of my ideas have come because of knowing something about each area. Examples include new strategies for creating biomaterials, and developing new kinds of materials and drug delivery systems. Other factors involve having good role models and having a lab where people feel risk and even the possibility of failure are acceptable.

## David Edwards

Harvard University, Cambridge, CA

David Edwards is a scientist, inventor and innovator working at the intersection of art, science, and design. He is Professor of the Practice of Idea Translation in the School of Engineering and Applied Science at Harvard University and founder of Le Laboratoire, a cultural center in Paris and Cambridge (USA), where experiments in art and design at frontiers of science promote cultural and societal innovations. David Edwards trained in applied math and chemical engineering. He has written two textbooks in applied math, invented new ways to eliminate needle delivery for diabetics (by inhalation), designed new approaches to TB vaccination and therapy (developed originally with the Gates Foundation and the nonprofit MEND), and pioneered new food and sensorial innovations, such as WikiFood (edible packaging), The Aero (breathable food), and oNotes (scent-based communication). His inventive work in sensorial design is at the core of the new innovation restaurant Cafe Art-Science in Boston's Kendall Square. He has started multiple drug delivery companies and nonprofits in addition to his food innovation work, is the author of several works of non-fiction and fiction in French and English, and is a member of the American and French National Academies of Engineering, and the US National Academy of Inventors. He has won many international awards and honors, including his nomination as Chevalier of Arts & Letters by the French Ministry of Culture.



## SENSORY DELIVERY FOR BETTER HEALTH

We experience the world through our senses. This sensorial experience contextualizes our lives and influences our health. Increasingly scientists, healthcare professionals, designers, and others are starting to look at delivering sensory experience with the purpose of optimizing life and health outcomes. This talk will highlight recent research and development in sensory delivery, and particularly my own work to eliminate dosage forms, and reduce caloric content, by delivering nutrition through the air, to deliver edible food

and beverage packaging with functional benefits, and to deliver scent with sound and images for better eating and memory retention. These platforms have emerged since 2007 out of Le Laboratoire, a cultural innovation center started 8 years ago in Paris and now based in Cambridge Massachusetts.



*Special  
thanks  
to*

*Leslie Sloan*

*Ph.D.*

*President, Ipsen Bioscience / Vice-President,  
Global R&D Project Management & Analytics,  
Cambridge - MA*

*Dr. Sloan joined Ipsen in March 2012 and is responsible for leadership of the Cambridge R&D site as well as providing strategic and operational leadership for the Global R&D portfolio from early research through full clinical development and submission to regulatory agencies. Dr. Sloan received her PhD in Bioorganic Chemistry from Yale University in 1998 under the direction of Dr. Alanna Schepartz in 1998. Prior to joining Ipsen, Dr. Sloan held several global roles at Pfizer and Eli Lilly including Principal Research scientist with-*

*in Lilly Research Labs, focused on peptide and small molecule projects in oncology and inflammation; World Wide R&D Continuous Improvement lead focused on improving delivery and survival of drug candidates; and Business Manager for World Wide Medicinal Chemistry at Pfizer. A bioorganic chemist by training, Leslie sat on the Pfizer R&D Survival Council and Candidate Quality Guidelines committee and Co-Chaired the Bioorganic Chemistry Gordon Research Conference held at Magdalen College, Oxford, UK in 2006.*

# “IPSEN, A LONGTERM COMMITMENT TO RESEARCH & INNOVATION

Ipsen, a longterm commitment to research and innovation. Ipsen’s overarching mission is to deliver “innovation for patient care”, to focus on patients and unmet medical needs and to provide innovative therapeutic solutions.

Ipsen (Euronext: IPN; ADR: IPSEY) is a global specialty-driven pharmaceutical group with total sales exceeding €1.2 billion in 2014 and a presence in more than 115 countries. The Group has more than 4,500 employees worldwide.

Ipsen’s ambition is to become a leader in specialty health-care solutions for targeted debilitating diseases. Its development strategy is focused on 3 Franchises: neurology, endocrinology and oncology. Ipsen also has a significant presence in primary care.

Ipsen’s R&D activities aim at discovering and developing new molecules as well as new formulations, extension of indications and registration in new geographical areas for our products already on the market. In 2014, R&D expenditure totaled close to €187 million, representing about 15% of Group sales. Our pipeline of programs is based on two innovative and differentiated technological platforms, peptides and toxins. Ipsen’s state-of-the art R&D centers are located amongst the world’s most famous innovation hubs: the plateau of Paris-Saclay (France), Oxford (UK) and Cambridge (US). They provide Ipsen with access to

novel, promising innovation to help discovery of new candidate drugs.

R&D open innovation strategy is supported by three key principles which are expressed as “**DARE, SHARE, CARE**”.

**DARE** as its entrepreneurial mindset combines scientific curiosity and a risk taking attitude to continue to innovate, and break new ground.

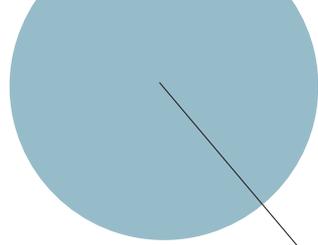
**SHARE** as creativity involves multiple research stage collaborations with academic institutions and partnerships with diverse innovative companies.

**CARE** as patients are always at the center of our activities.

The peptide platform capitalizes on Ipsen’s knowledge and experience to leverage the huge amount of molecular targets yet to be exploited and not accessible to more common means i.e. small molecules and antibodies. The toxin platform enables to master the entire value chain of new neurotoxins discovery and development, to address unmet medical needs of patients suffering from spasticity and osteoarticular disorders.

**For more information on Ipsen,  
visit [www.ipсен.com](http://www.ipсен.com)**

# ABOUT IPSSEN



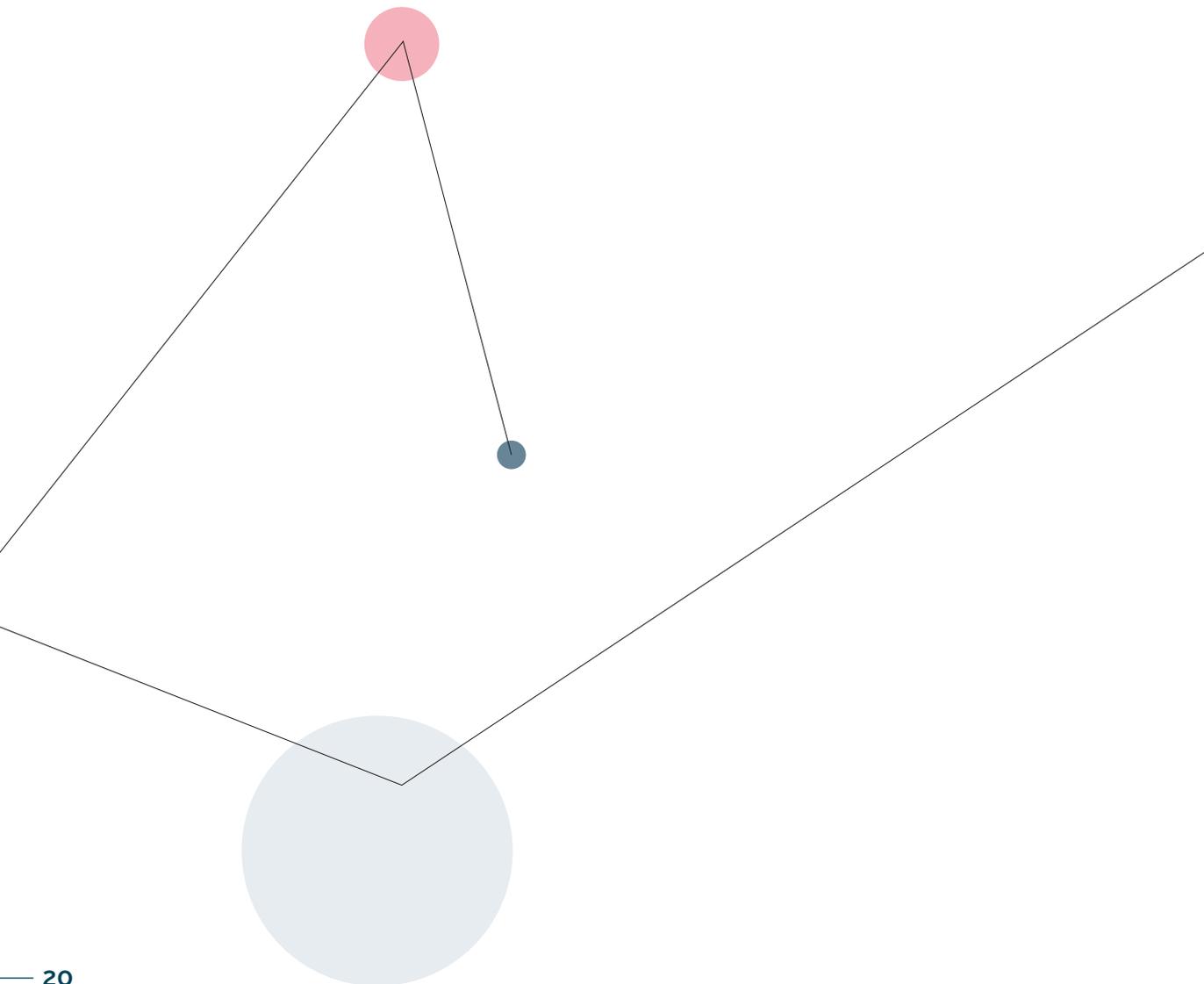
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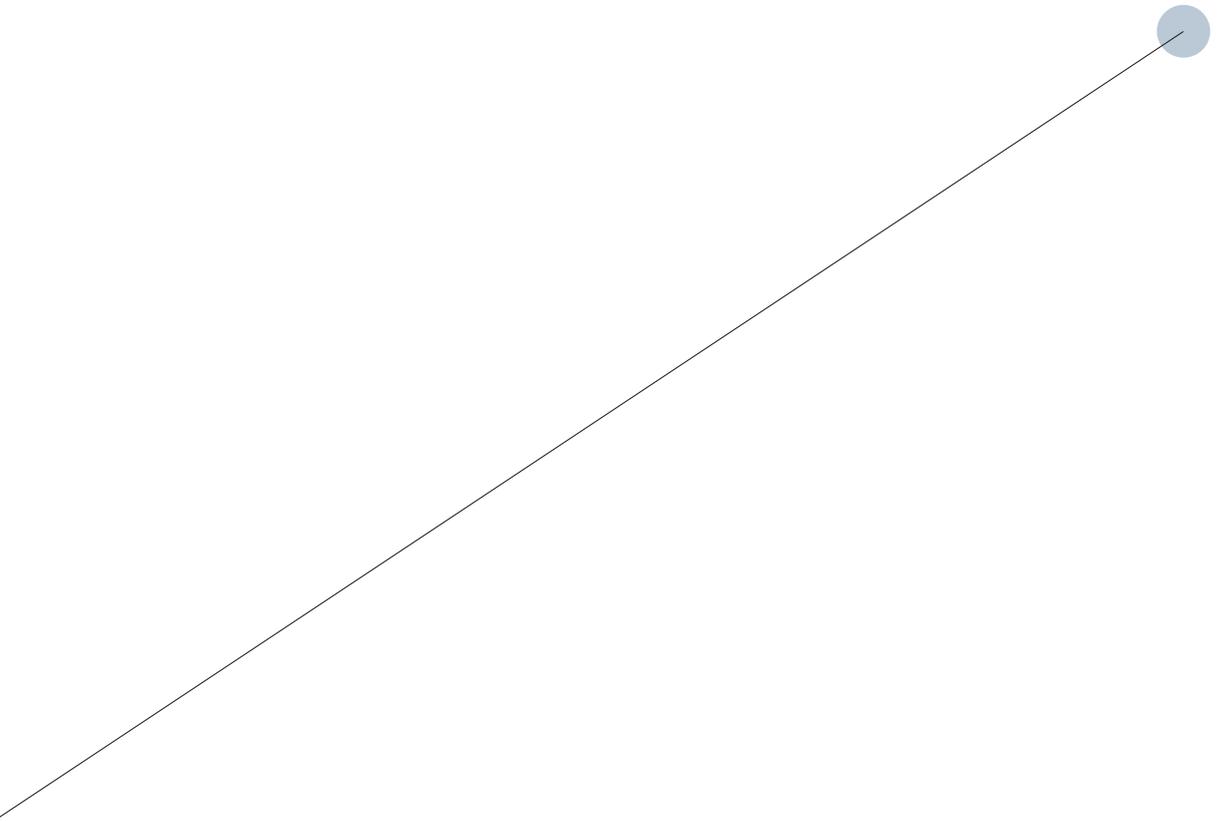
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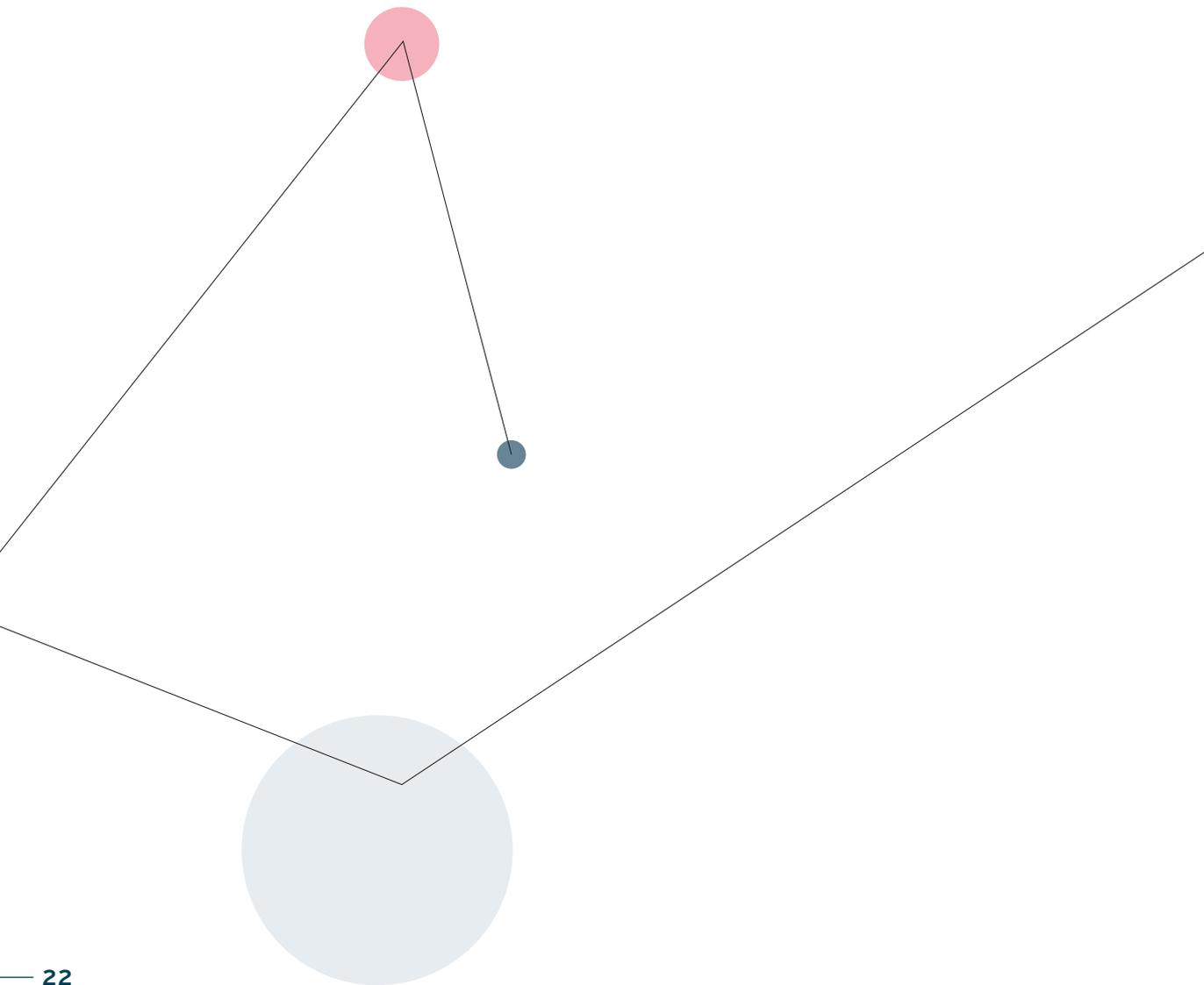
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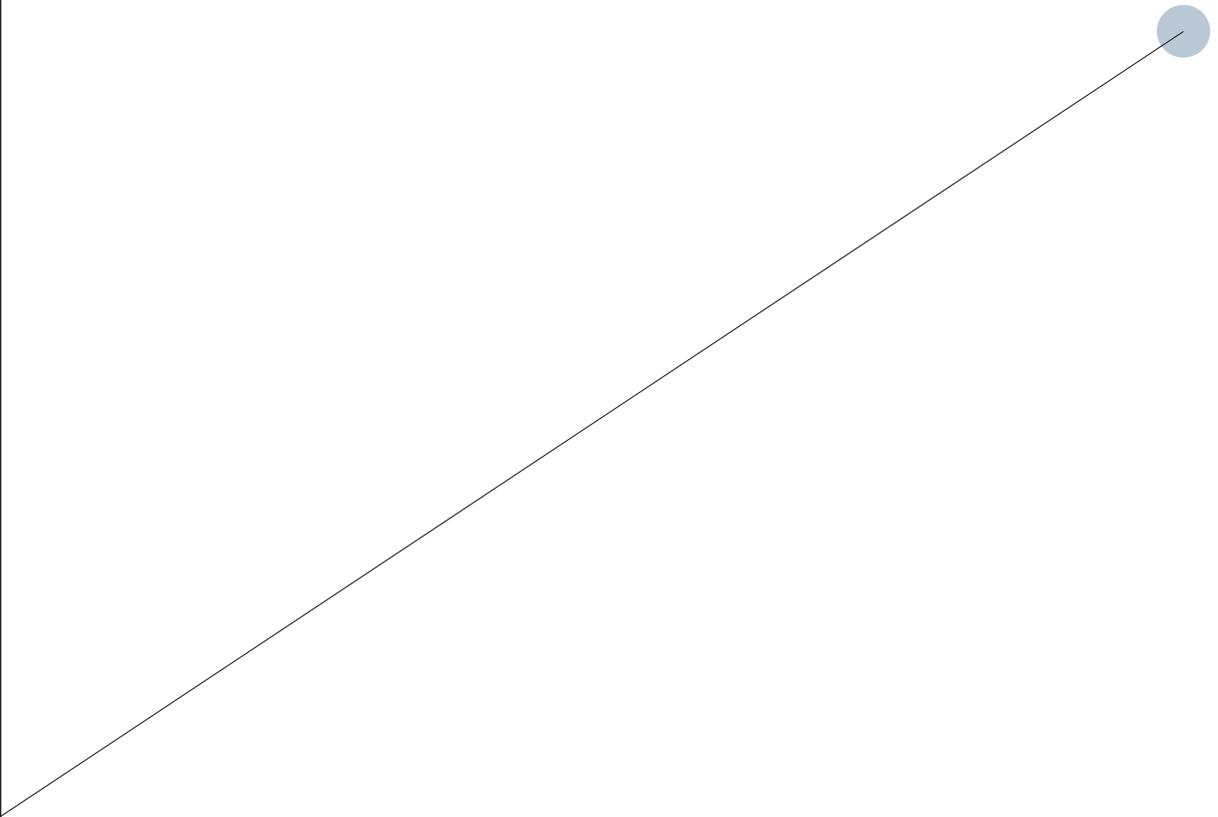
# NOTES





# NOTES





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