

דור הכנסת





DISCOVERING the infinitely LARGE and infinitely SMALL

Author Julie Drouin



# PREFACE

## AT THE CROSSROADS OF ART AND SCIENCE

*The universe is more "abstract" than we think and "abstract" painters are less so than what is said about them.*

JEAN GUICHARD-MEILI, 1960



On the occasion of a lecture delivered in the fall of 2011 at Laval University and entitled “Science, Art and Imagination”, the astrophysicist Jean-Pierre Luminet noted that, just like scientists, artists are passionate about space and its mysteries. With this exhibition, the scientist Éric Dupont somehow reverses the proposal. As circumstances dictated in a process initiated fifteen years ago and following an instinctive need that he was unable to resist, he decided to share the adventure of many artists of yesterday and today in the exploration of the elusive.

Through his paintings, we see Éric Dupont search for and find himself in both the micro and the macro. Over and above certain dependencies or affiliations, his production deserves credit for authenticity. It signifies the discovery of a part of self and a quest for what eludes us in the universe. Indeed, each painting constitutes a pictorial territory that requires attention, demanding to be observed both from a distance and close up, and that in the end leads us to agree to lose ourselves in the meandering miles of pigment spread over the canvas.

That said, the artist cannot determine how his work will be read or interpreted. After all, everyone looks at the universe in his own unique way, depending on his experience. Although the painter might try to explain his interest for the infinitely large or infinitely small, some visitors will nevertheless be satisfied with simply enjoying the fragmented splendor of his paintings. Hence, it is not surprising that visitors to the exhibition will observe here and there similarities or affinities with the art of Jean-Paul Riopelle, for example.

Let us not forget that in the 1950s, Riopelle was able to create new pictorial spaces that commentators of contemporary art have sometimes associated with new ways to explore the universe. I'm thinking of, among others, Jean Guichard-Meili, who in his book *Regarder la peinture* [Looking at pictures] (Le Seuil, Paris, 1960) made a surprising bridge between a Riopelle painting created with a spatula and an aerial photo of the French countryside. Alongside this visual and evocative demonstration, he added quite correctly that there is no single or unique system for reporting the visible:

*The prodigious means of investigation of contemporary technology," he wrote, "now allow us to dive into the two infinities, at the heart of the mysteries of the world! Do the photographs automatically taken by rockets sent hundreds of kilometers into the sky... not reveal a wonderful aspect of reality? And does not the electronic telescope, able to eliminate millions of light-years, make us contemplate the universe of galaxies? In contrast, is the tree any less real when, thanks to a micro-section of its timber, it is shown to us with the architecture of the cells of which it is composed?*

Later in his book, Guichard-Meili adds comments that have lost none of their relevance relative to the pictorial proposals submitted to us today by Éric Dupont:

*Who can claim with certainty to have invented a form or an entirely new colour scheme? This is giving insufficient credit to nature, which always appears richer as one manages to probe it further. Aspects that are revealed, for example, through ever more sophisticated methods of scientific exploration, take an even more "abstract" character from the molecular or atomic point of view that plant cells or crystal formations already offer to simple microscopic observation. Thus it may sometimes happen that the artist finds, after difficult and original research, such a structure existing without his knowledge, at the heart of a rock or a rare metal, and on a completely different scale, invisible until the physicist in his laboratory has isolated it. What is there to conclude if not that - again - reality is infinitely larger than some "realistics" as well as "abstracts" believe and that there are many ways to comprehend it?*

With his head in the stars or his eye on the microscope, Éric Dupont invites us to enter his secret garden, which is a kind of crossroads where art and science meet. For a scientist of his caliber, it is undoubtedly a risky venture into another world, but it fits perfectly with the insatiable curiosity that drives him as an explorer beyond what surpasses and eludes us in the worlds of the infinitely large and infinitely small.

JOHN R. PORTER





# INTRODUCTION

*To become truly great, one has to stand with people, not above them.*

MONTESQUIEU

A

n avid science and innovation enthusiast, Éric Dupont is a visionary entrepreneur, an inventor, a scientist and a financier who well personifies versatility. He holds a Ph.D. in Physiology Endocrinology from Laval University Faculty of Medicine and a fellowship in Neuroendocrinology from the University of Montreal. Very active in life sciences research, he has authored in almost twenty years nearly a hundred publications and presentations on endocrinology and oncology. He has nine patents to his credit in the major research fields of cancer, nutrition, active cosmetic ingredients and cosmeceutical anti-aging care.

In 1991, at the age of 26, Éric co-founded his first company: AEterna Zentaris, an advanced clinical stage oncology products development company, whose research activities are focused on potential treatments for many types of cancers, including colorectal, multiple myeloma, endometrial, ovarian, prostate and bladder. The company's innovative approach of "customized medicine" aims to develop tailor-made treatments for the specific condition of patients whose medical needs are not met.<sup>1</sup> AEterna became a publicly listed company in 1995 (TSX: AEZ, Nasdaq: AEZS).

In 2000, he went on to expand the initial two AEterna commercial divisions (cosmetic and nutraceutical) to co-found a new company: Atrium Biotechnologies. This initiative allowed AEterna to have the latitude to dedicate itself exclusively to the pharmaceutical field. In 2002, AEterna acquired Zentaris AG, a German biopharmaceutical company whose research activities are mainly focused on oncology and endocrinology.<sup>2</sup> Thereafter, AEterna changed its commercial banner to become AEterna Zentaris. The cosmetic and nutraceutical divisions, formerly part of AEterna, were henceforth operated by the newly emerging firm, Atrium Biotechnologies.

Hoping for diversification and growth, the company acquired in 2001 Unipex (a private company in the fields of development, production and distribution of active ingredients and specialty chemicals for the industries of cosmetics, pharmaceuticals, specialty chemicals, industrial facilities and nutrition).<sup>3</sup> The latter was then divided according to its fields of expertise: nutraceutical and nutritional supplements. The "cosmetics and chemical-active ingredients" division, formerly operated by Atrium Biotechnologies, was incorporated into Unipex. In March 2005, Atrium Biotechnologies became a publicly listed company (TSX: ATB).

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1. <http://www.aezsinc.com/en/index.php>

2. <http://www.prnewswire.co.uk/cgi/news/release?id=95959>

3. <http://www.unipex.com/en/about-us/index.php>

In May 2007, Atrium Biotechnologies changed its commercial banner to become Atrium Innovations. Today, Atrium Innovations is a leader with a very strong presence on the international scene as a dominant player in the industry of preventive and integrative health.<sup>4</sup> It commercializes top-notch health products based on scientific research in more than 35 countries around the world.

Unipex operates commercially under the name of Unipex Solutions, a leader in the distribution of active ingredients and specialty chemicals. It also provides a wide range of distinctive services and personalized solutions throughout North America. Its distribution and marketing networks service more than 50 countries in North America, Europe and Asia.<sup>5</sup>

Fueled by innovative ambitions, Éric co-founded in 2008 a new company called Immanence Integral Dermo Correction (IDC), which now markets, after five years of rigorous scientific studies on the skin's aging mechanisms, a truly unique and comprehensive anti-aging solution.<sup>6</sup>

IDC's integral approach and its high concentration in active ingredients make it a unique range on the market. The REGEN-16 patented technology is the first scientific innovation to offer the highest concentration of active ingredients in cosmetics, the only one to target all of the 16 most important skin aging mechanisms, hence the name: REGEN-16.<sup>7</sup> This unique cosmetic care line of products, with its proven efficiency, is worthy of today's woman.

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4. [http://www.atrium-innovations.com/brochure\\_en/](http://www.atrium-innovations.com/brochure_en/)

5. <http://www.unipexinnovations.com/en/news-events/press-release.php?id=58&y=2011>

6. [http://www.idcdermo.com/eng/en\\_ca/universe/our-mission/16](http://www.idcdermo.com/eng/en_ca/universe/our-mission/16)

7. Idem



Through the use of innovative strategies and non-traditional business models in the field of life sciences, geographical diversification, excellent products synergy, organic growth, growth through businesses and products acquisitions, Éric has succeeded in protecting his companies from the fluctuations and risks associated with economic crises. This preservation is due to: 1) the rapid achievement of self-sufficiency through self-financing, 2) the fact that

he has remained competitive and that he has limited each company's vulnerabilities through innovation, diversification and complementarity of activities and products, 3) the fact that he has maintained a very high level of independence and entrepreneurial latitude.

His leadership, his insatiable quest for knowledge, his determination, and his need to innovate constantly, coupled with the high calibre of the partners that joined him throughout his professional life, were important success vectors ensuring his firms' sustainability and strong reputations, both nationally and internationally. Initiator of powerful generators of economic development in Quebec as well as in Canada, Éric is a businessman recognized and respected by his peers, both at the local and international level. Note that he shares his professional success with his brother Luc and sister Sonia, business partners with technical skills that complement his. A strategist and a loyal friend, Luc is the co-founder of all of his companies. Éric feels extremely fortunate to have had the great privilege to realize his professional aspirations with family members.

Éric's achievements transcend the business world. He also dedicates himself to the development of high-end products in order to provide new and innovative therapeutic prevention solutions. In 2002, as a philanthropist willing to offer support to the well-being of people with cancer at every stage of the disease, from prevention to the last treatments, he made a personal donation of \$1 million to five organizations working with people with cancer (the Canadian Cancer Society, Look Good Feel Better, the Eastern Quebec Cancer Association, the Maison Michel-Sarrazin Foundation and *Fondation AEterna*).

*Fondation AEterna*, co-founded in 1995 by Éric, aims to make experimental medical care available to a number of patients for whom conventional treatments have failed. Providing access to innovative and promising treatments, *Fondation AEterna* gives hope to people with cancer who would otherwise be condemned for lack of suitable treatment. As these services are not always provided close to where patients live, *Fondation AEterna* pays for part of the transportation and accommodation costs for these people so that they have access to ultra-specialized establishments.<sup>8</sup> *Fondation AEterna* first became in 2006 *Fondation Atrium-AEterna* and is known as *Fondation Dupont* since 2012.

Diversification in the business world is a powerful and strategic economic development weapon which significantly reduces volatility. On a personal level, the diversification of Éric's activities, interests and passions is of equal importance as it provides a way to create fulfillment, happiness and plenitude. Through the development and establishment of successful companies, he fulfills many of his passions, hence ensuring his own emancipation, his personal development as well as the preservation of his mental and physical health, a balance of prime importance.

Since childhood, Éric has had a wide variety of interests, concerns and passions. Throughout the course of his life he has been lucky enough to cross the path of brilliant, passionate and experienced instructors from various fields. They generously and enthusiastically offered him valuable assets: their time, their teachings, their passions.

Éric has a great deal of respect, gratitude and devotion for his many “life instructors”, starting with his parents. From his earliest years, they have taught him priceless values such as rigour, determination, discipline, hard work and perseverance. At age 10, in the forests of Saguenay, Éric helped his father with the preparation and other operations related to hunting and trapping furs. From this warm and special relationship arose his current passion for nature, its fauna and flora, fishing, hunting and trapping.

Dr. André Dupont, his paternal uncle, is a remarkable man who contributed to the awakening of his nephew’s multidisciplinary passions. Internationally recognized for his eloquent participation in the development of a hormonal treatment for prostate cancer used throughout the world for over 20 years, he has authored and co-authored during his life more than 185 publications and over 125 presentations. Despite his many professional and personal obligations, such as being a father to his son, André skillfully and generously guided, suggested and contributed to various forms of effort, tools and resources to stimulate and lead Éric to personal and professional fulfillment, by introducing him to travel, martial arts, transcendental meditation and life sciences. At the age of 15, Éric held his first summer job alongside his uncle André, then professor of medicine at Laval University, working in the field of research for a cure to prostate cancer. For this innovative and very talented man, who has a remarkable open spirit, absolute generosity and goodness, Éric feels boundless admiration and gratitude.

During his university graduate training in physiology endocrinology and postgraduate training in neuroendocrinology, Éric made the acquaintance of a scholar and a passionate teacher, Dr. Georges Pelletier. With him, he discovered and explored the field of medical research and the fascinating universe of the microscopic: the world of the infinitely small. It was to be the scientific base of his professional life. As far back as he can remember, he has always been fascinated by the world of the “minuscule” and knowledge, a passion fed by the great privilege of being able to explore and discover what the eye cannot naturally observe. Through the microscope, Éric discovers the universe of the minuscule at the origin of life, a grandiose spectacle.

Not only did he have the chance to get to know exceptional individuals who stimulated his scientific and intellectual curiosity, but he also had the pleasure and benefit of sharing, at a very young age, his keen interest in art with his paternal aunt, Jacqueline Dupont. Through her legendary generosity, she introduced him to the beauty of art by taking him to visit galleries and museums where major works were on display. Jacqueline also helped develop Éric’s awareness for visual art and music by offering him at a very early age the opportunity to attend symphonic orchestras, operas, etc. Through her, he embraced his passion for the arts, an on-going interest, since in addition to focussing on the production of his own work, he also sits on the Board of Directors of the *Musée national des beaux-arts du Québec*. For twenty years, Éric has been, and continues to be, an enthusiastic and avid collector of Quebec art. Whether abroad or at home, he regularly loves to visit art galleries and museums.

The presence of all these important people in his life have allowed him to acquire many diverse passions that have proven to be vectors of important personal and professional growth. Many exceptional mentors combined with the great blessing of good health and all the elements necessary to the full development of his motor and intellectual abilities have helped define Éric and his values. However, take note that without Éric's discipline, perseverance, determination, rigour and courage, things could have been quite different. I want to underline this, since despite an exceptional human environment dedicated to his emancipation in various fields, he has had the maturity and wisdom to receive knowledge as a gift and invest energy and effort in order to optimize it. With patience, gratitude and respect, he has quietly adopted the passions of each of his mentors.

Thanks to the many figures that have shaped his career, he has continued to pursue many passions, such as martial arts, holding a black belt in taekwondo and a brown belt in judo, scuba diving, fishing, hunting and trapping for furs, painting, aviation, and more recently the guitar. Furthermore, he always tries to improve his sociological and cultural knowledge by traveling, exploring nature and pursuing his discovery of the world of the infinitely small as well as being passionate about the exciting world of the infinitely large.

Sensitive to the discoveries made by the great "masters" of history, he especially likes to delve into the works of Leonardo da Vinci (1452-1519), the self-taught scientist, inventor, master painter, musician, designer, military engineer, architect, sculptor and scientist, in constant search of knowledge and discoveries. A true inspiration for him, "Leonardo da Vinci is the archetype and the symbol of the Renaissance man, the universal genius and humanist philosopher whose infinite curiosity is matched only by the force of invention."<sup>9</sup>

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9. [http://en.wikipedia.org/wiki/Leonardo\\_da\\_Vinci](http://en.wikipedia.org/wiki/Leonardo_da_Vinci)

One of the most talented painters of all time, famous in particular for having produced the Mona Lisa (1503-1506) and the Last Supper (1494-1498), he was also a science enthusiast of phenomenal intelligence, persistence and rigour. “The noblest pleasure is the joy of understanding”, said Leonardo da Vinci. He was a genius inhabited by the desire to know and understand everything. Through his works, da Vinci wished to represent what cannot be represented, to see the invisible, to feel and perceive the intangible. He was close to nature, fascinated by botany, physiognomy, human and animal anatomy, geometry and flying machines. This demonstrates the broadness of his mind and considerable versatility, both on the technical and creative levels. In a variety of fields of action, he excelled in perfect constancy. As a scientist, Leonardo da Vinci contributed to the advancement of knowledge in the fields of anatomy, civil engineering, optics and hydrodynamics. However, very few of his projects were built or even considered feasible while he was still alive.<sup>10</sup>

No man in the world has surpassed the knowledge of Leonardo da Vinci in painting and architecture. His discoveries and studies, as impressive as innovative, have had a direct influence on the course of history. He established, through numerous drawings and sketches, the paternity of many inventions still relevant in our modern world, such as the mechanical hammer, mobile protection barriers, the hydraulic pump, the wooden screw cutting machine, fins for mortar shells, the steam cannon, the submarine, the battle tank, the automobile, floating skis, the calculator, the diving suit and helmet, the double hull, ball bearings, the helicopter, hang-gliding and the bicycle.

Relatively speaking and 500 years later, Éric shares a few character traits with Leonardo da Vinci's unique personality. He is a rational man, ambitious, a perfectionist, who daily experiences scientific realities and cherishes the dream of representing the invisible. On a regular basis, Éric benefits in his own way from da Vinci's inventions, whether practicing scuba diving or flying a helicopter or other aircraft. Passionate about the vastness of the sky and its secrets, Éric is literally fascinated by the infinitely large.

As for da Vinci, it is through figurative art that Éric explores the immensely large and immensely small with a painting technique that he has been seeking to refine for nearly fifteen years. His figurative art includes several attempts to represent or reproduce models and real objects, whether lifelike or not. "Figurative painting represents not only people but also objects such as a vase or bottle, an animal, a flower, a landscape. It refers to an identifiable representation of reality or an unreal world, created by the artist's sole imagination."<sup>11</sup>

Whether abstract or figurative, the art of painting allows him to embellish and present his perception of reality, to communicate with his environment, to express and channel his emotions, to create while seeing before his eyes the realization of the limits of his imagination, to blend ideas, colours, shapes and inspiring visions. He also feels a real pleasure in letting his ideas, perceptions and conceptions run free. Painting allows him to enjoy quality time and to surrender himself to the present moment, to enjoy serenity and plenitude associated with the "emptiness to do or to think."

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11. [http://en.wikipedia.org/wiki/Figurative\\_art](http://en.wikipedia.org/wiki/Figurative_art)

Delimiting the gigantic or expanding the tiny and microscopic through art are for him ways to explore the mystery of life and living organisms. But why spend so much time in search of the invisible? First and foremost, to remind us of the central place of observation in the evolution of knowledge. It is mainly through expanding and developing its visual capabilities that man will gain access to new knowledge. With his work, Éric wants to make us aware of the many and extraordinary facets of the infinitely small and infinitely large, two worlds at the origin of life. In his words, “a man capable of amazement always stays young; wonder is life, routine is death.”

It has not been for me an easy task to try to introduce you to Éric's world, a man who is a complex and unparalleled character. I will not add more but I conclude my remarks by quoting first Jean de la Bruyere, and then Marcel Proust: - “Pleasure is gained by giving pleasure- “Let us be grateful to people who make us happy, they are the charming gardeners who make our souls blossom.”

JULIE DROUIN,  
QUEBEC, 2013





# EXPLORATION OF TECHNIQUES

**S**ince he started painting in 1998, Éric has worked on representing graphically his interpretation of the human and galactic origins and the Big Bang event. For his first artistic experiments, he explored many different techniques and methods as well as various painting instruments and mediums (brushes, spatulas, canvases, acrylic, oil, etc.). His first attempts at painting were done on wooden boards and “Masonite”, and linen and cotton canvases. He began with acrylic paint; however, he quickly discovered that he preferred oil painting for its slower drying qualities and the non-negligible possibility of allowing graduations and repainting. He also chose cotton canvases for his colourful and vivid paintings.

Nourished by his own perceptions and interpretations of the worlds of the infinitely small and the infinitely large, Éric scientifically improvises artistic illustrations of diverse scientific knowledge. He is an innovator, for he deals with a plurality of unique subjects, themes much underrepresented until now. He proceeds by carefully mixing pure colours directly onto the canvas with a spatula, his favorite tool. He then carefully applies the paint and superimposes many rectangles. The result satisfactorily meets its original objectives, i.e. the splitting of the material as well as the achievement of relief.

The following artwork is his first oil painting, dated 1998. This painting, from the "Origin" series, is an artistic representation of the explosion at the origin of galaxies: the Big Bang, an image of endless possibilities which will remain forever imperceptible to humans. It is within this aesthetic intermingling of molecules subjected to extreme temperature variations, various gases and intergalactic components that the beauty of this piece of art blossoms.



1<sup>st</sup> painting

Whether in the series "Origin" of the infinitely small or the "Origin" series of the infinitely large, peculiar phenomena unique to these worlds come together in an absolute proximity. The following painting also illustrates this reality. The parallel red and blue double helix box highlights his illustration of DNA, generously surrounded by the presence of various gases and molecules.

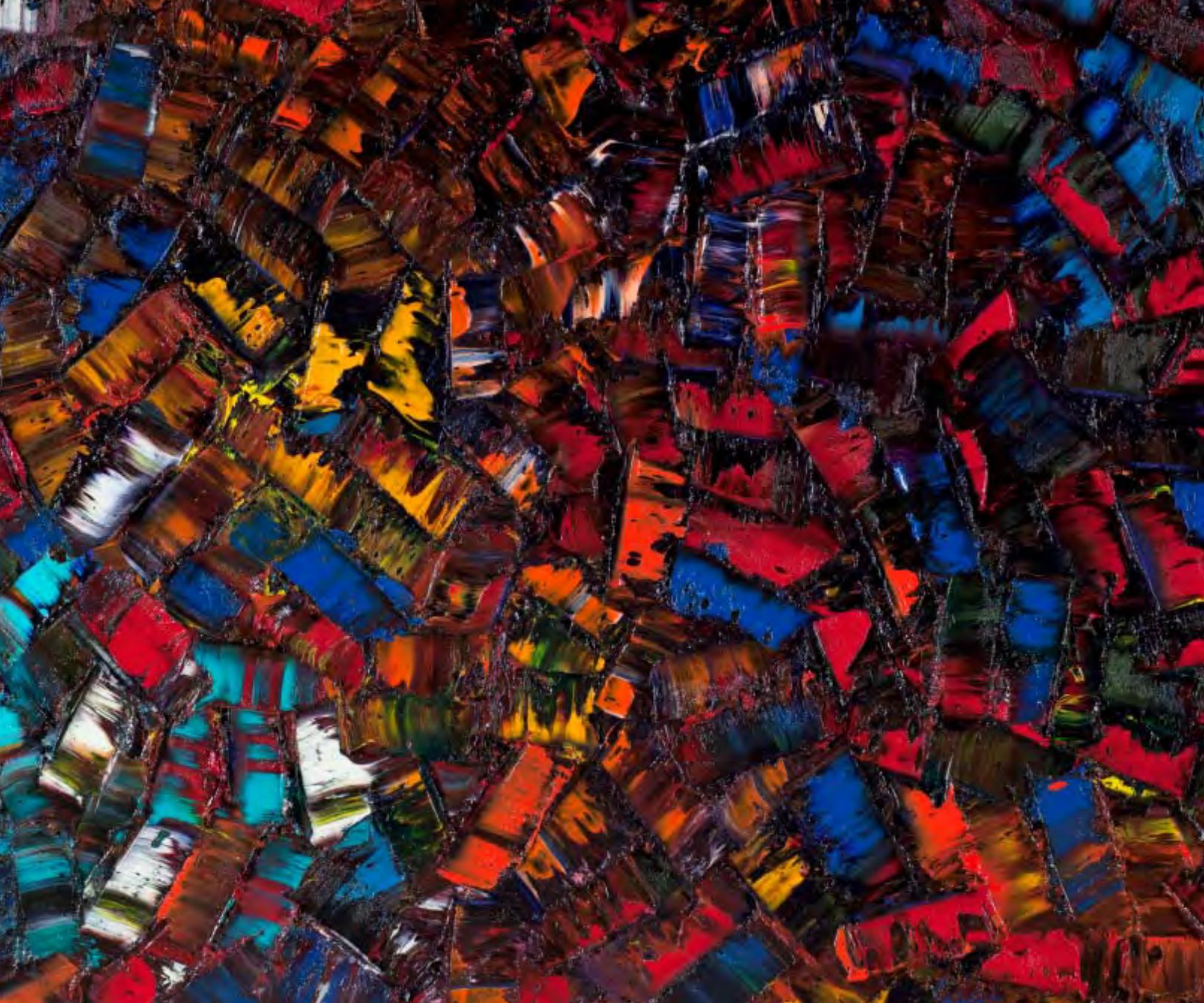


"Origin" series of the infinitely small, 2000

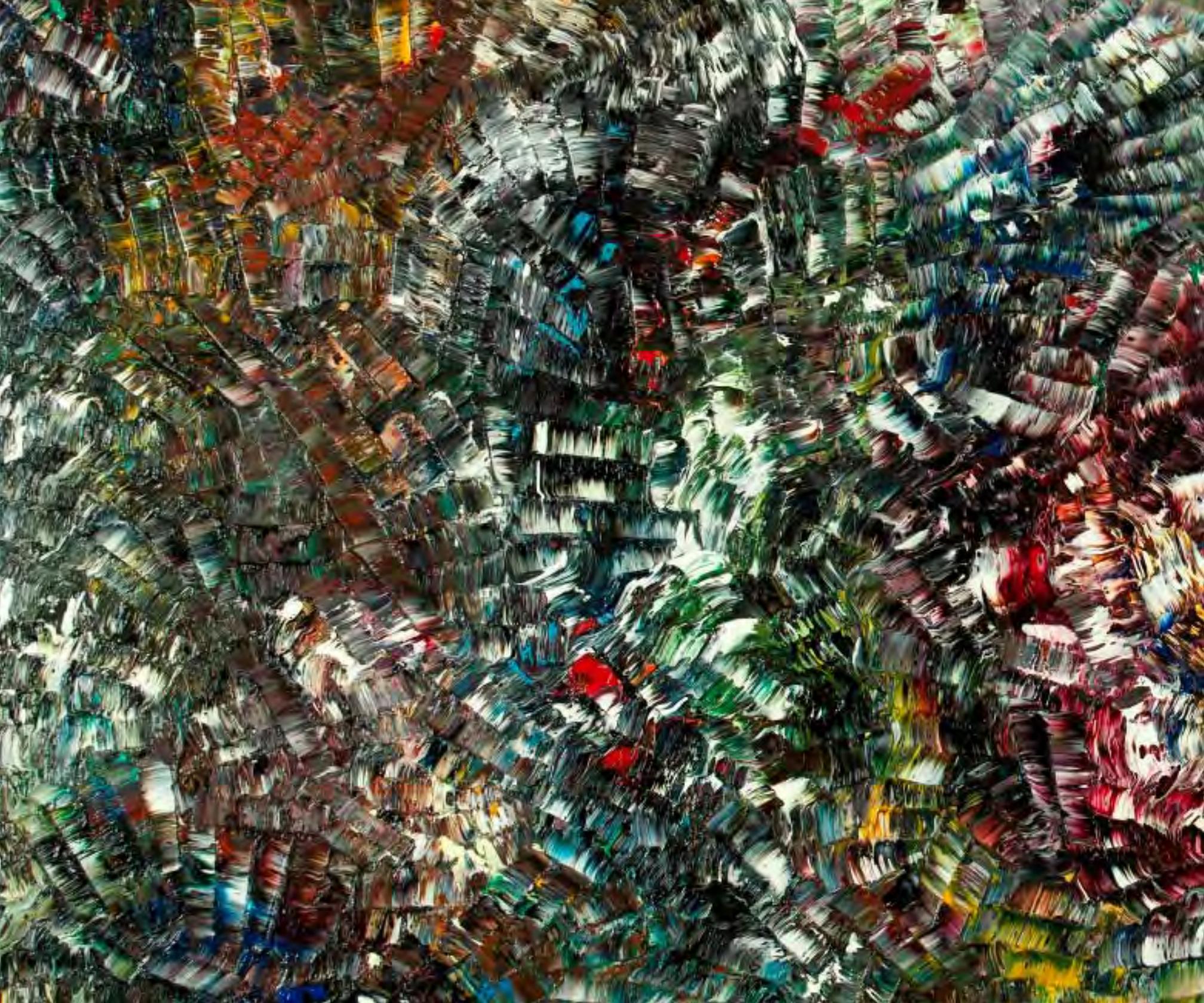
The choice of subjects painted by Éric is unique in that it represents the invisible character of the macroscopic and microscopic worlds, a figurative niche underrepresented by his peers. The brushstrokes are well defined and forms are painted into homogenous colorful shapes with a cleverly orchestrated texture covering the entire canvas for a striking effect of depth and perspective.

The gesture with which he handles the spatula occurs spontaneously in a well-rounded movement where different pigments combine and juxtapose harmoniously, giving life to a composition of infinite structures and textures. The abundance, density and regularity of Éric's steady spatula constitute his characteristic trait. His paintings feature rich relief, constantly reinvented by many forms and enchanting colours.

Over the past 16 years, he has greatly polished his skill in painting, achieving great refinement in recent years. Now, he manages to translate and reproduce his artistic interpretation of the infinitely large and infinitely small based on his wide scientific knowledge as well as his imagination.



DISCOVERING THE INFINITELY LARGE





**G**alaxies, the moon, the sun, stars, planets, space. How is it possible not to feel dizzy faced with the full extent of this excess? Grasping the immensity encompassed by the infinitely large is extremely complex for the neophyte. The stars, the sky and space in their most global sense have always been a source of fascination for the common man, in an almost obsessive goal to unravel the mystery of all this vastness. Cosmology, the study of stellar evolution and stars, as well as astronomy, the oldest science, are all fundamental disciplines directing us towards a better understanding of the universe.

The European Space Agency has created a website in a variety of languages to capture the imagination of the very young about the solar system and space exploration. In a section on the universe and its vastness, the time scale and geographical distances described there are overwhelming even for adults.

*The Universe contains billions of galaxies, each containing millions or billions of stars... The Universe is incredibly huge. It would take a modern jet fighter more than a million years to reach the nearest star to the Sun. Travelling at the speed of light (300,000 km per second), it would take 100,000 years to cross our Milky Way galaxy alone.*

*No one knows the exact size of the Universe, because we cannot see the edge – if there is one. All we do know is that the visible Universe is at least 93 billion light years across. (A light year is the distance light travels in one year – about 9 trillion km.)*

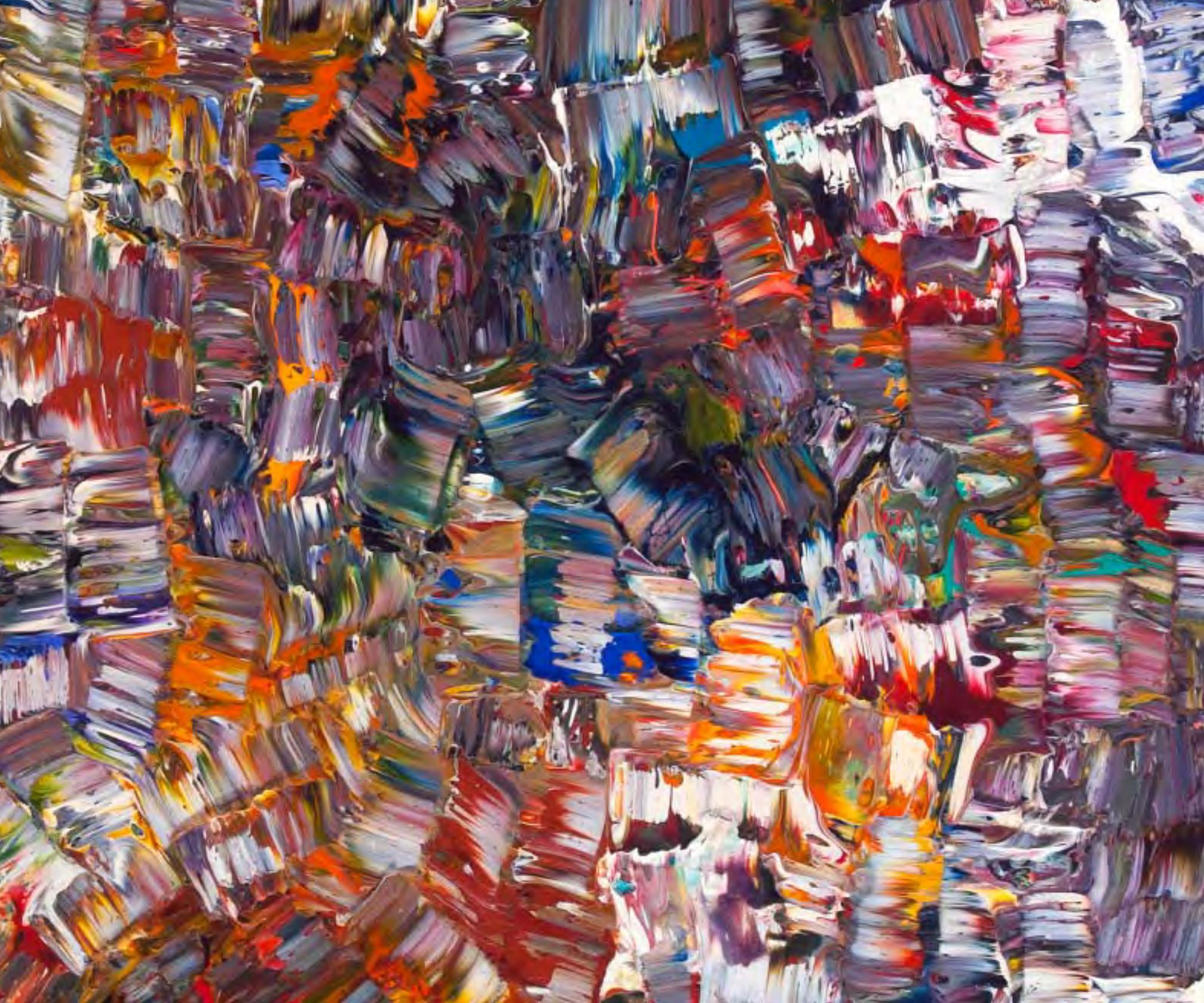
*The Universe has not always been the same size. Scientists believe it began in a Big Bang, which took place nearly 14 billion years ago. Since then, the Universe has been expanding outward at very high speed. So the area of space we now see is billions of times bigger than it was when the Universe was very young. The galaxies are also moving further apart as the space between them expands.<sup>12</sup>*

The innovative and creative intellectual efforts of our talented ancestors have made possible the conquest of space and have allowed us to observe beauty of a spatial nature. Today, with technology in constant effervescence, the observation of the infinitely large is made available to us through different types of telescopes, lenses and satellites. These technological tools provide guidance and encourage the exploration of space, leaving us stunned and amazed at the extraordinary phenomena of a constantly expanding universe.

Through his work, Éric brings you into the very diversified and inspiring world of the infinitely large, presented in the form of three series: the “Origin” series, the “Galaxies” series and the “Milky Way” series. Here are some actual pictures of space. To your left and to your right, you will find Éric’s artistic interpretation for each series.

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12. [http://www.esa.int/esaKIDSfr/SEMZJEBE8JG\\_OurUniverse\\_0.html](http://www.esa.int/esaKIDSfr/SEMZJEBE8JG_OurUniverse_0.html)



DISCOVERING THE INFINITELY LARGE

• O R I G I N • S E R I E S

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O R I G I N O F T I M E

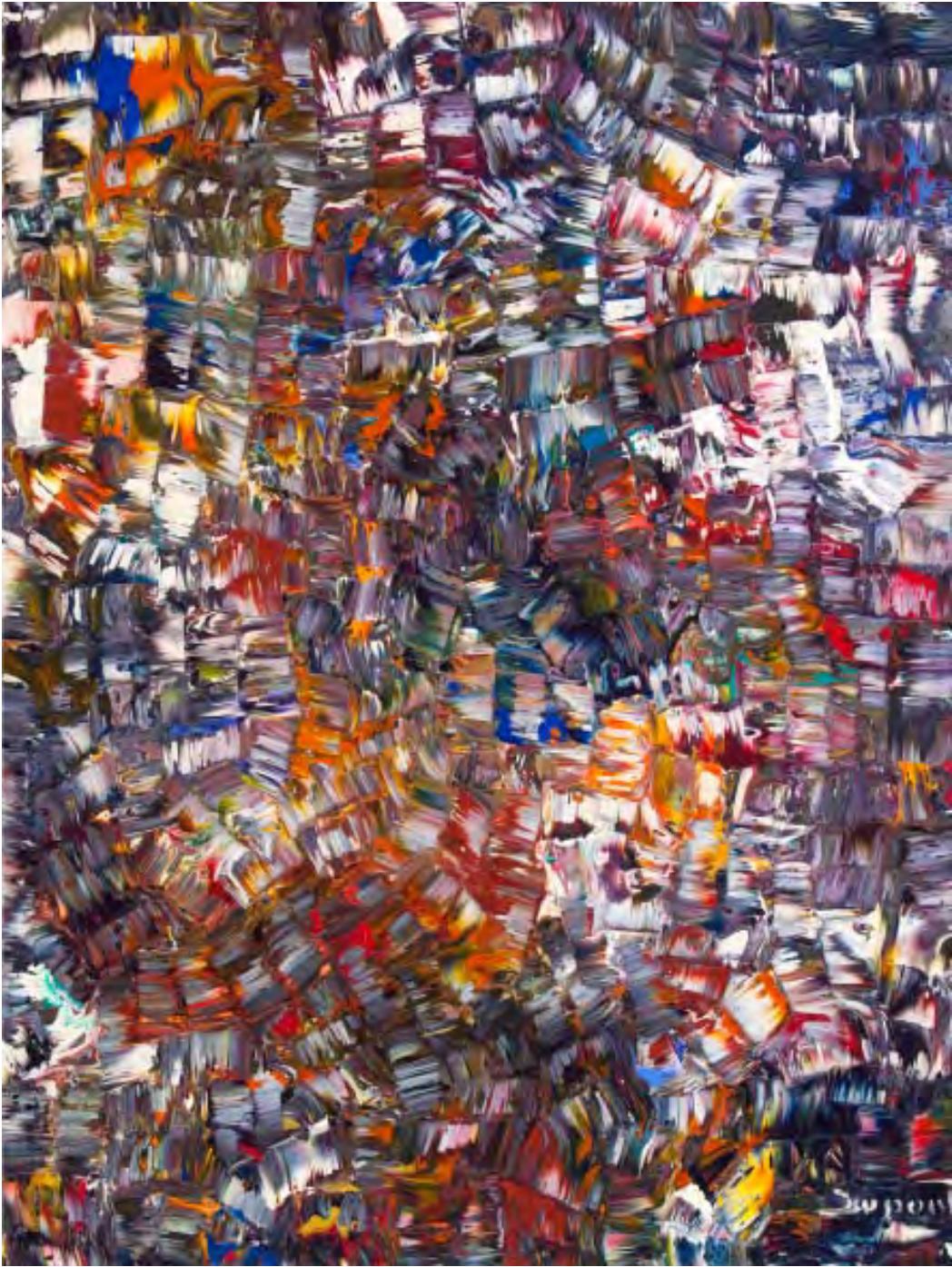


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Above, a picture illustrating the Big Bang.



*Origin of Time, 24 x 30, 2000*



*Origin of Time, 48 x 36, 2012*



*Origin of Time, 40 x 40, 2001*



*Origin of Time, 48 x 72, 2013*



*Origin of Time*, 24 x 30, 2000



## DISCOVERING THE INFINITELY LARGE

• M I L K Y   W A Y •   S E R I E S

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T H E   M I L K Y   W A Y   —   A   P A T T E R N Y   R A I N B O W



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Above, a picture representing the Milky Way.



*The Milky Way — A Patterny Rainbow, 48 x 72, 2000*



*The Milky Way — A Patterny Rainbow, 36 x 36, 2001*



*The Milky Way — A Patterny Rainbow, 48 x 72, 2011*



*The Milky Way — A Patterny Rainbow, 36 x 48, 2013*





# DISCOVERING THE INFINITELY LARGE

• GALAXIES • SERIES

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TRIANGULUM GALAXY



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Above, a picture representing galaxies.



*Triangulum Galaxy*, 24 x 30, 2001



*Triangulum Galaxy, 48 x 36, 2012*

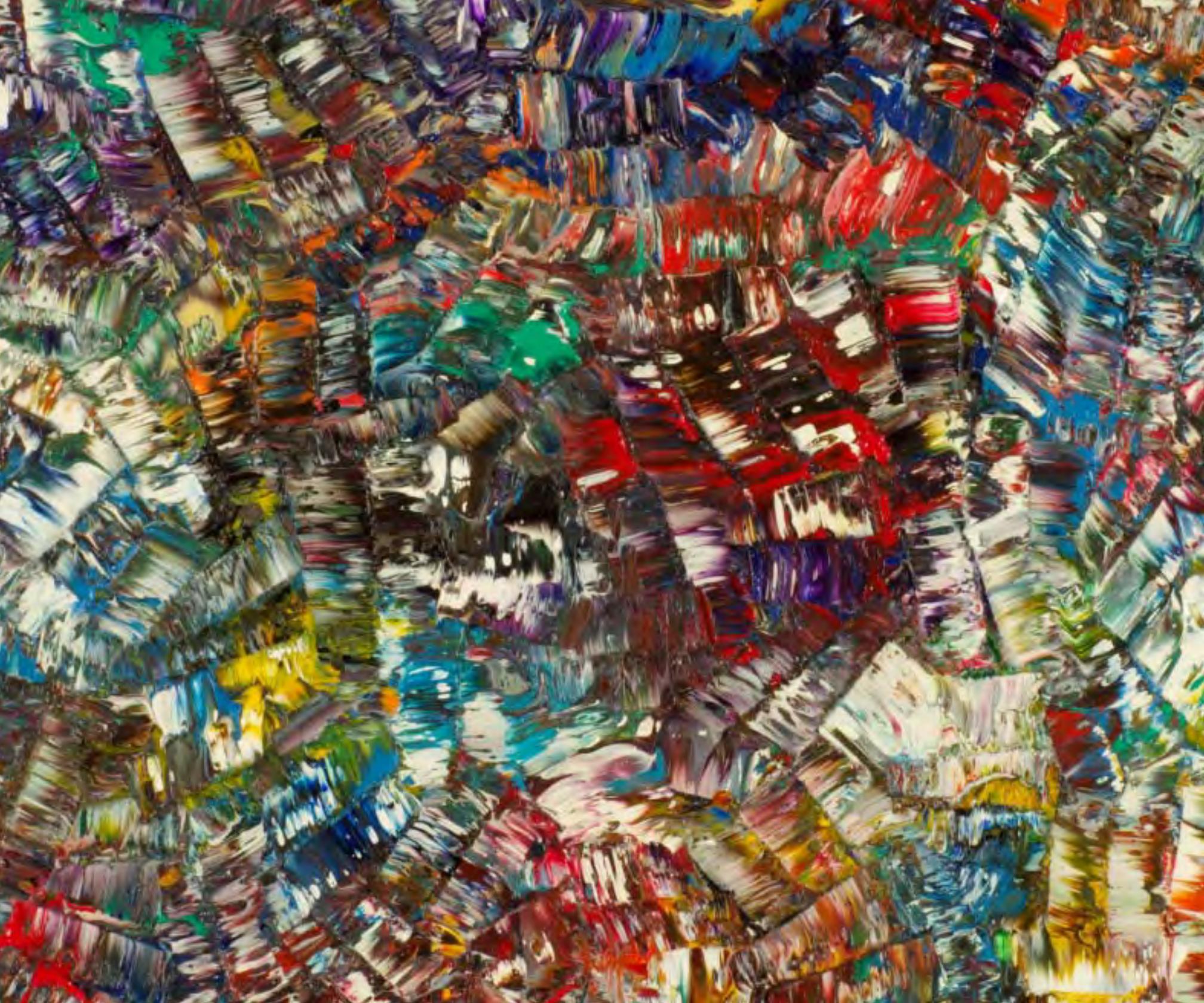


*Triangulum Galaxy, 30 x 36, 2013*

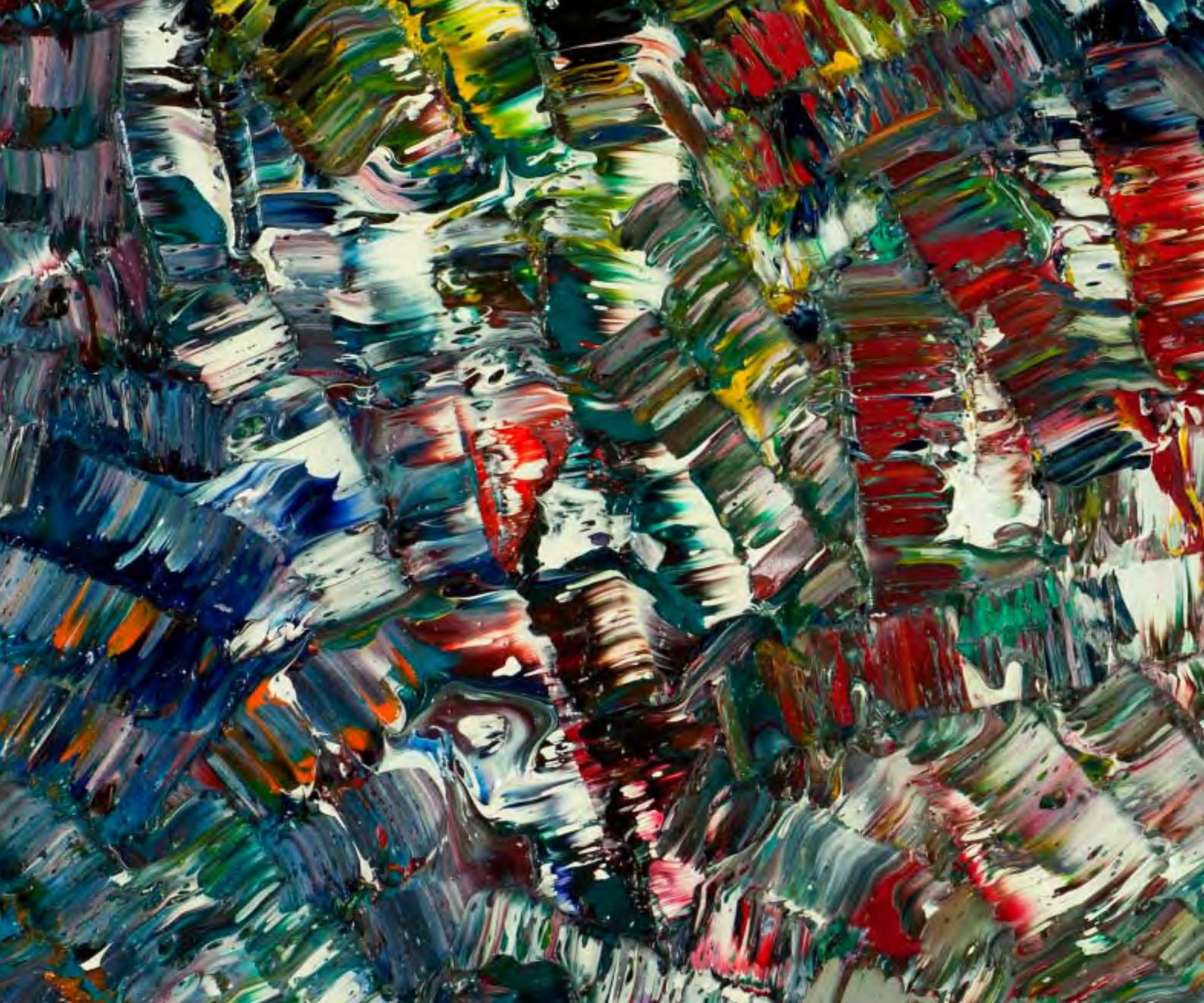


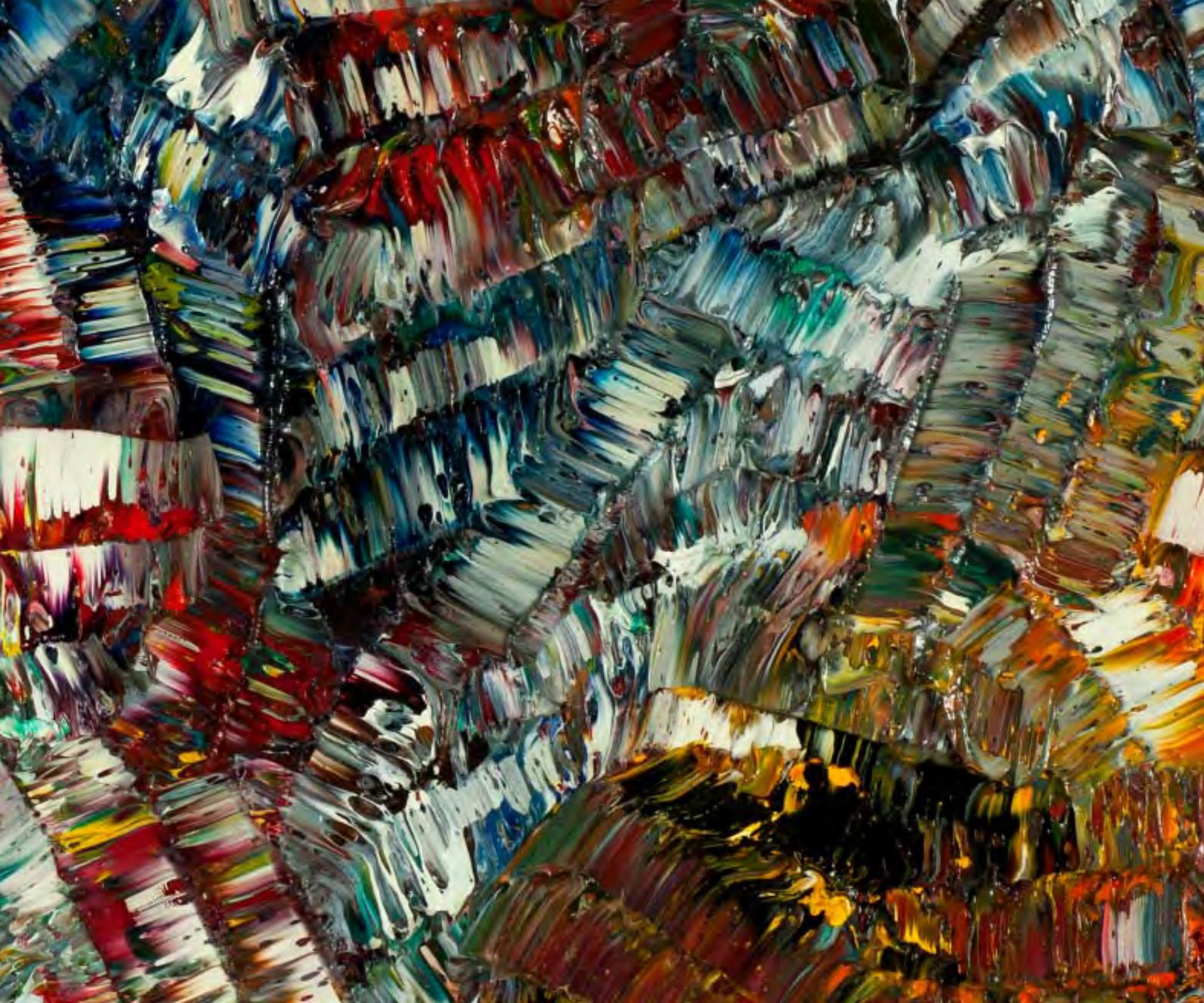
*Triangulum Galaxy, 16 x 20, 2000*





DISCOVERING THE INFINITELY SMALL





**F**rom the magnifying glass to the microscope, as far back as the history of mankind goes, man has always fantasized about the idea of seeing beyond the visible, of seeing further and more closely under all possible angles. Galileo (1564-1642) was the originator of the idea that we could observe small objects through a lens to increase their size. At the time, he designed a very basic version of the first microscope. In the following decades, the concept was re-examined many times in order to improve it, namely by Janssen, Leeuwenhoek and Hooke.

The microscopic world is vast and consists of a plurality of heterogeneous micro-organisms from all spheres of the living and nonliving: animal, human, mineral, plant, etc. From the standpoint of the structure or of genealogy, the only common characteristic of these microorganisms transcends from the inability to see them naturally since they are invisible to the naked eye. Under the microscope, arising from nothing, an unimaginable world opens up for the observer. A dark world of magnificent textures where countless creatures right out of fantastic tales abound. A space where the art of seeing becomes a science!

In the mysterious microscopic world, many micro-elements and micro-organisms essential to human survival, such as cells and neurons, stand side by side. "The cell is the structural, functional and reproductive unit at the heart of a living organism or part of it (except viruses). Each cell is a living entity which, in the case of multicellular organisms, operates autonomously but in coordination with others. Cells of the same type together constitute tissues, which themselves constitute organs".<sup>13</sup>

"The cell is the basic unit of all living beings, with the exception of viruses and bacteria. Cellular organisms are formed by a single cell or by a more or less important number of them. The human being is made up of billions of cells".<sup>14</sup> "Deoxyribonucleic acid, or DNA, is a molecule present in all living cells, which contains all the information necessary for the development and functioning of an organism. It is also the carrier of heredity as it is transmitted during reproduction, completely or not. It therefore carries genetic information and is the genome of living beings".<sup>15</sup>

The neuron, also known as the nerve cell, is an excitable cell forming the functional unit of the nervous system. Neurons have two physiological properties: excitability, i.e. the ability to respond to stimuli and convert them into nerve impulses, and conductivity, i.e. the ability to transmit impulses.

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13. [http://en.wikipedia.org/wiki/Cell\\_%28biology%29](http://en.wikipedia.org/wiki/Cell_%28biology%29)

14. <http://www.actions-traitements.org/spip.php?article527>

15. <http://en.wikipedia.org/wiki/DNA>

“Neurons serve to transmit a bioelectrical signal called the nerve impulse. They are 10 to 50 times less numerous than glial cells, the second components of the nervous tissue, and serve many purposes such as support and nutrition of neurons. In humans, before birth, the body produces 8,6 neurons per second to reach a total number of 100 billion. However, it is during the first four months of embryonic life that the most important increase in the number of neurons is observed; about 500,000 neurons per minute are produced” .<sup>16</sup>

The field of microscopy has completely revolutionized biological, anatomical, medical and various other types of sciences, by granting the immense privilege of exceeding the limits of matter with display techniques, as well as making access possible to the cellular world, microscopic anatomy and imaging on the atomic scale possible. Scientific breakthroughs and advances are largely dependent on technical and technological improvements of the microscope. To see is to know!

Microscopy is a passion and Éric’s professional base. Intellectual enrichment is for him a great privilege and a source of inspiration. As he is fundamentally attracted by life sciences and the phenomenal images they convey, he invites you into a magical world at the origin of life, a world invisible to the naked eye and often unknown to the public.

Through his work and inspired by human microscopic imaging, Éric invites you to explore the infinitely small in an incredible adventure at the heart of human matter. His paintings are grouped into three series, the “Cells” series, the “Origin” series and the “Neurons” series. As an introduction to microscopic imaging, you will find actual photos attached to each series’ theme.



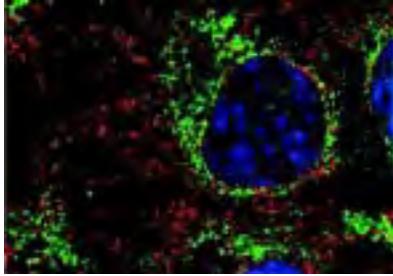


DISCOVERING THE INFINITELY SMALL

• C E L L S • S E R I E S

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C E L L S — B U I L D I N G B L O C K O F L I F E



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Above, the picture of a cell.



*Cells — Building Block of Life, 30 x 36, 2001*





*Cells — Building Block of Life, 36 x 48, 2013*



*Cells — Building Block of Life, 36 x 48, 2012*



*Cells — Building Block of Life, 36 x 48, 2011*



*Cells — Building Block of Life, 30 x 36, 2012*



*Cells — Building Block of Life, 36 x 48, 2012*



*Cells — Building Block of Life, 36 x 48, 2013*





DISCOVERING THE INFINITELY SMALL

• O R I G I N • S E R I E S

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O R I G I N O F L I F E



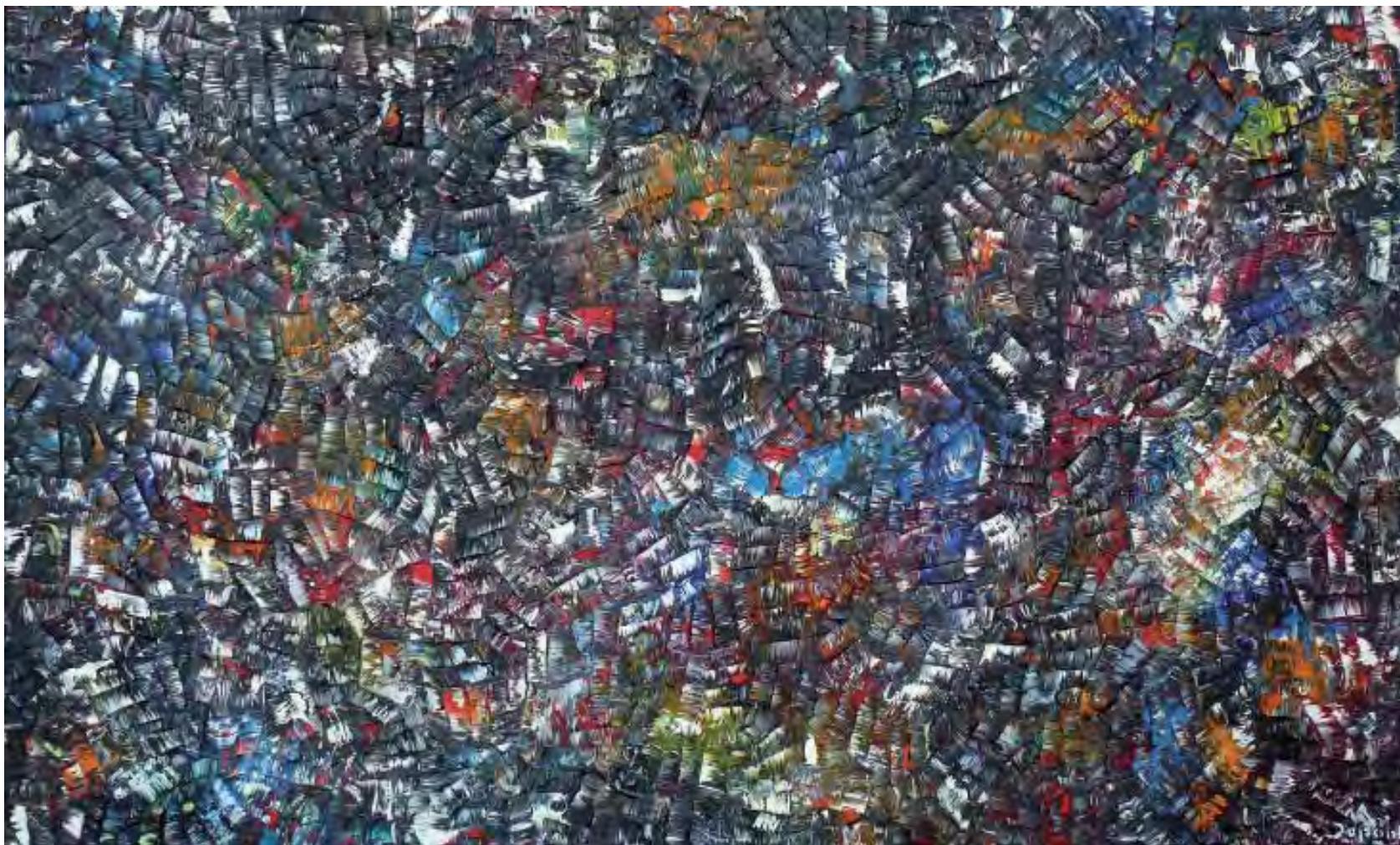
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Above, the illustration of the Big Bang and human DNA.

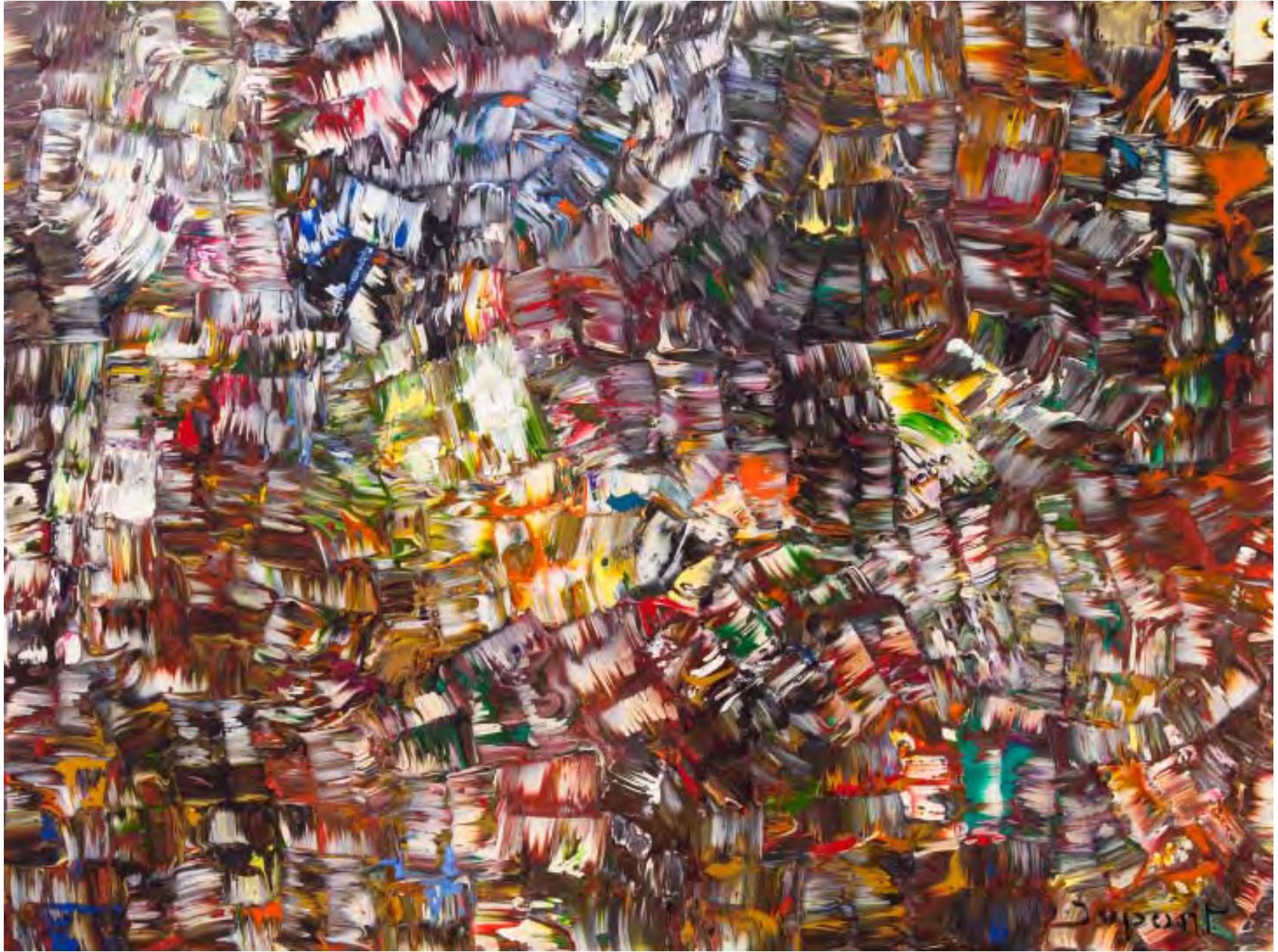


*Origin of Life*, 36 x 48, 2000





*Origin of Life*, 36 x 60, 2001



*Origin of Life*, 36 x 48, 2011



*Origin of Life*, 36 x 48, 2013



DISCOVERING THE INFINITELY SMALL

• N E U R O N S • S E R I E S

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E X C I T E D N E U R O N S



---

Above, a neural network observed through a scanning electron microscope.



*Excited Neurons*, 48 x 72, 2012



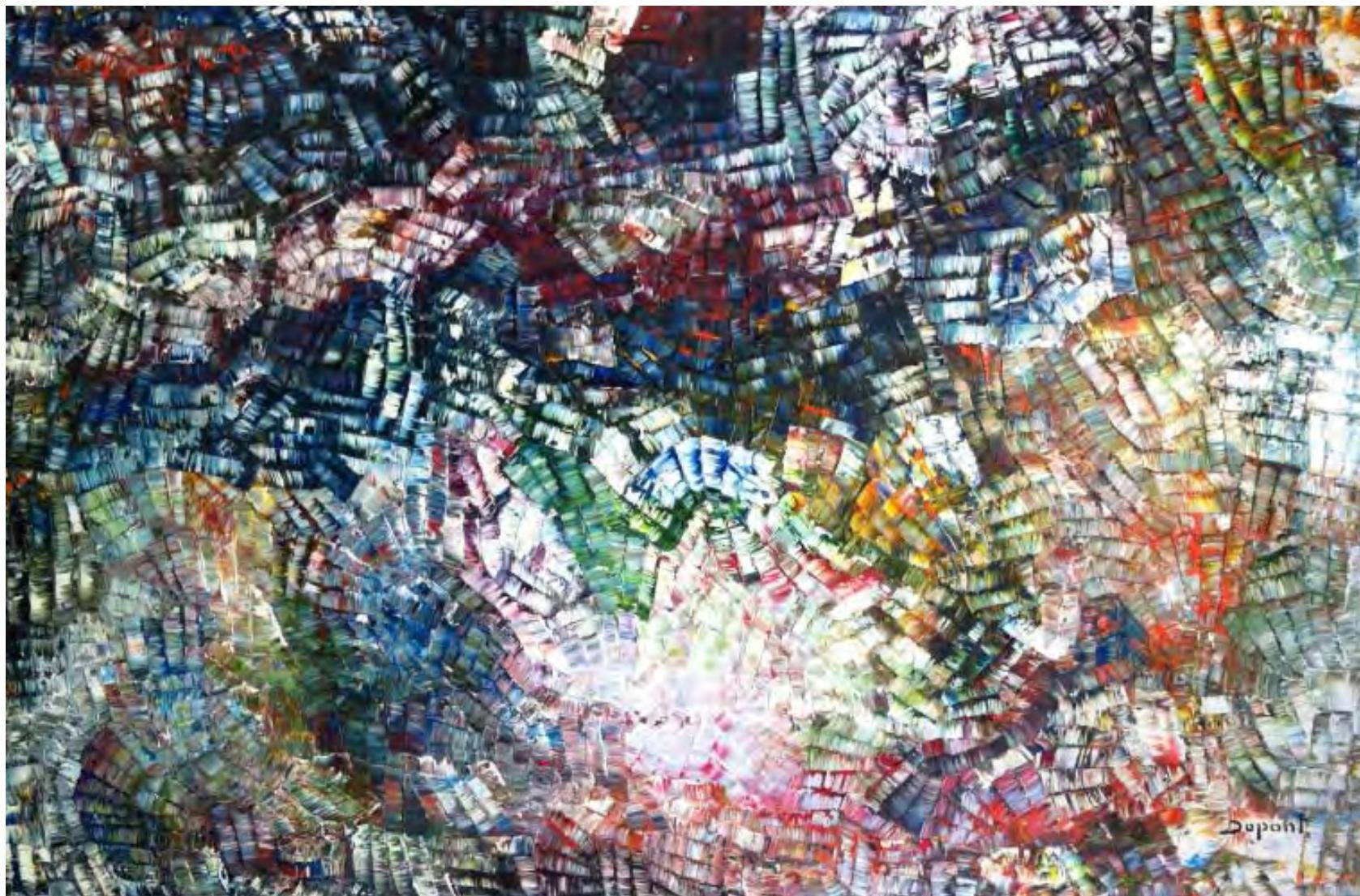


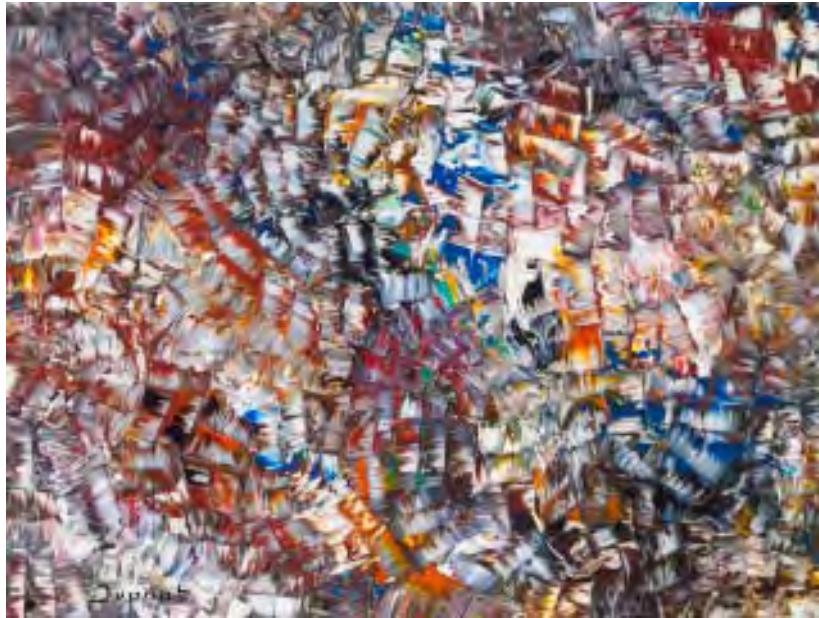
*Excited Neurons*, 36 x 48, 2011





*Excited Neurons, 48 x 72, 2013*





*Excited Neurons*, 36 x 48, 2011



*Excited Neurons*, 36 x 48, 2012





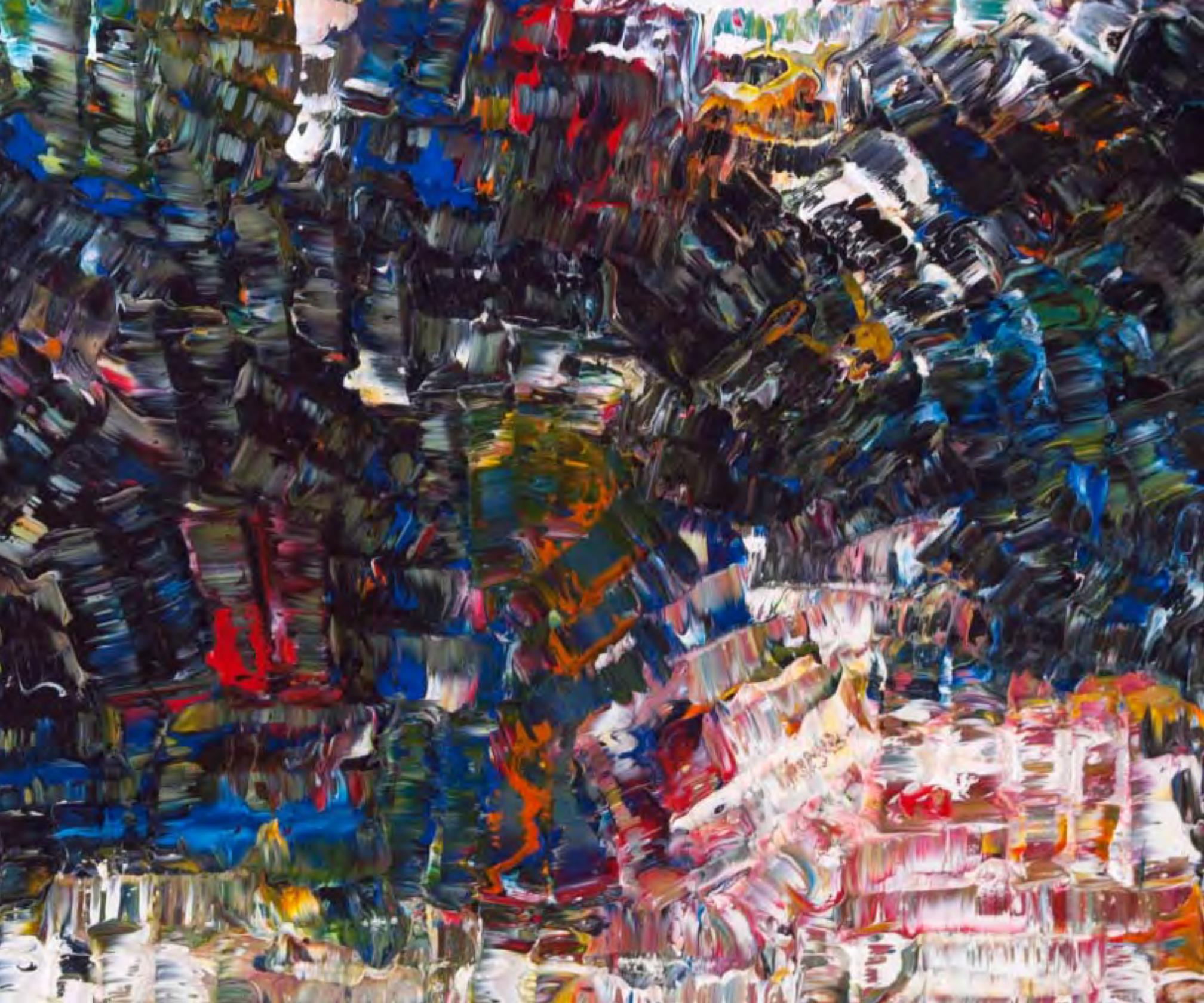
It has been for me a great pleasure to share with you my passion for discovery and knowledge in its broadest sense. You have allowed yourselves to be gradually introduced to two exciting worlds at the heart of life, namely: the world of the infinitely large and that of the infinitely small, my professional base. The discovery and the exploration of these two mysterious worlds have completely revolutionized the history of mankind as well as the scientific world, creating a very virtuous circle with never ending and ever evolving discoveries, revelations and multiple inventions. In this way, additional knowledge has enriched various disciplines, bringing to mankind a thorough understanding of many biological, medical, mineral, plant, spatial, intergalactic and interplanetary phenomena, formerly inexplicable.

It is with great humility and gratitude that I wish to pay tribute to the remarkable lives of various masters who have crossed my path, to the great thinkers who have gone before me and who, through their efforts, their discoveries, their works have afforded me a newer and bolder vision. Thank you for so generously letting me sit on your giants' shoulders in your respective spheres of activity to allow me to progress quickly and realize my various intellectual, professional and personal ambitions. "We are like dwarves perched on the shoulders of giants, and thus we are able to see more and farther than the latter. And this is not at all because of the acuteness of our sight or the stature of our body, but because we are carried aloft and elevated by the magnitude of the giants."<sup>17</sup> A metaphor attributed to Bernard of Chartres, the great 12<sup>th</sup>-century philosopher, which illustrates perfectly the opportunities I have had throughout my professional and personal journey.

In conclusion, I would like to take the time to thank my valued partners in the realization of this work, namely: Mr. John Porter (President of the Foundation of the *Musée national des beaux-arts du Québec*), Ms. Lise Drouin (teacher), Mr. James Jackson (Doctor of Modern Languages, Oxford), Ms. Denise Bombardier (PhD in sociology, journalist and writer), Ms. Line Ouellet (Executive Director of the *Musée national des beaux-arts du Québec*). Thank you so much!

Words cannot express my enormous gratitude to Julie Drouin (M.Sc.). Through her remarkable writing skill, she has rendered possible access to the complex world of the infinitely large and the infinitely small and to the painter, his artistic technique and his work. Albert Einstein's quote illustrates very well my gratitude for her excellent work: "The value of a man lies in his ability to give and not in its capacity to receive."

ÉRIC DUPONT  
ÎLE D'ORLÉANS, 2013



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Éric Dupont in his workshop in Sainte-Pétronille, Île d'Orléans.



Éric Dupont in front of Hazelton Fine Art Galleries, Toronto.

