Florentin Smarandache

Polymath, Emeritus Professor of Mathematics, PhD, PostDocs

Member of the ACADEMY Peloritana dei Pericolanti, University of Messina, Italy

On the Top 0.2% of World Scientists

Personal web page: https://fs.unm.edu/

Scientist, writer, philosopher, and artist. Wrote in four languages: English, Romanian, French, and Spanish.

He did post-doctoral researches at Okayama University of Science (Japan) (2013-2014); at Guangdong University of Technology (Guangzhou, China), 19 May - 14 August 2012; at ENSIETA (National Superior School of Engineers and Study of Armament), Brest, France, 15 May - 22 July 2010; and for two months, June-July 2009, at Air Force Research Laboratory in Rome, NY, USA (under State University of New York Institute of Technology).

Graduated from the Department of Mathematics and Computer Science at the University of Craiova in 1979 first of his class graduates, earned a Ph. D. in Mathematics from the State University Moldova at Kishinev in 1997, and continued postdoctoral studies at various American Universities and Research Institutions, such as University of Texas at Austin, University of Phoenix, Arizona State University, New Mexico State University at Las Cruces, Los Alamos National Laboratory etc. after emigration.

Member of the Academy Peloritana dei Pericolanti, University of Messina, Italy (2026): https://www.accademiapeloritana.it/Curricula%20soci/1.%20Elenco%20alfabetico%202026.pdf https://fs.unm.edu/AcademiaPeloritana-FS.pdf https://www.accademiapeloritana.it/Curricula%20soci/Smarandache%20Florentin.pdf

Military artillery service (1974-1975, Medgidia, Romania; honorably discharged as second lieutenant in reserve).

In U.S. he worked as a software engineer for Honeywell (1990-1995) in Phoenix, AZ, adjunct professor for Pima College in Tucson, AZ (1995-1997), and 25 years for the University of New Mexico, Gallup Campus (1997 - 2022): in 1997 Assistant Professor, promoted to Associate Professor of Mathematics in 2003, Full Professor in 2008, and Professor Emeritus since 2022: https://directory.unm.edu/public/index.php?view=0ZeH1LjEs+Gok22t and https://fs.unm.edu/ProfessorEmeritus-FS.jpg

Between 2007-2009 he was the Chair of Math & Sciences Department.

In mathematics he introduced the degree of negation of an axiom or theorem in geometry (see the Smarandache geometries which can be partially Euclidean and partially non-Euclidean, 1969, https://fs.unm.edu/Geometries.htm), the multi-structure (see the Smarandache n-structures, where a weak structure contains an island of a stronger structure, https://fs.unm.edu/Algebra.htm), and multi-space (a combination of heterogeneous spaces) [https://fs.unm.edu/Multispace.htm].

The Smarandache Curves, Smarandache Surfaces, and Smarandache Geometries were defined within the context of mathematics and differential geometry.

A Smarandache Geometry (or Hybrid Geometry) is a geometry that has at least one Smarandachely denied axiom: (https://fs.un.unm.edu/SG/).
Smarandachely Denied Axiom is an axiom that behaves differently within the same space; specifically, it is validated and invalidated, or only invalidated but in at least two distinct ways.
This approach allows for the unification of different classical geometries (like Euclidean, hyperbolic, and elliptic geometries) into a single, heterogeneous space, often referred to as a multi-space or multi-structure. For example: For the Euclid's Parallel Postulate (which states there is exactly one parallel line), a Smarandache Geometry might contain lines that have: exactly one parallel (Euclidean behavior), no parallels (Elliptic behavior),
infinitely many parallels (Hyperbolic behavior)

A Smarandache Curve in differential geometry, is a derived curve defined from an existing regular curve.
It is a regular curve whose position vector is constructed as a linear combination of the unit vectors in the moving frame (such as the Frenet-Serret frame or Bishop frame) of another regular curve.
Frame Vectors: For a curve α, the Frenet frame vectors are the tangent vector (T), the principal normal vector (N), and the binormal vector (B).
Examples: Common types of Smarandache curves include:
TN Smarandache Curve: Based on the linear combination of the Tangent (T) and Normal (N) vectors.
TNB Smarandache Curve: Based on the linear combination of the Tangent (T), Normal (N), and Binormal (B) vectors.
These are considered hybrid curves because they often exhibit properties from different types of curves within a single geometric structure [Smarandache Geometries].

A Smarandache Surface is typically a surface generated using a Smarandache curve as its fundamental component.
The most common form is a Smarandache ruled surface, which is a surface generated by a straight line (the ruling) moving along a base curve.
A Smarandache ruled surface is a ruled surface where the base curve or the direction vector of the rulings (or sometimes both) is a Smarandache Curve.
These surfaces are studied in differential geometry to explore their geometric properties (like Gaussian curvature, minimality, and developability) and have applications in areas like computer-aided design and mechanical engineering (https://fs.unm,edu/SCS/).

He created and studied in number theory many: sequences
(https://mathworld.wolfram.com/SmarandacheSequences.html, https://mathworld.wolfram.com/ConsecutiveNumberSequences.html),
functions
(https://mathworld.wolfram.com/SmarandacheFunction.html, https://mathworld.wolfram.com/SmarandacheCeilFunction.html, https://mathworld.wolfram.com/Smarandache-KurepaFunction.html, https://mathworld.wolfram.com/Smarandache-WagstaffFunction.html, https://mathworld.wolfram.com/SmarandacheNear-to-PrimorialFunction.html, https://mathworld.wolfram.com/PseudosmarandacheFunction.html),
numbers
(https://mathworld.wolfram.com/SmarandacheNumber.html, https://mathworld.wolfram.com/Smarandache-WellinNumber.html),
prime numbers
(https://mathworld.wolfram.com/SmarandachePrime.html, https://mathworld.wolfram.com/Smarandache-WellinPrime.html),
and constants
(https://mathworld.wolfram.com/SmarandacheConstants.html).

Smarandache Numbers / Primes / Sequences / Functions
https://oeis.org/search?q=Smarandache&go=Search (The On-Line Encyclopedia of Integer Sequences)

In 2020 he improved and extended the Garfield Impact Factor to a Total Impact Factor of a Journal [https://fs.unm.edu/ScArt/ImpactFactor-Improved.pdf, https://arxiv.org/ftp/arxiv/papers/2105/2105.14186.pdf].

He generalized [1995] the fuzzy, intuitive, paraconsistent, multi-valent, dialetheist logics to the 'neutrosophic logic' (also in the Denis Howe's Dictionary of Computing, England) and, similarly, he generalized the fuzzy set to the 'neutrosophic set' (and its derivatives: 'paraconsistent set', 'intuitionistic set', 'dialethist set', 'paradoxist set', 'tautological set')
[https://fs.unm.edu/eBook-Neutrosophics6.pdf].

In 2003 together with W. B. Vasantha Kandasamy he introduced the Neutrosophic Algebraic Structures, based on sets of Neutrosophic Numbers [i.e. numbers of the form a+bI, where a, b are real or complex numbers, and I = Indeterminacy, with I^n = I for n positive non-null integer, 0I = I, I/I = undefined, and nI+mI = (n+m)I].

In 2006 he introduced the degree of dependence/independence between the neutrosophic components T, I, F.
In 2007 he extended the neutrosophic set *to Neutrosophic Overset (when some neutrosophic component is > 1), and to Neutrosophic Underset (when some neutrosophic component is < 0), and to Neutrosophic Offset (when some neutrosophic components are off the interval [0, 1], i.e. some neutrosophic component > 1 and some neutrosophic component < 0). Then, similar extensions to respectively Neutrosophic Over/Under/Off Logic, Measure, Probability, Statistics etc.* https://fs.unm.edu/NeutrosophicOversetUndersetOffset.pdf

***Then, introduced the Neutrosophic Tripolar Set* and *Neutrosophic Multipolar Set*, *also the Neutrosophic Tripolar Graph* and *Neutrosophic Multipolar Graph*.**

He then generalized the Neutrosophic Logic/Set/Probability to Refined Neutrosophic Logic/Set/Probability [2013], where T can be split into sub-components T_1, T_2, ..., T_p, and I into I_1, I_2, ..., I_r, and F into F_1, F_2, ..., F_s, where p+r+s = n ≥ 1. Even more: T, I, and/or F (or any of their subcomponents T_j ,I_k, and/or F_l) could be countable or uncountable infinite sets:

https://fs.unm.edu/RefinedNeutrosophicSet.pdf. And in 2023 the MultiNeutrosophic Set that is isomorphic to the Refined Neutrosophic Set (i.e. a neutrosophic set whose components T, I, F are evaluated by multiple sources, producing multi-components): https://fs.unm.edu/NSS/MultiNeutrosophicSet.pdf.

In 2015 he refined the indeterminacy *"I"*, within the neutrosophic algebraic structures, into different types of indeterminacies (depending on the problem to solve), such as I_1, I_2,... , I_p with integer $p \geq 1$, and obtained the *refined neutrosophic numbers* of the form $N_p = a+b_1I_1+b_2I_2+... +b_pI_p$ where a, b_1, b_2,... , b_p are real or complex numbers, and a is called the determinate part of N_p, while for each k *in* $\{1, 2, ..., p\}$ I_k is called the k-th indeterminate part of N_p.

Then consequently he extended the neutrosophic algebraic structures to Refined Neutrosophic Algebraic Structures [or Refined Neutrosophic I-Algebraic Structures] (2015), which are algebraic structures based on sets of the refined neutrosophic numbers $a+b_1I_1+b_2I_2+... +b_pI_p$.

He introduced the (T, I, F)-Neutrosophic Structures [2015]. In any field of knowledge, each structure is composed from two parts: a space, and a set of axioms (or laws) acting (governing) on it. If the space, or at least one of its axioms (laws), has some indeterminacy, that structure is a *(T, I, F)*-Neutrosophic Structure. And he extended them to the *(T, I, F)-Neutrosophic I-Algebraic Structures* [2015], i.e. algebraic structures based on neutrosophic numbers of the form $a+bI$, but also having indeterminacy related to the structure space (elements which only partially belong to the space, or elements we know nothing if they belong to the space or not) or indeterminacy related to at least an axiom (or law) acting on the structure space. Then he extended them to *Refined (T, I, F)-Neutrosophic Refined I-Algebraic Structures*.

Together with A. Salama he introduced in 2015 the neutrosophic crisp set and neutrosophic crisp topology
[https://fs.unm.edu/NeutrosophicCrispSetTheory.pdf].

In 2014 he founded together with Mumtaz Ali the Neutrosophic Triplet and introduced the neutrosophic triplet algebraic structures
[https://fs.unm.edu/NeutrosophicTriplets.htm].

In 2015 he introduced the Thesis-Antithesis-Neutrothesis, and Neutrosynthesis, Neutrosophic Axiomatic System, neutrosophic dynamic systems, symbolic neutrosophic logic, (t, i, f)-Neutrosophic Structures, I-Neutrosophic Structures, Refined Literal Indeterminacy, Quadruple Neutrosophic Algebraic Structures, Multiplication Law of Subindeterminacies:
[https://fs.unm.edu/SymbolicNeutrosophicTheory.pdf].

In 2016 he founded the Neutrosophic Duplets
[https://fs.unm.edu/NeutrosophicDuplets.htm] and then the Neutrosophic Multisets [https://fs.unm.edu/NeutrosophicMultisets.htm].

In 2017 he introduced the Plithogeny (extension of Dialectics and Neutrosophy), and the Plithogenic Set, Plithogenic Logic as generalization of MultiVariate Logic, Plithogenic Probability and Plithogenic Statistics as generalizations of MultiVariate Probability and Statistics (extension of fuzzy, intuitionistic fuzzy, neutrosophic set/logic/probability/statistics)
[https://fs.unm.edu/Plithogeny.pdf]. And in 2023 the **Symbolic Plithogenic Algebraic Structures** built on the set of Symbolic Plithogenic Numbers of the form $a_0 + a_1P_1 + a_2P_2 + \ldots + a_nP_n$ where the multiplication $P_i \cdot P_j$ is based on the prevalence order and the absorbance law **https://fs.unm.edu/NSS/SymbolicPlithogenicAlgebraic39.pdf**

Introduction of the n^{th}-Powerset of a Set and consequently of the SuperHyperStructures
[https://fs.unm.edu/SHS/ and https://fs.unm.edu/NSS/SuperHyperStructure.pdf] built on it such as: SuperHyperAlgebra and Neutrosophic SuperHyperAlgebra (2016) [https://fs.unm.edu/SuperHyperAlgebra.pdf], SuperHyperGraph and Neutrosophic SuperHyperGraph [https://fs.unm.edu/NSS/n-SuperHyperGraph.pdf], and SuperHyperFunction and SuperHyperTopology [https://fs.unm.edu/NSS/SuperHyperFunction37.pdf], SuperHyperTopology [https://fs.unm.edu/TT/].

Together with A. R. Vatuiu he enunciated the Law that *it is easier to break from inside than from outside a neutrosophic dynamic system* in 2017
[https://fs.unm.edu/EasierMaiUsor.pdf], and the theory of *spiral neutrosophic human evolution* in 2019
[https://fs.unm.edu/SpiralNeutrosophicEvolution.pdf].

Then he extended in 2018 the Soft Set to Hypersoft Set
[https://fs.unm.edu/NSS/ExtensionOfSoftSetToHypersoftSet.pdf], and further on to IndetermSoft Set & IndetermHyperSoft Set
[https://fs.unm.edu/NSS/IndetermSoftIndetermHyperSoft38.pdf], then to

TreeSoft Set [https://fs.unm.edu/NSS/IndetermSoftSet-TreeSoftSet59.pdf and https://fs.unm.edu/TSS/].

In 2019 he generalized the classical Algebraic Structures to NeutroAlgebraic Structures (or NeutroAlgebras) {whose operations and axioms are partially true, partially indeterminate, and partially false} as extensions of Partial Algebra, and to AntiAlgebraic Structures (or AntiAlgebras) {whose operations and axioms are totally false}.

And, in general, he extended any classical Structure, in no matter what field of knowledge, to a NeutroStructure and an AntiStructure:
[https://fs.unm.edu/NA/NeutroAlgebra.htm].

And he introduced in 2020 the SuperHyperGraph, with super-vertices and hyper-edges {defined on power-set of power-set...}, and n-HyperAlgebra
[https://fs.unm.edu/NSS/n-SuperHyperGraph-n-HyperAlgebra.pdf].

As alternatives and generalizations of the Non-Euclidean Geometries he introduced in 2021 the NeutroGeometry & AntiGeometry. While the Non-Euclidean Geometries resulted from the total negation of only one specific axiom (Euclid's Fifth Postulate), the AntiGeometry results from the total negation of any axiom and even of more axioms from any geometric axiomatic system (Euclid's, Hilbert's, etc.), and the NeutroAxiom results from the partial negation of one or more axioms [and no total negation of no axiom] from any geometric axiomatic system. Real Examples of NeutroGeometry and AntiGeometry: https://fs.unm.edu/NSS/ExamplesNeutroGeometryAntiGeometry35.pdf.

Also, he proposed an extension of the classical probability and the imprecise probability to the 'neutrosophic probability' [1995], that he defined as a tridimensional vector whose components are real subsets of the non-standard interval]-0, 1+[, introduced the neutrosophic measure and neutrosophic integral
[https://fs.unm.edu/NeutrosophicMeasureIntegralProbability.pdf],
and also extended the classical statistics to neutrosophic statistics
[https://fs.unm.edu/NeutrosophicStatistics.pdf].

He extended the NonStandard Analysis in 1998 and 2019 by introducing: the Pierced Binad, Left Monad Closed to the Right, Right Monad Closed to the Left, and the Unpierced Binad:
[https://fs.unm.edu/AdvancesOfStandardAndNonstandard.pdf
https://fs.unm.edu/NonStandardAnalysis-Imamura-proven-wrong.pdf].

He founded in 2010 the α-Discounting MCDM, that outperforms the other multicriteria decision making methods such as AHP, TOPSIS, VIKOR, PROMETHEE, and Weighted Sum: https://fs.unm.edu/alpha-DiscountingMCDM-book.pdf.

Since 2002, together with Dr. Jean Dezert from Office National de Recherches Aeronautiques in Paris, worked in information fusion and

generalized the Dempster-Shafer Theory and TBM to a new theory of plausible and paradoxist fusion (Dezert-Smarandache Theory): https://fs.unm.edu/DSmT.htm .
In 2004 he designed an algorithm for the Unification of Fusion Theories and rules (UFT) used in bioinformatics, robotics, military.

In biology he introduced in 2017 the Theory of Neutrosophic Evolution: Degrees of Evolution, Indeterminacy, and Involution [https://fs.unm.edu/neutrosophic-evolution-PP-49-1.3pdf].

Extension of the AH-Isometry to n-Refined AH-Isometry (Smarandache & Abobala, 2024):

[https://fs.unm.edu/NSS/RefinedLiteral21.pdf].

In physics he found a series of paradoxes (see the quantum smarandache paradoxes), and considered the possibility of a third form of matter, called unmatter [2004], which is a combination of matter and antimatter - presented at Caltech (American Physical Society Annual Meeting, 2010) and Institute of Atomic Physics (Magurele, Romania 2011)
[https://fs.unm.edu/unmatter.htm].

In 2019 he proposed the Infinitesimally Punctured Wave [https://fs.unm.edu/IPW/], Infinitesimally Punctured Surface, Infinitesimally Punctured Space, and in general Infinitesimally Punctured Quantum Physics — in which a quantum object is visualized as an aggregation of infinitely many infinitesimally spaced particles. When these particles are densely packed, the ensemble appears as a continuous wave, surface, or space respectively; but when a measurement isolates a single constituent, particle-like behavior emerges. The model is situated alongside established alternative interpretations (e.g., de Broglie-Bohm pilot wave theory, wave packet descriptions) and linked to Neutrosophic Quantum Theory, which supplies a logical framework for handling indeterminacy. By offering a concrete visual metaphor, the punctured wave/surface/space/manifold picture aims to bridge the discrete continuous divide and stimulate further discussion on the foundations of quantum physics/mechanics
[https://fs.unm.edu/NSS/39Infinitesimally.pdf, https://fs.unm.edu/NSS/6InfinitesimallyPunctured.pdf].
The 'infinitesimal distance' (which is virtual and theoretical) was later extended by him to the 'finitesimally distance' that is a very tiny real distance (which is practical), allowing a wave to be 'broken' in a real sense at any point: https://fs.unm.edu/IPW/IPW-to-FPW.pdf.

Based on a 1972 manuscript, when he was a high school student in Rm. Valcea, he published in 1982 the hypothesis that 'there is no speed barrier in the universe and one can construct any speed', because:

Entanglement is a quantum mechanical phenomenon where particles are so deeply linked that their individual quantum conditions are inseparable, regardless of their spatial separation. This effect is a key differentiator between the rules of quantum physics and those of classical physics. Measurements of properties like momentum, spin, or polarization on entangled particles show a perfect correlation.
A classic example is a zero-total-spin pair: if one particle is measured as "spin-up," the other is instantly confirmed to be "spin-down" on the same axis. This instant correlation suggests a paradoxical influence: measuring one particle not only causes its wave function to collapse but also instantaneously affects the quantum state of its distant entangled partner.
Therefore, one has communication at a superluminal speed, since measuring one particle's properties, instantaneously we get the properties of its entangled particle.

(https://scienceworld.wolfram.com/physics/SmarandacheHypothesis.html). Upon his hypothesis he proposed an Absolute Theory of Relativity [free from: time dilation, space contraction, relativistic simultaneities and relativistic paradoxes which look alike science fiction not fact]. Then he extended his research to a more diversified Parameterized Special Theory of Relativity (1982): https://fs.unm.edu/ParameterizedSTR.pdf and generalized the Lorentz Contraction Factor to the Oblique-Contraction Factor for lengths moving at an oblique angle with respect to the motion direction, then he found the Angle-Distortion Equations (1983): https://fs.unm.edu/NewRelativisticParadoxes.pdf. He considered that the speed of light in vacuum is variable, depending on the moving reference frame; that space and time are separated entities; also the redshift and blueshift are not entirely due to the Doppler Effect, but also to the Medium Gradient and Refraction Index (which are determined by the medium composition: i.e. its physical elements, fields, density, heterogeneity, properties, etc.); and that the space is not curved and the light near massive cosmic bodies bends not because of the gravity only as the General Theory of Relativity asserts (Gravitational Lensing), but because of the Medium Lensing. In order to make the distinction between clock and time , he suggested a *first experiment* with different clock types for the GPS clocks, for proving that the resulted dilation and contraction factors are different from those obtained with the cesium atomic clock; and a *second experiment* with different medium compositions for proving that different degrees of redshifts/blushifts and different degrees of medium lensing would result.

He introduced the superluminal and instantaneous physics (domains that study the physical laws at superluminal and respectively instantaneous velocities), and the neutrosophic physics that describes collections of objects or states that are individually characterized by opposite properties, or are characterized neither by a property nor by the opposite of the property. Such objects or states are called neutrosophic entities
[https://fs.unm.edu/SuperluminalPhysics.htm].

In philosophy he introduced in 1995 the 'neutrosophy', as a generalization of Hegel's dialectic, which is the basement of his researches in mathematics and economics, such as 'neutrosophic logic', 'neutrosophic set', 'neutrosophic probability', 'neutrosophic statistics', neutrosophic algebraic

structures, NeutroGeometry, NeutroAlgebra, NeutroStructure etc.
He coined the words "neutrosophy" [(French *neutre* < Latin *neuter*, neutral, and Greek *sophia*, skill/wisdom) means knowledge of neutral thought**] and its derivatives: neutrosophic, neutrosophication, neutrosophicator, deneutrosophication, deneutrosophicator, etc.**
Neutrosophy is a new branch of philosophy that studies the origin, nature, and scope of neutralities, as well as their interactions with different ideational spectra. This theory considers every notion or idea <A> together with its opposite or negation <Anti-A> and the spectrum of "neutralities" <Neut-A> (i.e. notions or ideas located between the two extremes, supporting neither <A> nor <Anti-A>). The <Neut-A> and <Anti-A> ideas together are referred to as <Non-A>. According to this theory every idea <A> tends to be neutralized and balanced by <Anti-A> and <Non-A> ideas - as a state of equilibrium. As a consequence, he generalized the triad thesis-antithesis-synthesis to the tetrad thesis-antithesis-neutrothesis-neutrosynthesis [https://fs.unm.edu/Neutrosophy-A-New-Branch-of-Philosophy.pdf].

> **He extended the *Law of Included Middle* [<A>, <nonA>, and a third value <T> which resolves their contradiction at another level of reality] to the *Law of Included Multiple-Middle* [<A>, <antiA>, and <neutA>, where <neutA> is split into a multitude of neutralities between <A> and <antiA>, such as $<neut_1A>$, $<neut_2A>$, etc.]. The <neutA> value (i.e. neutrality or indeterminacy related to <A>) actually comprises the included middle value. Also, he extended the *Principle of Dynamic Opposition* [opposition between <A> and <antiA>] to the *Principle of Dynamic Neutrosophic Opposition* [which means oppositions among <A>, <antiA>, and <neutA>];**
> **[https://fs.unm.edu/LawIncludedMultiple-Middle.pdf].**
> **And the *Law of Included Infinitely-Many-Middles* [https://fs.unm.edu/NSS/LawIncludedInfinitely1.pdf].**

Then in 2023 the MultiAlism System of Thought (an open dynamic system of many opposites, with their neutralities or indeterminacies, formed by elements from many systems): https://fs.unm.edu/NSS/MultiAlistSystemOfThough.pdf and the introduction of the Appurtenance Equation & Inclusion Equation https://fs.unm.edu/NS/AppurtenanceInclusionEquations-revised.pdf.

In 2024 the Upside-Down Logics: Falsification of the Truth & Truthification of the False: https://fs.unm.edu/Upside-DownLogics.pdf

In 2024 introduction of the Uncertain TwoFold Algebra: https://fs.unm.edu/NeutrosophicTwoFoldAlgebra.pdf

> **In psychology he introduced (https://fs.unm.edu/NeutropsychicPersonality-ed3.pdf):**

Neutropsychic Personality that is a neutrosophic dynamic open psychological system of tendencies to feel, think, and act specific to each individual.
Neutrosophic Refined Memory: that restructured the division of memory
into: *consciousness*, *aconsciousness* (which we introduce as a blend of *consciousness* and *unconsciousness*), and *unconsciousness*. *Aconscious* was further subdivided into *preconscious*, *subconscious*, *semiconscious* = *semiunconscious*, *subunconscious*, and *preunconscious*. All memories have degrees of conscious (c), acounscious (a), and unconscious (u).
***Refined Neutrosophic antiTrait -Trait Diagram*, that each individual has a *degree of antiTrait* and a *degree of Trait* with respect to each antiTrait-Trait personality pair.**
And the *Neutrosophic Temperament*.

Some contributions to sociology
[https://fs.unm.edu/sociology.htm], and introduction to NeutroSociology
[https://fs.unm.edu/NeutroSociology.pdf] that is the study of sociology using indeterminate data {each society has degrees of democracy, neutrality, and antidemocracy}.

Invited to lecture at University of Berkeley (2003), NASA Langley Research Center-USA (2004), NATO Advance Study Institute-Bulgaria (2005), Jadavpur University-India (2004), Institute of Theoretical and Experimental Biophysics-Russia (2005), Bloomsburg University-USA (1995),
University Sekolah Tinggi Informatika & Komputer Indones ia-Malang and University Kristen Satya Wacana Salatiga-Indonesia (2006), Minufiya University (Shebin Elkom)-Egypt (2007), Air Force Institute of Technology Wright-Patterson AFB in Dayton [Ohio, USA]
(2009), Universitatea din Craiova -
Facultatea de Mecanica [Romania] (2009), Air Force Research Lab & Griffiss Institute [Rome, NY, USA] (2009), COGIS 2009 (Paris, France), ENSIETA (Brest, Franta) - 2010, Romanian Academy - Institute of Solid Mechanics and Commission of Acoustics (Bucharest - 2011), Guangdong University of Technology (Guangzhou, China) - 2012, Okayama University of Sciences (Japan) - 2013, Osaka University (Japan) - 2014, Universidad Nacional de Quilmes (Argentina) - 2014, Universidad Complutense de Madrid (Spain) - 2014, Univ. Transilvania Brasov - 2015; Vietnam National University, Le Quy Don Technical University (Hanoi) and Hanoi University, also Ho Chi Minh

City University of Technology (HUTECH) and Nguyen Tat Thanh University (Ho Chi Minh City) - 2016, Universidad de Guayaquil (Ecuador) - 2016, Universidad Nacional de Colombia (Bogota - 2019), BARNA Management School (Santo Domingo, Dominican Republic - 2025), Universidad del Trabajo del Uruguay - Uruguay -2025), The IX Ibero-American Biometry Meeting (Quito, Ecuador) - 2025, Centro de Estudios para la Calidad Educativa y la Investigación Científica (CECEIC) (Toluca, Mexico) 21 March2026 (zoom), etc.

Presented papers at many Sensor or Information Fusion International Conferences {Australia - 2003, Sweden - 2004, USA (Philadelphia - 2005, Seattle - 2009, Chicago - 2011, Washington DC - 2015), Spain (Barcelona - 2005, Salamanca - 2014), Italy - 2006, Belgium - 2007, Canada - 2007, Germany (Cologne - 2008, Heidelberg - 2016), Scotland- 2010, Singapore - 2012, Turkey - 2013, China (Xi'an - 2017), South Africa (Pretoria - 2020) virtual}.

Presented papers at Pima College Conference (Tucson, AZ, USA - 2005), IEEE GrComp International Conference (Georgia State University at Atlanta - 2006, Kaohsiung National University in Taiwan - 2011), International Conference on Advanced Mechatronic Systems (Tokyo University of Agriculture and Technology, Japan) - 2012, IEEE World Congress on Computational Intelligence (Vancouver, Canada, 2016), Federal University of Agriculture - Abeokuta & University of Ibadan & University of Lagos (Nigeria, 2017), COMSATS Institute of Information Technology (Abbottabad, Pakistan; 2017), Jeju National University (S. Korea, 2018), Universidad Abrieda Para Adultos (Santiago de los Caballeros, Dominican Republic, 2018), King Abdulaziz University (Jeddad, Saudi Arabia, 2018), Universidad de Los Andes & Universidad Nacional de Colombia (Bogota, Colombia, 2019), Universidad Industrial de Santander (Bucaramanga, Colombia, 2019), The Global Artificial Intelligence Technology Conference (Beijing, China, 2023), Universidad Cesar Vallejo (Lima, Peru, 2024), Universidad de Havana et al. (Cuba, 2024), University of Messina (Italy, 2024), University of Guayaquil (Ecuador, 2024), Universidad Teknica de El Salvador (San Salvador, 2025), IberoAmerican Biometry (Quito, Ecuador, 2025), Barna Management School (Santo Domingo, R. Dominicana, 2025), Universidad del Trabajo del Uruguay (Montevideo, 2025).

Participated to the training in Rabat of the Moroccan Student Team for the 1983 International Olympiad of Mathematics (Paris, France).

As a high-school student in Romania, he qualified in the mathematical student competitions at the local, district, and national levels - receiving the mention in the national level in Bucharest (1970, 1974), and as a University of Craiova student in the Traian Lalescu national mathematical competition held at the University of Cluj-Napoca (1997).

He received the 2011 Romanian Academy "Traian Vuia" Award for Technical Science (the highest in the country); *Doctor Honoris Causa* of Academia DacoRomana from Bucharest - 2011, and *Doctor Honoris Causa* of Beijing Jiaotong University (one of the highest technical universities of China) - 2011; the 2012 New Mexico - Arizona Book Award & 2011 New Mexico Book Award at the category Science & Math (for Algebraic Structures, together with Dr. W. B. Vasantha Kandasamy) on 18 November 2011 in Albuquerque; also, the Gold Medal from the Telesio-Galilei Academy of Science from England in 2010 at the University of Pecs - Hungary (for the Smarandache Hypothesis in physics, and for the Neutrosophic Logic), and the Outstanding Professional Service and Scholarship from The University of New Mexico - Gallup (2009, 2005, 2001).

Very prolific, he is the author, co-author, editor, and co-editor of hundreds of books published by about forty publishing houses (such as university and college presses, professional scientific and literary presses, such as Springer Verlag, Elsevier, Nova, IGI-Global, MDPI Publisher (Switzerland), University of Kishinev Press, Pima College Press, ZayuPress, Haiku, etc.) in ten countries and in many languages, and 650 scientific articles and notes, and contributed to over 100 literary and 100 scientific journals from around the world.

He published many articles on international journals, such as: Applied Intelligence (Springer), Fuzzy Sets and Systems (Elsevier), Applied Soft Computing, Journal of Medical Systems, International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems (World Scientific), Neural Computing and Applications (Springer), Bulletin of the Research Institute of Technology (Okayama University of Science, Japan), Symmetry (MDPI), Algorithms, Measurement (Elsevier), Design Automation for Embedded Systems, International Journal of Applied Management Science, Studies in Fuzziness and Soft Computing, Advances in Intelligent Systems and Computing, *Cognitive Systems Research*, *Granular Computing*, Journal of Intelligent & Fuzzy Systems, Multiple-Valued Logic - An International Journal (now called Multiple-Valued Logic & Soft Computing) (UK & USA), Informatica (Vilnius University), International Journal of Applied Management Science, Complex & Intelligent Systems, Computers in Industry, Asia Mathematika, Entrepreneurship and Sustainability Issues, Design Automation for Embedded Systems, Journal of Intelligent & Fuzzy Systems, Granular Computing, Journal of Medical Systems (Springer), Management and Informatics, Zentralblatt Für Mathematik (Germany; *reviewer*), Nieuw Archief voor Wiskunde (Holland), Advances in Fuzzy Sets and Systems, International Journal of Social Economics, Entrepreneurship and Sustainability Issues, International Journal of Applied Mathematics, International Journal of Tomography & Statistics (editor), International Journal of Applied Mathematics and Statistics (Editor-in-Chief 2005-2006), International Journal of Pure and Applied Mathematics, Gaceta Matematica (Spain), Intelligencer (Gottingen, Germany); Humanistic Mathematics Network Journal, Bulletin of Pure and Applied Sciences, Progress in Physics (Associate editor), Infinite Energy (USA), Information & Security: An International Journal, InterStat - Statistics on the Internet (Virginia Polytechnic Institute and State University, Blacksburg, USA), American Mathematical

Monthly, Mathematics Magazine, Journal of Advances in Information Fusion (JAIF), Advances and Applications in Statistics, Far East Journal of Theoretical Statistics, Notices of the American Mathematical Society, Critical Review (Society for Mathematics of Uncertainty, Creighton University - USA), New Mathematics and Natural Computing (World Scientific), Bulletin of Statistics & Economics, International Journal of Artificial Intelligence, The Icfai University Journal of Physics, Hadronic Journal (USA), Studii si Cercetari Stiintifice (University of Bacau, Romania; associate editor), International Journal of Applied Mathematics and Statistics, Roorkee, India, (editor-in-chief 2005-2006?); Journal of Computer Science and Technology, Symmetry (Basel, Switzerland), Pakistan Journal of Statistics & Operational Research, International Journal of Mathematical Combinatorics, International Journal of Geometry, Studies in Logic Grammar and Rhetoric (Belarus), Global Journal of Science Frontier Research (GJSFR) [USA, UK, India], Int. J. Advanced Mechatronic Systems (Inderscience Publishers), Applied Mechanics and Materials (Trans Tech Publications, Switzerland), etc. and on many IEEE International Conference Proceedings. Some of them can be downloaded from the LANL / Cornell University and the CERN web sites.

During the Ceausescu's era he got in conflict with authorities. In 1986 he did the hunger strike for being refused to attend the International Congress of Mathematicians at the University of Berkeley, then published a letter in the Notices of the American Mathematical Society for the freedom of circulating of scientists, and became a dissident. As a consequence, he remained unemployed for almost two years, living from private tutoring done to students. The Swedish Royal Academy Foreign Secretary Dr. Olof G. Tandberg contacted him by telephone from Bucharest.
Not being allowed to publish, he tried to get his manuscripts out of the country through the French School of Bucharest and tourists, but for many of them he lost track.
Escaped from Romania in September 1988 and waited almost two years in the political refugee camps of Turkey, where he did unskilled works in construction in order to survive: scavenger, house painter, whetstoner. Here he kept in touch with the French Cultural Institutes that facilitated him the access to books and rencontres with personalities.
Before leaving the country he buried some of his manuscripts in a metal box in his parents vineyard, near a peach tree, that he retrieved four years later, after the 1989 Revolution, when he returned for the first time to his native country. Other manuscripts, that he tried to mail to a translator in France, were confiscated by the secret police and never returned.

He wrote hundreds of pages of diary about his life in the Romanian dictatorship (unpublished), as a cooperative teacher in Morocco ("Professor in Africa", 1999), in the Turkish refugee camp ("Escaped... / Diary From the Refugee Camp", Vol. I, II, 1994, 1998), and in the American exile - diary which is still going on.

But he's internationally known as the literary school leader for the "paradoxism" movement which has many advocates in the world, that he set up in 1980, based on an excessive use of antitheses, antinomies, contradictions,

paradoxes (https://mathworld.wolfram.com/SmarandacheParadox.html)in creation - both at the small level and the entire level of the work - making an interesting connection between mathematics, philosophy, and literature [https://fs.unm.edu/a/paradoxism.htm].
He introduced the 'paradoxist distich', 'tautologic distich', and 'dualistic distich', 'paradoxist quatrain' etc. inspired from the mathematical logic [https://fs.unm.edu/a/literature.htm].
Literary experiments he realized in his dramas: Country of the Animals, where there is no dialogue!, and An Upside-Down World, where the scenes are permuted to give birth to one billion of billions of distinct dramas! [https://fs.unm.edu/a/theatre.htm].
He stated:
"Paradoxism started as an anti-totalitarian protest against a closed society, where the whole culture was manipulated by a small group. Only their ideas and publications counted. We couldn't publish almost anything.
Then, I said: Let's do literature... without doing literature! Let's write... without actually writing anything. How? Simply: literature-object! 'The flight of a bird', for example, represents a "natural poem", that is not necessary to write down, being more palpable and perceptible in any language that some signs laid on the paper, which, in fact, represent an "artificial poem": deformed, resulted from a translation by the observant of the observed, and by translation one falsifies.
Therefore, a mute protest we did!
Later, I based it on contradictions. Why? Because we lived in that society a double life: an official one - propagated by the political system, and another one real. In mass-media it was promulgated that 'our life is wonderful', but in reality 'our life was miserable'. The paradox flourishing! And then we took the creation in derision, in inverse sense, in a syncretism way. Thus the paradoxism was born. The folk jokes, at great fashion in Ceausescu's 'Epoch', as an intellectual breathing, were superb springs.
The "No" and "Anti" from my paradoxist manifestos had a creative character, not at all nihilistic." Paradoxism, following the line of Dadaism, Lettrism, absurd theater, is a kind of up-side down writings!
In 1992 he was invited speaker in Brazil (Universidad do Blumenau, etc.).

He did many poetical experiments within his avant-garde and published paradoxist manifestos: "Le Sens du Non-Sens" (https://fs.unm.edu/LeSensDuNonsens.pdf, 1983), "Anti-chambres / Antipoesies / Bizarreries" (https://fs.unm.edu/Antichambres.pdf, 1984, 1989), "NonPoems" (https://fs.unm.edu/NonPoems.pdf, 1990), changing the French and respectively English linguistics clich s. While "Paradoxist Distiches" (https://fs.unm.edu/ParadoxistDistiches.pdf, 1998) introduces new species of poetry with fixed form.
Eventually he edited fourteen International Anthologies on Paradoxism (2000-2004) with texts from about 350 writers from around the world in many languages.

"MetaHistory" (1993) is a theatrical trilogy against the totalitarianism again, with dramas that experiment towards a total theater: "Formation of the New Man", "An Upside - Down World", "The Country of the Animals". The last drama,

that pioneers no dialogue on the stage, was awarded at the International Theatrical Festival of Casablanca (1995).
He translated them into English as "A Trilogy in pARadOXisM: avant-garde political dramas"; and they were published by ZayuPress (2004).
"Trickster's Famous Deeds" (https://fs.unm.edu/Trickster.htm, 1994, auto-translated into English 2000), theatrical trilogy for children, mixes the Romanian folk tradition with modern and SF situations.

His first novel is called "NonNovel" (https://fs.unm.edu/NonNovel.pdf , 1993) and satirizes the dictatorship in a gloomy way, by various styles and artifice within one same style.

"Faulty Writings" (1997) is a collection of short stories and prose within paradoxism, bringing hybrid elements from rebus and science into literature.

The world largest collection (over 150,000) of folkloric jokes (in Romanian language) https://fs.unm.edu/a/bancuri.htm

His experimental albums "Outer-Art" (Vol. I, 2000 & Vol. II: The Worst Possible Art in the World!, 2003) comprises over-paintings, non-paintings, anti-drawings, super-photos, foreseen with a manifesto: "Ultra-Modernism?" and "Anti-manifesto" [https://fs.unm.edu/a/oUTER-aRT.htm].
Art was for Dr. Smarandache a hobby. He did:
- graphic arts for his published volumes of verse: "Anti-chambres/ Anti-poesies/ Bizarreries" (mechanical drawings), "NonPoems" (paradoxist drawings), "Dark Snow" & "Circles of light" (covers);
- paradoxist collages for the "Anthology of the Paradoxist Literary Movement", by J. -M. Levenard, I. Rotaru, A. Skemer;
- covers and illustrations of books, published by "Dorul" Publ. Hse., Aalborg, Denmark;
- illustrations in the journal: "Dorul" (Aalborg, Denmark).
Many of his art works are held in "The Florentin Smarandache Papers" Special Collections at the Arizona State University, Tempe, and Texas State University, Austin (USA), also in the National Archives of Valcea and Romanian Literary Museum (Romania), and in the Musee de Bergerac (France).

Twelve books were published that analyze his literary creation, among them: "Paradoxism's Aesthetics" by Titu Popescu (1995), and "Paradoxism and Postmodernism" by Ion Soare (2000).
He was nominated by the Academia DacoRomana from Bucharest for the 2011 Nobel Prize in Literature for his 75 published literary books.

Hundreds of articles, books, and reviews have been written about his activity around the world. The books can be downloaded from this Digital Library of Science: https://fs.unm.edu/ScienceLibrary.htm and from the Digital Library of Arts and Letters: https://fs.unm.edu/LiteratureLibrary.htm.

Literary and Scientific videos: https://fs.unm.edu/V/Videos.htm.

As a Globe Trekker he visited 61 countries [https://fs.unm.edu/TravelMemories.htm] that he wrote about in his memories. In 2015 he went to an expedition in Antarctica and in 2018 to the Polar Circle (Greenland) [see his Photo Gallery at: https://fs.unm.edu/photo/GlobeTrekker.html].

International Conferences:
First International Conference on Smarandache Type Notions in Number Theory,
August 21-24, 1997, organized by Dr. C. Dumitrescu & Dr. V. Seleacu, University of Craiova, Romania.
International Conference on Smarandache Geometries, May 3-5 2003, organized by Dr. M. Khoshnevisan, Griffith University, Gold Coast Campus, Queensland, Australia.
International Conference on Smarandache Algebraic Structures, December 17-19, 2004, organized by Prof. M. Mary John, Mathematics Department Chair, Loyola College, Madras, Chennai - 600 034 Tamil Nadu, India.

He has published hundreds of books in: English, Romanian, French, Spanish, and many were translated to 12 other languages, such as: Chinese, Arabic, Russian, Italian, Latin, German, Greek, Albanian, Turkish, Serbo-Croatian, Esperanto, and Portuguese.

[Presentation by Prof. Dr. Mihaly Bencze, Octogon Math Magazine]

Google Scholar

http://scholar.google.com/citations?user=tmrQsSwAAAAJ&hl=en

ResearchGate

https://www.researchgate.net/profile/Florentin_Smarandache

Academia.edu

https://unm.academia.edu/FlorentinSmarandache

LinkedIn

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IGI-Global, USA
https://www.igi-global.com/affiliate/florentin-smarandache/277065

EBSCO
https://openurl.ebsco.com/c/t4a2lo/results?sid=ebsco:ocu:record&bquery=AU+Smarandache,%20Florentin&link_origin=&searchDescription=Smarandache,%20Florentin
Loop
https://loop.frontiersin.org/people/606403/overview
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https://philpeople.org/profiles/florentin-smarandache/
SSRN (Social Science Research Network)
https://ssrn.com/author=1192898
Ad-Astra (Asociatia Cercetatorilor Romani, Bucharest, Romania)
https://ad-astra.ro/author/smarand/
Mendeley
https://www.mendeley.com/search/?page=1&query=Florentin%20Smarandache&sortBy=relevance
Kudos

https://growkudos.com/profile/florentin_smarandache

SciRePrints (Lithuania Digital Repository) https://scireprints.lu.lv/cgi/search/simple?q=Smarandache&_action_search=Search&_action_search=Search&_order=bytitle&basic_srchtype=ALL&_satisfyall=ALL

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Sciprofile at MDPI, Switzerland
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https://sciprofiles.com/profile/226990
Deutschen Nationalbibliothek, Germany
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Universität Trier, Germany
https://dblp.uni-trier.de/pid/23/684.html?q=Florentin%20Smarandache
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https://scholar.oversea.cnki.net/home/search?sw=1&sw-input=Smarandache
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IGI - Global (PA, USA)

https://www.igi-global.com/affiliate/florentin-smarandache/277065