



The IUSS' Presidents Throughout One Hundred Years of its History



International Union of Soil Sciences®

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Laura Bertha Reyes-Sánchez

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In memory of the founders of Soil Science and in gratitude to the thousands of men and women who during these first one hundred years have dedicated part of their lives and work to the construction and strengthening of the International Union of Soil Sciences.

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**Laura Bertha Reyes-Sánchez
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International Union of Soil Sciences

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International Union of Soil Sciences' Book

FOREWORD

Celebrating a centenary is a special occasion and in the case of ISSS/IUSS it provides an illustration of the development and broadening focus of the subject of Soil Science. During this time there has also been a tremendous growth in the numbers of soil scientists involved internationally. From its foundation the International Soil Science Society (ISSS) was a Society which required membership separate from the individual's membership of a national society, although in many cases (for example in the United Kingdom) at the time there were no national soil science societies. In these early years after the establishment of ISSS the membership was relatively small and only grew slowly until the 1950s, with a further rapid growth period from the 1970s.

During the 1990s as a result of considerable efforts by the Secretary General Professor Dr. Winfried Blum to establish closer ties with the many Scientific Unions with which Soil Scientists were increasingly collaborating, ISSS sought membership of the International Council of Science (ICSU), today the International Scientific Council (ISC). Within ICSU the scientific membership is through Scientific Unions. The membership of these Scientific Unions comprises, not individuals but the membership of the National Scientific Societies of a country. ISSS responded with the formation of the International Union of Soil Sciences following the Bangkok WCSS, and the same pattern was established; the membership was one of National Soil Science Societies (or their equivalents). From this point the membership increased from a few thousands to tens of thousands. This change also resulted in a comprehensive revision of the Statutes and Bye-Laws.

From the initial formation of ISSS the President was selected by the country hosting the World Congress of Soil Science.

From 1924 to 1935 there were Congresses in USA, USSR and UK. The President's period of Office was determined by the period between Congresses; JG, Lipman (USA) served from 1924-1927; K, Glinka (USSR) was elected President but died before taking office, K. Gedroiz (USSR) served from 1928-

1930; J. Russell (UK) served 1930-1935. Following the Congress in Oxford in 1935, there was a hiatus as a result of the political changes in Germany and the Second World War.

In 1950 the first post-war WCSS was held in Amsterdam, C. H. Edelman was President for a single year. From 1950 the cycle of Congresses was established in a four yearly pattern and the relationship between the nationality of the President and the location of the WCSS continued through ISSS and into IUSS until 2014.

From 2014 following extensive discussion major changes in the Statutes were introduced and this link between hosting the WCSS and the Presidency was removed. This change sought to encourage leadership opportunities from a wider range of possible members without requiring the commitment of a country to host the WCSS.

Since 2014 the President has been elected electronically from the whole membership of IUSS to serve for a period of 3 terms: two years as the IUSS President, two years prior to her/his term as President-elect, and two years after his/her term as Past President; six Presidents have been elected under this procedure.

Emeritus Professor Stephen Nortcliff
IUSS Secretary General 2002 – 2010
Reading, United Kingdom

BOOK PRESENTATION

At the beginning of a new era for the IUSS, its history must be preserved for the next 100 years, and doing so is the responsibility of the current generation. The loss or limitation of part of its history due to the omission of the current generation is unacceptable.

Consequently, the main objective of this work is to preserve part of the historical record of the International Union of Soil Sciences, leaving a record for posterity of who **the IUSS' Presidents Throughout One Hundred Years of its History** have been and how they have contributed to its existence and strength, making it the paramount soil science society in the world today.

Several presidents of the International Association of Soil Scientists (ISSS), now the International Union of Soil Sciences (IUSS), have passed away. Information about their lives, contributions, and relationship with the International Union of Soil Sciences is more limited than that of those who are still living and who provided us with information about their contributions.

In memory of the founders of Soil Science who are no longer with us, and in gratitude to all those who, during these first one hundred years, dedicated part of their lives and work to the construction and strengthening of the International Union of Soil Sciences, all their full names are recovered and included in this book and their contributions to the IUSS are detailed—to the extent that the available information allowed—as a sign of respect due to those who voluntarily and freely dedicated a significant part of their lives and efforts to the strengthening of the International Union of Soil Sciences.

Similarly, the names and terms of office of two elected presidents, which are not listed in the historical records on the official IUSS website, are also being retrieved.

Their full names must not be omitted again. It does not matter whether

their terms were cut short by death or World War II, as both were elected as presidents of the ISSS, today IUSS and are part of our history.

Preserving the historical record of the IUSS should be a high priority for the IUSS itself, as it is part of its intrinsic strengths and is a historical legacy that future generations should preserve and continue.

"We see farther and more clearly than our predecessors, not because we have sharper vision or are taller, but because we are lifted up and carried high by their gigantic stature"

Bernard de Chartres (siglo XII)

Laura Bertha Reyes-Sánchez
Former President of the International Union of Soil Sciences

The IUSS' Presidents Throughout One Hundred Years of its History

In memory of the founders of Soil Science and in gratitude to the thousands of men and women who during these first one hundred years have dedicated part of their lives and work to the construction and strengthening of the International Union of Soil Sciences.

How to use this interactive book:

You can select the short biography of the IUSS President you wish to read by clicking on their name in the TABLE OF CONTENTS (page XI). This book will automatically take you to the pages of the selected reading.

To return to the index and choose another short biography of a different IUSS President, simply click on the phrase “International Union of Soil Sciences’ Book” that appears at the bottom of the page for each biography.

CLARIFICATION NOTE:

Several Presidents of the International Union of Soil Sciences (IUSS) have passed away. Therefore, information about their lives related to the IUSS was obtained from the Web and/or through access to properly documentation referenced herein.

For the preparation of this book, all living presidents were invited to provide information about their contributions to the IUSS during their term in a free format and the information provided by each of them is their own responsibility. However, not all were willing to do so. In the latter cases, only their names are mentioned, and the length of their term is included.

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IUSS' PRESIDENTS BY CONGRESS, YEAR, COUNTRY, AND NATIONALITY**GENERAL TABLE OF IUSS CONGRESSES**

World Congress number	Year	City	Country	IUSS President	Period	Country of origin
I	1927	Washington	USA	Jacob Goodale Lipman	1924-1927	USA
II	1930	Leningrad (now: Saint Petersburg)	USSR (now: Russian Federation)	Konstantin Gedroiz	1927-1930	USSR
III	1935	Oxford	UK	Edward John Russell	1930-1935	UK
The 4th World Congress on Soil Science was scheduled to take place in Germany in Heidelberg in 1940 under the leadership of Friedrich Wilhelm Schucht but did not take place due to the outbreak of World War II						
IV	1950	Amsterdam	Netherlands	Cornelis Hendrik Edelman	1950	Netherlands
V	1954	Leopoldville	DR Congo	René Tavernier	1950-1954	Belgium
VI	1956	Paris	France	Auguste Oudin	1954-1956	France
VII	1960	Madison	USA	Richard Bradfield	1956-1960	USA
VIII	1964	Bucharest	Romania	Nicolae, C. Cernescu	1960-1964	Romania
IX	1968	Adelaide	Australia	Ernest Gordon Hallsworth	1964-1968	Australia
X	1974	Moscow	USSR	Viktor Abramovich Kovda	1968-1974	Russia
XI	1978	Alberta	Canada	Charles Fred Bentley	1974-1978	Canada
XII	1982	New Delhi	India	Jaswant Singh Kanwar	1978-1982	India
XIII	1986	Hamburg	Germany	Karl Heinrich Hartge	1982-1986	Germany
XIV	1990	Kyoto	Japan	Akira Tanaka	1986-1990	Japan
XV	1994	Acapulco	Mexico	Andrés Aguilar Santelises	1990-1994	Mexico
XVI	1998	Montpellier	France	Alan Ruellan	1994-1998	France
Change from ISSS to IUSS						
XVII	2002	Bangkok	France	Sompong Theerawong	1998-2002	France
XVIII	2006	Philadelphia	USA	Donald L. Sparks	2002-2006	USA
XIX	2010	Brisbane	Australia	Roger Swift	2006-2010	Australia
XX	2014	Jeju	South Korea	Jae E. Yang	2010-2014	Korea
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**The IUSS' Presidents Throughout One
Hundred Years of its History**

Prof. Dr. Jacob Goodale Lipman

IUSS President 1924-1927

Dr. Jacob Goodale Lipman, the well-known director of the New Jersey Experiment Station, New Brunswick, N.J. was born in Friedrich-stadt, Russia (now Latvia), on November 18, 1874, and received his early education first in Moscow and later in the gymnasium of Orenburg. In 1888 his family emigrated to the United States and soon settled on a farm at Woodbine, New Jersey. Here he became interested in agriculture and the scientific principles underlying it, and when in 1894 he entered Rutgers College, he came under the influence of Prof. E. V. Voorhees, one of the earlier American leaders in research on soils and fertilizers. He proceeded to Cornell University for advanced training in chemistry and bacteriology, and in 1901 was appointed to the Agricultural Experiment Station at New Jersey in charge of the Department of Soil Chemistry and Bacteriology. Shortly afterwards he was appointed, first instructor and afterwards professor, in agricultural chemistry at the neighboring Rutgers College. His whole life was spent between the two institutions, and in 1911 he became director of the Experiment Station.



Dr. Lipman was one of the leaders in soil bacteriology and the study of fertilizers in the United States, and his writings did much to direct the attention of the public to the need for providing adequate support for studies of these subjects. Among his well-known publications were many reports of considerable technical interest, and in 1908 he published his book "Bacteria in Relation to Country Life".

He was a great organizer and will long be remembered by all who took part in the First International Congress of Soil Science, held in 1927 in Washington, D.C., followed by a special scientific excursion throughout the United States and Canada. The whole Congress was a brilliant success, a model of what such functions should be.

Dr. Lipman was also editor of Soil Science, a journal which first appeared in January 1916 and owes much of its success to his enthusiastic and devoted labours. He was a man of unbounded kindness and geniality, wise in counsel, and a delightful host ; he attracted and kept together a brilliant band of scientific workers and he made the New Jersey Experiment Station one of the leading agricultural institutions in the world. (Nature, 143, 1939).

<https://www.nature.com/articles/1431012a0>

Prof. Dr. Konstantin Glinka



Prof. Dr. Konstantin Glinka was born on June 23, 1867, in the village of Koptevo Russian Empire. He was Director of the Agricultural College of Leningrad, and Experimental Station, as well as the first director of the Dokuchaev Soil Science Institute.

In 1927 during the First International Congress of Soil Scientists in Washington, Dr. Glinka was elected president of the Second International Congress of Soil Scientists -to be held in 1930 in Moscow-, and therefore, President of the International Association of Soil Scientists (ISSS), today International Union of Soil Sciences (IUSS) for the period 1927-1930.

Unfortunately for Soil Science, Prof. Dr. Konstantin Glinka died the same year and Prof. Dr. Konstantin Gedroits replaced him as Presidente of the International Society of Soil Sciences (ISSS), today International Union of Soil Sciences (IUSS) For the period 1927-1930.

https://en.wikipedia.org/wiki/Konstantin_Glinka

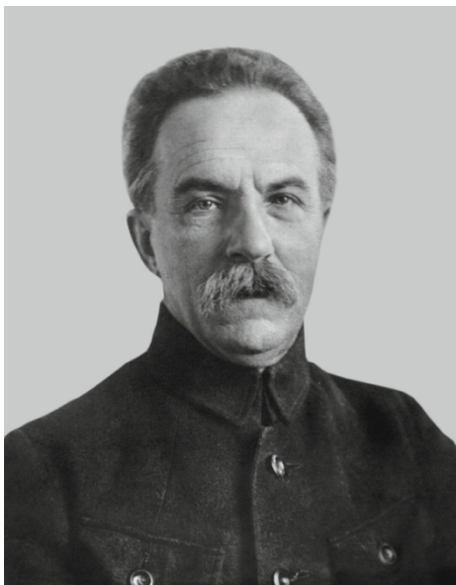
Prof. Dr. Konstantin Kaetanovich Gedroits

IUSS President 1927-1930

Konstantin Gedroits born on March 25, 1872, in Bentley. He was a Russian and Soviet soil scientist and agricultural chemist el cual se distingió as an active member of the USSR Academy of Sciences.

His researches as soil scientist and agricultural chemist's researches allowed to understand soil processes better about soil solloid chemistry and soil salinity. Konstantin Gedroits devoted a large number of studies to soil science. He discovered the "soil absorption complex" (SAC) - a collection of particles that have the ability to exchange ions (anions and cations) generating the concept of the concept of "absorption capacity" developing ideas about exchange acidity and the rate of exchange reactions, revealed the unique role of absorbed sodium and potassium in soil processes, and proposed the theory of the accumulation of sodium due to exchange reactions.

He found out that all the fertile properties of the soil are associated with the value of SAC, the nature and composition of the absorbed cations. He was able to document that these cations have a direct effect on the growth and development of cultivated plants, and based on that he generated his new classification of soils based on the composition of their exchange cations and generate its new classification and theories on improving land efficiency and increasing cultivated areas.



Gedroits' studies established the connections between chemical and physical processes and the morphology of soils. He studied the evolution of saline soils from a chemical point of view, which led to the practical recommendations for chemical reclamation of Solonetz and liming of acidic soils. His work was groundbreaking but insufficiently known outside Russia until his books have been translated into English and German in the late 1920s.

He was not only a successful scientist in agricultural chemistry, but also an excellent teacher.

In 1929–30 he headed the Dokuchaev Soil Institute, and in 1927 was elected as president of the International Association of Soil Scientists (ISS), today International Union of Soil Sciences (IUSS). In 1929, he became a full member of the Academy of Sciences of the Soviet Union and in 1930, a full member of the National Academy of Sciences of Ukraine

For his achievements in soil science, he was awarded the Lenin Prize in 1927, and in 2002, the Central Bank of Transnistria minted a silver coin honoring this native of today's Transnistria, as part of a series of memorable coins called *The Outstanding People of Pridnestrovie*.

https://en.wikipedia.org/wiki/Konstantin_Gedroits

<https://novostipmr.com/en/news/20-03-25/man-who-learned-understand-soil>

<https://ui.adsabs.harvard.edu/abs/2024MUSBS..78..425R/abstract>

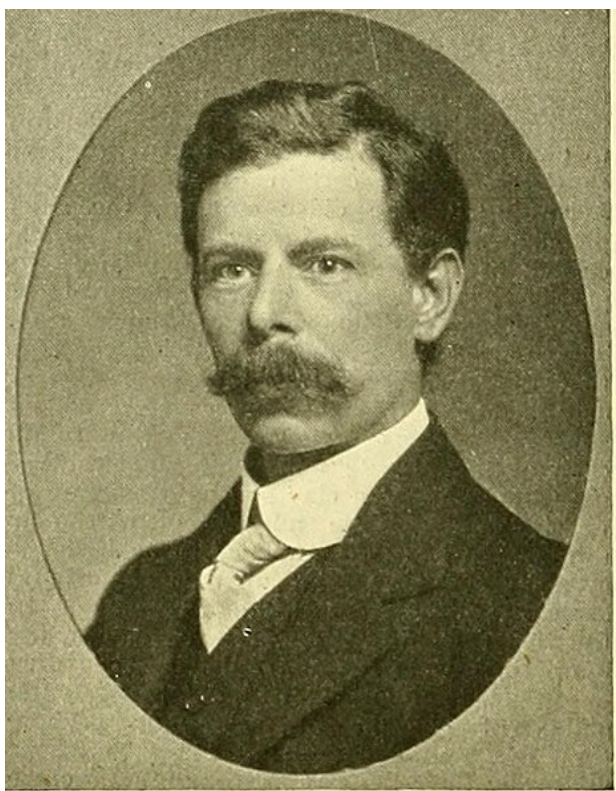
Prof. Dr. Edward John Russell

IUSS President 1930-1935

Edward John Russell was born on 31 October 1872 at Frampton-on-Severn. He studied at Birmingham where he went to the recently opened Technical School in which he was taught mathematics and also some chemistry, subject in which he became so keenly interested that he decided to take it up as a career. In 1902 earned his Doctor of Science in chemistry from the University of London.

He began his career teaching chemistry in Manchester, and from 1892 to 1907, he led the chemistry department at the South Eastern Agricultural College.

He joined Rothamsted Experimental Station in 1907 and there, he worked as a soil chemist studying soil chemistry and how it helps plants grow. He specialized in the relationship between soil and plant growth, investigating fertility, soil microbes and agricultural chemistry, and developed a method of "partial sterilization" to restore the fertility of "sick" soils in greenhouses. From 1912 to 1943, he was the director of the Rothamsted Experimental Station.



During World War I, he helped the government with food production and for his important work, in 1918 he received an Order of the British Empire (OBE) award. He was also knighted in 1922, which means he was given the title "Sir."

Sir Edward John Russell believed that sharing knowledge could help everyone grow more food, idea that led him to create the Imperial Agricultural Bureaux which later became the Commonwealth Agricultural

Bureaux with the main goal of to share new farming ideas and information around the world. He was a very important British scientist, and his work greatly improved our understanding of soil and helped farmers worldwide.

Sir Edward John Russell was Presidente of the ISSS today International Union of Soil Sciences (IUSS) from 1930 a 1935. He was also the president of the Geographical Association in 1923, and president of the British Association from 1948 to 1949.

https://en.wikipedia.org/wiki/E._John_Russell

<https://royalsocietypublishing.org/rsbm/article/doi/10.1098/rsbm.1966.0022/88030/Edward-John-Russell-1872-1965>

<https://www.tandfonline.com/doi/pdf/10.1080/00380768.2015.1055699>

Prof. Dr. Friedrich Wilhelm Schucht

IUSS President 1935-1939

Friedrich Wilhelm Schucht was born November 26, 1870, in Oker, and died March 31, 1941, in Berlin. He was a German professor of soil science and a pioneer in international cooperation in soil science.



Building on his participation in the first international conferences in Budapest in 1909 and Stockholm in 1910, he co-founded and served for many years as editor-in-chief of the trilingual journal “International Reports on Pedology” (German, French, English). After the International Society of Soil Science (ISSS) was founded in Rome in 1924, this journal continued to be published in three languages under the title “Proceedings of the International Society of Soil Science”.

Together with its supplements “Soil Research” the Berlin-based journal became a platform for international collaboration and the exchange of research findings in the rapidly evolving field of soil science (Hissink, 1940; Lipman, 1940).

Schucht studied chemistry, geology, and mineralogy from 1891 to 1895 at the Technical University of Braunschweig as well as at the universities of Göttingen and Jena. From 1900 to 1922, he worked at the Prussian State Geological Institute in Berlin. From 1914 to 1918, he served in World War I, ultimately as a major in the reserve. Beginning in 1922, Schucht was a full professor of soil science at the Berlin Agricultural University and director of its Institute of Geology, Mineralogy, and Soil Science. In 1926, he initiated the foundation of the German Society of Soil Science (DBG) as a national section of the ISSS. With some interruptions, he also served as president of the DBG, most recently from 1935 until his death in 1941. Schucht was elected rector of the Berlin

Agricultural University for the term from April 1926 to March 1927 and served as vice-rector in 1927–28.

Due to the integration of the Agricultural University into the university, Schucht was from 1934 full professor of soil science at the Friedrich Wilhelm University of Berlin, director of the University Institute for Geology, Mineralogy, and Soil Science, and dean of the Faculty of Agriculture and Veterinary Medicine. When the ISSS was founded in Rome in May 1924, he was appointed to the Executive Committee, where he has actively contributed until his death. When the Congress in Oxford (1935) decided to hold the fourth Congress in Germany in 1940, Schucht was elected president of the ISSS (Russel, 1936; Hissink, 1940).

The 4th World Congress was scheduled to take place in Germany in Heidelberg in 1940 under the leadership of F. Schucht. An extensive excursion through 11 soil landscapes throughout Germany had already been planned in detail, but the whole congress did not materialize due to the outbreak of World War II.

Hissink, D.J. (1936): 25 Years of the International Journal of Soil Science – Preface (in German). *Soil Research* 5, 163-165.

Hissink, D.J. (1940): Professor Dr. Friedrich Schucht: President of the International Society of Soil Science and Editor of “Soil Research” (Laudation in German). *Bodenkunde und Pflanzenernährung* 21/22, 9-11.

Lipman, J.G. (1936): International Publications in Soil Science. *Soil Research* 5, 163-165.

Russel, E.J. (1936): Friedrich W. Schucht – President of the International Society of Soil Science. *Soil Research* 5, 170-171.

Prof. Dr. Karl Heinz Feger and Prof. Dr. Rainer Horn

Prof. Dr. Cornelis Hendrik Edelman
IUSS President 1950

Cornelis Hendrik Edelman was born on 29 January, 1903, in Rotterdam, city in which he obtained a diploma in mine engineering from Delft and worked on petroleum geology briefly.

After a four-year internship in mineralogy in Delft, he was appointed curator of the newly established Geological Institute at the University of Amsterdam. During this period, he carried out pioneering work on the spatial distribution of heavy mineral assemblages, laying the groundwork for a new direction in petrological research on sediments. He earned his doctorate in Amsterdam with honors for his dissertation, "Petrographic Provinces in the Dutch Quaternary," and was appointed professor of mineralogy, petrology, geology, and agrogeology at the Wageningen University of Agriculture.

There, he focused on what is now known as field soil science or physiographic soil science, the results of which are recorded on soil maps, and on practical applications related to soil mapping, such as physical and historical geography, geomorphology, archaeology, and toponymy.



In 1945, the Foundation for Soil Mapping was established, and Edelman was appointed its director. He later served as Rector of the Wageningen University of Agriculture.

Edelman also presided over the International Society of Soil Science, re-established after the war, and was responsible for organizing the 4th International Congress of Soil Science in Amsterdam in 1950, which was attended by soil scientists from around the world.

For his geological, petrological, sedimentological, and mineralogical work, the University of Ghent awarded him an honorary doctorate in 1946.

In addition to the honorary doctorate from Ghent, Edelman received other national and international awards: Honorary Member of the Belgian Geological Society, Honorary Medal of the Geological and Mining Society, and membership in the Royal Netherlands Society of Soil Scientists, the Academy of Sciences, the Council of Monuments, the Royal Netherlands Geographical Society, and the Spanish National Research Council.

Cornelis Hendrik Edelman is credited with popularizing the use of the Edelman soil auger for studying soil profiles.

https://en.wikipedia.org/wiki/Cornelis_Hendrik_Edelman

<https://resources.huygens.knaw.nl/bwn1880-2000/lemmata/bwn1/edelman>

Prof. Dr. René Tavernier

IUSS President 1950-1954

Tavernier studied at Sint-Lievens college in Ghent and geology and mineralogy at Ghent State University and in 1937 his academic career started with his appointment as an assistant in the Laboratory of Geology at the State University of Ghent. After obtaining his doctorate he was a substitute professor of the Physical Geography course, and in 1948 he was appointed full professor at the same institution. His teaching was not limited to Physical Geography; from 1952 onwards, he expanded his expertise to include Geology.

His geological interests focused on the sedimentology of Cenozoic formations in the North Sea Basin, the Quaternary period in Belgium, fossil periglacial structures, the evolution of the Scheldt Basin during the Quaternary and of the coastal plain during the Holocene, and sea-level fluctuations.

From 1950, René Tavernier directed the Center for Soil Mapping (Centrum voor Bodemkartering, C.V.B.), whose main task was to register soil maps, create a national legend, and coordinate activities at the national level.



He was a corresponding member of the Royal Flemish Academy of Belgium for Science and the Arts, and one of the founders of the Belgian Society for Soil Science, member of the Royal Academy of Overseas Sciences, of the Royal Netherlands Geographical Society, the American Society of Economic Paleontologists and Mineralogists, the Royal Swedish Academy of Agriculture and Forestry, and a corresponding member of the French Academy of Agriculture. He also received the honorary title of Commander of the Order of Merit of the Grand Duchy of Luxembourg.

René Tavernier was elected President of the International Society of Soil Science (ISSS) -today the IUSS- in Amsterdam in 1950. He served as president of the International Union of Soil Sciences (IUSS) from 1950 to 1954 and was made an IUSS Honorary Member in 1986.

He was involved in the preparation of a soil taxonomy and in the realization of the soil maps of Belgium and of the European Community. He founded the *Internationaal Bodemkundig Centrum* (International Soil Center) at the State University of Ghent in order to demonstrate the importance of geological knowledge for major agricultural development projects.

[https://en.wikipedia.org/wiki/Ren%C3%A9_Tavernier_\(geologist\)](https://en.wikipedia.org/wiki/Ren%C3%A9_Tavernier_(geologist))

GABRIELS, Donald, "[In memoriam René J. Tavernier](#)", in: *IUSS Bulletin*, 1992–1993, 82–83, p. 91-92.

https://pl.frwiki.wiki/wiki/Ren%C3%A9_Tavernier_%28g%C3%A9ologue%29#google_vignette

Prof. Dr. Auguste Oudin
IUSS President 1954-1956

Auguste Oudin was born in Pontivy (Morbihan) on August 22, 1886 and died in Paris on December 15, 1979. After studying at the Lycée Saint-Vincent in Rennes, he graduated as an engineer from the École Polytechnique in 1908 and as a forestry engineer in 1911.

In July 1924, he was appointed head of the 1st section of the Forest Research Station (part of the National Forestry School of Waters and Forests in Nancy until 1964). After being appointed Curator in 1937, he assumed the directorship of the National Forestry School of Waters and Forests from October 1941 until his retirement in August 1957. He was appointed Inspector General in February 1943 and made significant contributions to the teaching of forestry pedagogy, in addition to actively participating in the development of the emerging field of soil science.

During the Resistance, Oudin played a particularly active role in gathering intelligence and distributing radio transmitters during his numerous field visits in the Nancy sector, and he sheltered Resistance fighters at his home.

Auguste Oudin was appointed President of the International Society of Soil Science (ISSS), now the International Union of Soil Sciences (IUSS), during the Fifth World Congress of Soil Science held in Leopoldville (now Kinshasa), in the Democratic Republic of Congo. This photograph was taken at that time. In 1962 he was elected a full member of the French Academy of Agriculture and subsequently became its president in 1971. Oudin was recognized as Honorary Member of the IUSS.



https://fr.wikipedia.org/wiki/Auguste_Oudin#:~:text=%20Portail%20du%20bois%20et%20de%20la%20forêt.%20*%20Portail%20de%20la%20Résistance%20française.

Prof. Dr. Richard Bradfield

IUSS President 1956-1960

Richard Bradfield was born on April 29, 1896 at West Jefferson, Ohio. U. S. A., he completed his studies at Otterbein College, earning an A.B. in 1917 and a Ph.D. from Ohio State University in 1922.

In 1927, as a Guggenheim Fellow in the laboratories of H. Freundlich at the Kaiser Wilhelm Institut für Physikalische und Elektrochemie in Berlin, and of G. Wiegner at the Technische Hochschule in Zurich, he developed concepts of the nature of soil colloids and techniques for evaluating their role in the acidic characteristics of soil.

Dr. Bradfield was a soil scientist and the head of the Department of Agronomy at Cornell University from 1937 until 1955, the American Society of Agronomy sent him as its delegate to International Congresses of Soil Science in the USSR in 1930 and in England in 1935 and elected him president in 1941-42. He also was member of the American Chemical Society as well as the American Soil Survey Association. He chaired the Colloids Division of the American Chemical Society (1936-37) and served as vice president -agriculture- of the American Association for the Advancement of Science.

Bradfield was a research consultant and trustee of the Rockefeller Foundation and a continuous consultant to the United States Department of Agriculture (USDA). He was part of the initial research team that implemented and expanded the agricultural program known as the Green Revolution to several countries. That is why he was a highly influential scientist both in his country and abroad.



He served as faculty representative to the Cornell University Board of Trustees, 1943-48. While building an expanded department, he taught dynamic courses in the physics and chemistry of soils as well as in soil fertility.

The American Society of Agronomy sent him as its delegate to International Congresses of Soil Science in the USSR in 1930 and in England in 1935 and elected him president in 1941-42. He was elected the first president of the Soil Science Society of America (1935-36) and was later to be president of the International Society of Soil Science (ISSS), today the International Union of Soil Sciences (IUSS). He chaired the Colloids Division of the American Chemical Society (1936-37) and served as vice president (agriculture) of the American Association for the Advancement of Science.

<https://www.soils.org/files/about-society/sssa-historical-highlights.pdf>

BOWER, C. A. *Soil Science* [113\(4\):p 229-231, April 1972.](#)

<https://www.gf.org/fellows/richard-bradfield/>

Prof. Dr. Prof. Dr. Nicolae, C. Cernescu
IUSS President 1960-1964

Nicolae C. Cernescu was born in Rumania on 1904. He held a doctorate in Chemical Sciences, was a professor of Soil Science, a member of the Academy of the Socialist Republic of Romania, and director of the Academy's Soil Science section.



Cernescu was a distinguished chemist and soil scientist recognized for his contributions to European and Romanian soil science. His work focused on soil science, contributing to the study and classification of soils in Romania and Under his leadership the compilation of the soil map at a scale

of 1:1,000,000 was carried out in 1964. He was a pioneer in soil

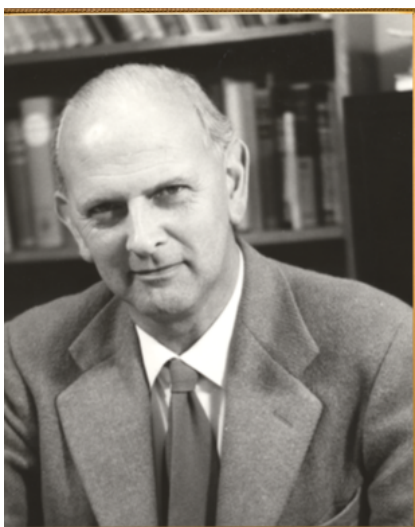
He played a fundamental role in the organization and leadership of the VIII Congress of the International Association of Soil Scientists (ISSS), held in Madison, USA, during which he was elected president of the VIII Congress of the ISSS to be held in Romania in 1964, thus becoming the ninth President of the (ISSS) today the International Union of Soil Sciences (IUSS).

Nicolae C. Cernescu was a corresponding Member of the Berlin Academy of Agricultural Sciences of the German Democratic Republic. Professor of Soil Science, head of Soil Map Section of the Geological Institute, head of Pedology Group of the Academy of the Socialist Republic of Romania, Vice-President of Romanian Soil Science Society, Member of the UNO advisory Committee for Applying Science and Technique to Development.

https://igr.ro/wp-content/uploads/2021/03/STE_C_v18.pdf

Prof. Dr. Ernest Gordon Hallsworth
IUSS President 1964-1968

Ernest Gordon Hallsworth was born on 1913 in Ashton under Lyne in Greater Manchester, England. He was a prominent pedologist Ernest Hallsworth made significant contributions to soil sciences through his research, publication and teaching. He attended the University of Leeds graduating with first class Honours in chemistry and, subsequently, a Doctor of Science degree.



Dr. Hallsworth filled academic posts in both England and Australia where, in the 1940s, he was a lecturer at the University of Sydney. In 1964 he moved permanently to Australia to become Chief of the CSIRO Division of Soils, 1964-1973, and during this time, in 1971 he was Australia's Chief Scientific Liaison Officer in London, and in 1973 he was made Chairman of the CSIRO Land Research Laboratories, position in which he served in this capacity until his retirement in 1978.

Hallsworth was appointed to a number of national and international scientific advisory bodies during his career and from 1964 until 1968 he was President of the International Society of Soil Science (ISSS) today the International Union of Soil Sciences (IUSS). He was also Scientific Adviser to Prime Minister Malcolm Fraser and Australia's first representative on the OECD Committee on Science Policy. He wrote or edited many scientific publications including, Catalogue of Australian land resource surveys (with J. Archibald, 1978). In retirement he published, Anatomy, physiology and psychology of erosion (1987). He died in 2002.

<https://www.old.iuss.org/about-the-iuss/iuss-history/obituaries-to-great-soil-scientists/ernest-hallsworth-1913-2002/index.html>

<http://www.biomedsearch.com/article/Dr-Ernest-Gordon-Hallsworth-scientist/87017547.html>

Prof. Dr. Viktor Abramovich Kovda

IUSS President 1968-1974

Viktor Abramovich Kovda was born on December 29, 1904, in Vladikavkaz, (now Ordzhonikidze), Russia empire in the family of a postal worker. He began his scientific career at the V.V. Dokuchaev Soil Institute. The more than 35-year period of V.A. Kovda's activity at the V.V. Dokuchaev Soil Institute (1931-1966) was unusually fruitful. At the same time, for many years he headed the Department of Soil Science at Moscow State University.

Dr. Kovda was a prominent Soviet soil scientist and one of the most influential scientific voices in the fight against land degradation and desertification worldwide during the 20th century. He was an outstanding modern soil scientist and a world-renowned scientific and public figure.

From the age of 15, Viktor Abramovich began earning money on his own: he worked as a farm worker during the summer. At the same time, he continued to study at a unified labor school in Temirgorskaya village.

After finishing school, he entered Kuban Agricultural Institute in Krasnodar. Among his teachers were well-known scientists: geobotanist and peat scientist Sergey Tyuremnov, agrochemist Aleksander Shmuck, soil scientist Sergey Zakharov, a direct follower of Dokuchaev.



Viktor Kovda continues his post-graduate studies in the same institute and then, at the age of 25, he organized and headed the Soil Department at the All-Union Institute of Tobacco Industry. In 1930, a young Viktor Kovda presented a report at the Second International Congress of Soil Scientists titled «On the charge of soil suspension particles and the isolation of soil colloids by cathophoresis».

In 1930-1931, he interned in Zurich with the professor of agrochemistry Georg Wigner at the Swiss Federal Institute of Technology. In January 1931, after returning from Switzerland to Krasnodar, Kovda received an invitation from Professor B.B. Polynov to come to Leningrad to work at the V.V. Dokuchaev Soil Institute as a junior researcher. He worked there until 1958, from 1940 as the Head of the Laboratory of Saline Soil Chemistry, and later – as the head of the Laboratory of Soil Genesis and Melioration. In 1937, he defended his doctoral thesis on the topic «Solonchaks and solonetz soils».

During the 2nd World War, in 1941, the Soil Institute was evacuated to Tashkent, the capital of the Uzbek Soviet Socialist Republic. V.A. Kovda was in charge of the Soil Institute of the USSR Academy of Sciences at that time and was also responsible for the evacuation and accommodation of the staff. From 1941 to 1942, he also served as the director of the Institute of Botany and Soil Science of the Uzbek branch of the USSR Academy of Sciences and became an advisor to the Uzbek government on land reclamation issues.

With the support of soil scientists from Uzbekistan and the scientific material they had accumulated on the soils of various oases, he was able to characterize the soil and land reclamation conditions of all the oases in Uzbekistan. In 1943, Viktor Kovda was awarded the honorary title of Distinguished Scientist of the Uzbek SSR for his contributions to irrigated agriculture. Among other scientific products during these years, he prepared the first schematic soil map of Iran (scale 1: 6 mln.).

After returning to Moscow in 1943, he headed the Scientific and Organizational Department of the USSR Academy of Sciences and the Department of Special Works of the Presidium of the USSR Academy of Sciences for several years

(1947-1950). From 1943 to 1948, he was the Head of the Department of Soil Science at the Moscow Institute of Hydraulic Engineering. In 1953, he was elected Corresponding Member of the Academy of Sciences of the USSR.

During these years, Viktor Kovda worked internationally. In 1954-1955, he served as the chief advisor to the President of the Chinese Academy of Sciences, Guo Mozho. He was a member of the National Academy of Sciences of India and the French Academy of Agriculture, and an Honorary Doctor of Ghent University (Belgium) and the Norwegian Agricultural University.

In 1958-1965 he was the Director of the Department of Exact and Natural Science UNESCO (Paris). Between 1958 and 1964, he addressed global issues related to land reclamation, aridification, and the impact of anthropogenic activities on the biosphere. During his tenure at UNESCO, he organized the publication of the 14-volume «International Manual on Irrigation and Drainage of Saline and Alkaline Soils», which was released in both English and Russian in 1966. After 1965, he continued his collaboration with UNESCO. Also, in this position he acted as one of the initiators and directors of the international FAO-UNESCO project «Soil Map of The World» (1960-1965). In 1973, Kovda became the president of the International Scientific Committee on Environmental Problems (SCOPE), a position he held until 1976.



International UNESCO Courses on Saline Soils, Hungary, 1980

He contributed a lot to the education in soil science in Moscow State University: in 1939-1941 he was teaching as a professor, from 1953 to 1958 and from 1964

to 1981 he was the Head of Department of Pedology at the Biology and Soil Faculty (since 1973 – Faculty of Soil Science). Until 1988 he was giving lectures on soil science and biogeochemistry.

In 1970, he initiated the establishment and headed the Institute of Agrochemistry and Soil Science of the USSR Academy of Sciences in Pushchino (now the Institute of Physical, Chemical, and Biological Problems of Soil Science). Until 1980, he was the director of the Institute, and later the head of the Laboratory of Soil Resources and then an advisor to the directorate of the Institute.

Viktor Kovda made a major contribution to the development of soil science. He developed a theory of the biogeochemical development of soils of the water-accumulative plains of the land, outlined a new original doctrine on the processes of salt accumulation in soils, generalized the domestic and foreign entanglement of land reclamation and use of saline soils, recommended the use of filled mineral waters for irrigation, and formulated provisions on the optimal water-salt regime of irrigated soils. He published more than 500 works, including more than 20 monographs, including «Saline Soils» (1937), «Origin and Regime of Saline Soils» (in 2 volumes, 1946, 1947), «Fundamentals of Soil Science. General Theory of the Soil Formation Process» (in 2 volumes, 1973), «Aridization of Land and Control of Drought» (1977), and «Biogeochemistry of Soil Cover» (1985).



Kovda played a huge role in shaping a new worldview among the global community, which is based on understanding the role of soils and the soil cover in the planet's biosphere, the responsibility of people for maintaining its functioning, and the need to address environmental issues on a global scale. His work has contributed to increasing the global community's interest in environmental protection. He is one of the pioneers in the current study of desertification, aridization, and salinization of soils.

For the last two years of his life, he spent in Moscow writing papers, monographs, and dissemination brochures. In 1951, he was awarded the State Prize for developing methods to combat soil salinization. The government awarded him several orders; the Presidium of the USSR Academy of Sciences awarded him the V. V. Dokuchaev Gold Medal. In 1987, together with a team of authors, he was awarded the second State Prize for a series of works: «Soils of the world: cartography, genesis, resources, and development».

Viktor Kovda actively participated in the life of soil science societies. In 1971–1989 he was the President of the Soviet Soil Science Society. He first attended World Soil Congresses in 1930 and was also a member of the Soviet delegation at the Third Congress in Oxford.

Since 1956, he was attending all the Congresses; in 1956, at the Sixth Congress of the International Society of Soil Science in Paris, he was elected vice-president of the Fifth Commission.

In 1968, at the Ninth Congress in Australia, he was elected the President of the International Society of Soil Science (ISSS) today the International Union of Soil Sciences (IUSS), and in 1974, he successfully hosted the Congress in Moscow.

During his term, he acted as a bridge between the Soviet Union and the international community, strengthening cooperation between scientists from East and West.

He led the Scientific Committee on Environmental Problems of the International Council for Science (ICSU), was one of the driving forces behind the Man and the Biosphere (MAB) program and played a key role as an advisor to the Chinese Academy of Sciences.

Prof. Dr. Pavel Krasilnikow/ Moscow

Prof. Dr. Charles Fred Bentley

Dr. Charles Fred Bentley occupies a significant place in the history of 20th century soil science within Canada and internationally. Through a career that combined scientific research, university leadership, professional service, and international development work, Dr. Bentley helped shape the direction of soil science during a period when agriculture and land management were facing major global challenges.



Dr. Bentley was elected the 10th President of the ISSS for the period 1974–1978. One of the defining achievements of his tenure was the successful organization of the 11th World Congress of Soil Science in 1978, held at the University of Alberta in Edmonton. That Congress, which brought together over 1,000 soil scientists from more than 60 countries, was also significant for Canadian soil science, reflecting the country's growing presence within the international scientific community.

In guiding both the ISSS and the Congress, Dr. Bentley emphasized the importance of international cooperation and the application of soil science to global development challenges, particularly the relationship between soil resources and the world food supply. His leadership within the ISSS complemented earlier service to the Canadian Society of Soil Science - CSSS, for which he served as its 3rd president in 1957.

Charles Fred Bentley was born on 14 March 1914 in Cambridge, Massachusetts. While still young, his family moved to Alberta, Canada, where he grew up near Edmonton in a rural setting. Life in the agricultural landscapes of western Canada played an important role in shaping his later scientific interests.

Exposure to farming and land management fostered an early appreciation of the importance of soil to agricultural productivity and rural livelihoods. Before entering university, he attended the Edmonton Normal School and subsequently taught in rural schools for several years.

Dr. Bentley pursued higher education at the University of Alberta, where he completed a Bachelor of Science in Agriculture in 1939, as well as a Master of Science in soil science in 1942, focusing on soil chemistry and fertility. Seeking further scientific training, he went on to the University of Minnesota, obtaining a Ph.D. in soil science in 1945. His doctoral education provided him with a strong grounding in experimental methods and emerging approaches to soil–plant relationships and nutrient dynamics.

Dr. Bentley began his academic career in 1943 as an instructor of soil science at the University of Saskatchewan, later serving there as an assistant professor. In 1946 he joined the University of Alberta as an assistant professor of soil science, beginning a long association with the institution that would define much of his professional life. Over the following decades he rose through the academic ranks to become full professor and a leader in the development of soil science research and teaching at the university.

In 1959 he was appointed Dean of the Faculty of Agriculture, a position he held until 1968. During his deanship, the Faculty expanded significantly and strengthened its research programs while developing a broader international outlook in agricultural education. After stepping down as Dean, Dr. Bentley remained active in teaching, research, and international advisory work. In 1979, he was named Professor Emeritus of soil science at the University of Alberta.

Dr. Bentley's scientific work focused primarily on soil fertility, nutrient dynamics, and the sustainable management of agricultural soils, particularly in western Canada. Among his most significant contributions was his involvement in the long-term field experiments at the Breton Plots in Alberta. These experiments, which examined cropping systems and soil fertility management on Grey Luvisolic soils (Albic Luvisols in the WRB), have become one of Canada's most important long-term agricultural research sites. The studies

conducted there have provided valuable insights into soil productivity, nutrient cycling, and sustainable soil management under continuous cultivation. In addition to field experimentation, Dr. Bentley was among the early adopters of radioisotope techniques in soil–plant studies, using these emerging methods to investigate nutrient uptake and fertilizer efficiency.

Teaching and extension formed central aspects of Dr. Bentley's professional life. He taught courses in soil fertility, soil chemistry, and soil classification while emphasizing the importance of clear communication and the practical application of scientific knowledge. Throughout his career he maintained close connections with farmers and extension specialists, helping to translate research findings into agricultural practice. Many of his students assumed important roles in soil science, agriculture, and public service, reflecting the lasting influence of his mentorship.

Beyond his academic work, Dr. Bentley contributed extensively to regional, national, and international professional organizations. He was a charter member of the Alberta Institute of Agrologists in 1947 and later served on its council and was its president from 1958 to 1959. His service to the Agricultural Institute of Canada included membership on its board and a term as president from 1963 to 1964. After leaving the deanship in 1968, Dr. Bentley became the first special advisor in agriculture to the Canadian International Development Agency - CIDA in Ottawa, where he contributed to agricultural development initiatives and international research collaborations, including consultations with the United Nations.

These included the establishment of an agricultural university and vocational agricultural college in northern China, planning genetic resources banks in west Africa, and conducting assessments of agricultural research capabilities in francophone west African countries. He also served as the first chairman of the board of governors of the International Crops Research Institute for the Semi-Arid Tropics - ICRISAT from 1972 to 1982. In 1985, he helped found and served as chairman of the board of trustees for the International Board for Soil Research and Management – IBSRAM in Thailand.

Dr. Bentley's distinguished career was recognized through numerous honours and awards. In 1966 he was elected a Fellow of the Royal Society of Canada, acknowledging his scholarly contributions to agricultural and soil science. In 1973, he was elected a Fellow of the CSSS, and in 1976, was named a Fellow of both the Soil Science Society of America and of the American Society of Agronomy. He received further recognition in 1987 when he was inducted into the Alberta Order of Excellence. In 1994 he was appointed an Officer of the Order of Canada in recognition of his distinguished contributions to agricultural science, education, and international development.

Charles Fred Bentley died on 12 April 2008 at the age of ninety-four. His legacy continues through several awards, lectures, and research initiatives established in his honour. In 1983 the CSSS created the C. F. Bentley Student Presentation Award, recognizing excellence in student scientific communication at the Society's annual conferences.

At the University of Alberta, the Bentley Lecture in Sustainable Agriculture, created in 2003, brings distinguished speakers to address contemporary issues in soil science and land stewardship. Internationally, the Bentley Research Fellowship, created in 1999 and supported through a bequest by Dr. Bentley and his wife Helen to the International Development Research Centre-IDRC, still funds research on agriculture, soils, and environmental sustainability.

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Prepared by Richard J. Heck, David S. Chanasyk & M. Anne Naeth

Prof. Dr. Jaswant Singh Kanwar

IUSS President 1978-1982

Jaswant Singh Kanwar was born on 10 December 1922, in Hoshiarpur district of Punjab, India. He earned his F. Sc. (Agriculture) in 1942 from Khalsa College in Amritsar, and his B.Sc. (Agriculture) in 1944 at the Punjab Agricultural College in Lyallpur. He received his M.Sc. (Agriculture) in 1950 from Punjab University, and his academic performance set a record for master's degrees in agriculture in Punjab (India). He obtained his PhD in soil science from the University of Adelaide, Australia. He undertook postdoctoral studies at the Universities of California and Ohio (USA) between 1957 and 1958.

Dr. Kanwar was an eminent Indian soil scientist who in addition to his distinguished career in soil science in India, held international leadership positions in soil science.

He was a distinguished member of the Indian National Academy of Sciences (INSA), the National Academy of Agricultural Sciences (NASS), and the Indian Society of Soil Science.



He was Colombo Plan Research Fellow at Waite Agricultural Research Institute, Adelaide, Australia during 1950-53. After his return from Australia, he served as Assistant Professor and Professor of Agricultural Chemistry and Soil Science between 1953-1962. With the establishment of Punjab Agricultural University (PAU) in 1962, Dr. Kanwar joined as its first Director of Research and was the Dean, Agricultural College, Hissar from 1962-1966.

During a span of 20 years i.e. from 1947 to 1966, Dr. Kanwar built the most eminent organization of soil research and education in Punjab, Ludhiana starting from a scratch after the partition of the country. He simultaneously laid

strong foundation of agricultural research and education at Hisar and Palampur which became agricultural universities of Haryana and Himachal Pradesh, respectively after the reorganization of Punjab in 1966.

In 1966 Dr. Kanwar declined a coveted offer from the FAO and instead accepted a national call from ICAR as its first Assistant Director-General (Soils, Agronomy, Engineering, and Water). The dynamic development of the Soils Division and the networking activities carried out under his leadership laid the foundation for the management of soil and water resources in India.

One of his most outstanding contribution was creation of coordinated research project on dryland agriculture which later on was converted into Central Research Institute for Dryland Agriculture (CRIDA).

In 1973, Dr. Kanwar again declined an offer of a very high position by FAO while accepting the challenges to set up an International Research Centre called ICRISAT in India to give thrust to dry land agriculture. It became the torch bearer for the establishment of the International Crop Research Institute for the Tropical Semi-Arid Zones: ICRISAT. He was Deputy Director General Emeritus at the International Crop Research Institute for the Tropical Semi-Arid Zones (ICRISAT). He served ICRISAT during 1973-88, as its first Deputy Director General.

Dr. Kanwar laid a sound foundation which has resulted in the development of path-breaking and problem-solving technologies for sustainable utilization and conservation of the key natural resources namely, soil, water, energy and environment. Creation of Central Soil Salinity Research Institute at Karnal and the Water Technology Centre at IARI, New Delhi during his tenure as the DDG depict Dr. Kanwar as the visionary institution builder. Much of the work for the establishment of the Central Soil Conservation Research and Training Institute at Dehradun and the National Bureau of Soil Survey and Land Use Planning at Nagpur was done during his tenure as the DDG.

Kanwar was world-renowned for his work on soil fertility and for his efforts to organize agricultural research internationally. His pioneering research on acute

Sulphur deficiency in soil of Punjab for oilseeds, legumes and tea opened a new chapter of Sulphur research and its use as fertilizer in improving yields and quality of many crops, and his researches on identification of specific micronutrient deficiencies such as of Zn, Fe, B, Mo, Mn, Cu, causing nutritional disorders and yield losses in plants specially citrus and field crops such as wheat, rice, maize, sorghum, sugarcane, potato have led to widespread use of micronutrients for correcting these imbalances and enhancing yields. His studies on flourine in underground water highlighted the toxicity and human and animal health problems associated with it.



Besides devoting most of his attention to increasing productivity of soils and water through use of science and technology, Dr. Kanwar gave due importance to improvement of environments and matters of ecological concerns and sustainability of agriculture. His research on residual effect of fertilizers and network for studying effect of long-term fertilizer use are important landmarks in this respect.

He was President of the International Society of Soil Science (ISSS) today the Internaitonal Union of Soils Sciences (IUSS) 1978-1982, and for his significant contributions, he also was recognized as an IUSS Honorary Member in 1990.

Among the many other honors and awards earned by Dr. Kanwar—in addition to those already mentioned—are the following: Rafi Ahmed Kidwai Memorial Award for Research in Soil Science (1967); elected President Indian Society of Soil Science (1970, 1971); Borlaug Award for Research in Agriculture (1977); Dhirumal Murarji Award for Fertilizer Research (1982); International Fertilizer Development Centre Century Club Award for Research on Sulfur (1983); Indian Society of Soil Science Award for Distinguished Service to Soil Science (2009); Doctorate of Science (Honoris causa) from Haryana Agricultural University, Hissar (1982), Dr. Y.S. Parmar University of Horticulture and Forestry, Solan (1988), and Punjab Agricultural University, Ludhiana at its golden Jubilee

convocation (2012) – special moments for Dr. Kanwar as the other dignitary awarded D.Sc. in the same convocation was Dr. Manmohan Singh, Honorable Prime Minister of India; Life-time Deputy Director General (Emeritus), ICRISAT (1988); Indian Society of Soil Science, and Indian Society of Plant Nutrition; elected Fellow of the Indian National Science Academy (1973) and Council Member (1977-80), and Fellow of the National Academy of Agricultural Sciences (NAAS) (1990); Silver Jubilee Special Honour by Himachal Pradesh Agricultural University, Palampur (1990); Foundation Recognition as first Director Research, PAU, Ludhiana (1993); Dr. Ramiah Award of National Academy of Agricultural Sciences (1993-94); Vice President, NAAS (1997-99) and Member, Executive Council (1992-97).

Dr. Kanwar is one of the most decorated Soil Scientists globally and the best and most respected in India. Profoundly called as ‘Bhisham Pitamaha’ of Soil Science.

Dr. Ranjan Bhattacharyya, Indian Society of Soil Science

https://insajournal.in/intranetinsa/deceased_detail.php?id=N75-0357

Prof. Dr. rer. hort. Dr. hc. Karl Heinrich Hartge
IUSS President 1982-1986

He was born in Dorpat (Estonia) on the 18th of March 1926. Karl Heinrich Hartge finished high school in 1946 in Diepholz/Lower Saxony and graduated at the Technical University of Hannover in Horticulture in 1955. His extraordinary scientific career started at the Institute of Soil Science, Hannover, where he earned his PhD (Dr. rerum hortorum) in 1958 in the institute of the famous Prof. Dr. Dr. hc. Paul Schachtschabel.

In 1963, Karl Heinrich Hartge finished his Habilitation Thesis about the effect of soil structure on pore size distribution, a subject which in those days was mostly unknown. In 1965 he was appointed Professor of Soil Physics at the Technical University of Hannover, where he worked until his retirement in 1991. He concentrated as a highly gifted researcher, teacher, and extraordinary “doctor father” with great enthusiasm on the analyses and documentation of soil physical properties and processes in structured saturated and unsaturated soils under various climatic and land use conditions.



His internationally accepted and honored outstanding knowledge, which was not only in soil physics but also reached far beyond this discipline, is documented in numerous chapters in various books, as well as in the famous textbook, Scheffer Schachtschabel: Lehrbuch der Bodenkunde (Soil Science textbook), which was co-authored (chapter: soil physics) by him for 32 years. Fig. 1 informs about the 5 editors: Prof. Brümmer, Prof. Schwertmann, Prof. Schachtschabel, Prof. Blume and Prof. Hartge, who developed the textbook over 20 years from 1976 to 1998.



Fig.1 The 5 editors from left to right: Prof. Brümmer, Prof. Schwertmann, Prof. Schachtschabel, Prof. Blume and Prof. Hartge, who developed the textbook over 20 years from 1976 to 1998.

Prof. Hartge had restless interests in soil scientific questions. His excellent analysis of problems or possibilities to define for soil physics a capacity/intensity parameter, which would gain an identical acceptance in soil science like the pH value in soil chemistry, dominated his data analyses up to the very last days. It was always impressive for all, when he underlined his new findings with hand drawings and corresponding handwritten information and discussed in great detail the new insights.

Fourteen PhD. students were privileged to be guided and educated by Karl Heinrich Hartge and to gain their scientific background from him. He was a real promoter and doctor father in the best sense for all of them. His presence and his wisdom, his encouraging information, helpful discussions, corrections, and recommendations occurred in an outstanding scientific and social atmosphere and guaranteed new scientific insights, as well as formed the basis for their own careers as professors in Kiel, Hannover, and Valdivia/Chile or on the advisory boards within various research and administrative organizations and research institutes.

Professor Hartge can be without any doubt called the father of soil physics in Germany, which is also documented by his enormous activity and guidance of additional research groups initiated by him. Their success is based on his fundamental knowledge of soils and their physical processes.

Besides his intense research and ambitious teaching, Professor Hartge also found time to serve the German Soil Science Society as the Chairman for Soil Physics and Soil Technology and as their President for 4 years. Elected 1982 in New Delhi/India as the President of the International Soil Science Society for 4 years, he organized the International Congress in Hamburg in 1986. The Congress was not only well organized but the various excursions before and after the congress were well appreciated. Fig. 2 gives a short impression about the venue.

In 1986 he was awarded the prestigious Dokuchaev Medal through the Russian Soil Science Society. He earned thereafter also numerous honorary memberships from Germany, the International Union of Soil Science, and the Institute of Agrophysics, Poland, for his outstanding contributions to soil science and untiring activity for these soil communities. After his retirement in 1991, he became the foundation director of the Center for Agricultural and Landscape Research (ZALF) in Müncheberg, Germany, which he reorganized after the reunification of Germany. He also served as a guest Professor for Soil Physics in Rostock, Germany, and Vienna, Austria.



Fig. 2 Some impressions of the ISSS Congress in Hamburg 1986. (courtesy of Prof. Dr. K. H. Feger).

On the 18th of November 2005, Prof. Dr. Karl Heinrich Hartge received the Honorary Certificate (Dr. honoris causa) of the Christian Albrechts University zu Kiel in recognition of his outstanding scientific career as a soil scientist, researcher, and teacher.

For his most prestigious award, the President of the Federal Republic of Germany, Dr. Horst Köhler, honored him on the 3rd of April 2009 with the Grand Cross 1st Class of the Order of Merit of the Federal Republic of Germany (Bundesverdienstkreuz Erster Klasse der Bundesrepublik Deutschland) in recognition of his outstanding scientific achievements as well as for his social activities for the Baltic community in the widest sense.

On the 11th of June 2009, Professor Dr. rer. hort., Dr. hc. Karl Heinrich Hartge died in his house in Garbsen, Germany, shortly after his 83rd birthday after a more than fulfilled scientific life. He has left not only his family but also the international soil science community and uncounted colleagues and friends all over the world sad and deeply depressed.

Prof. Dr. Rainer Horn

Prof. Dr. Akira Tanaka
IUSS President 1986-1990

Professor Akira Tanaka was born in 1924 and graduated from the Department of Agricultural Chemistry, Hokkaido University, Japan, in 1947 and granted Doctor of Agriculture degrees from the same university with the dissertation entitled “Studies on the Nutrio-physiology of Leaves of Rice Plant” in 1960.

Tanaka joined the Department of Physiology at the International Rice Research Institute (IRRI) in Manila, Philippines, in 1962 to head the institute's newly established Department of Physiology, and IRRI describes him as its first physiologist at the age of 38. He returned to Hokkaido University to head the Plant Nutrition Laboratory of the Department of Agricultural Chemistry as a professor in 1967 and retired as an emeritus professor in 1988.

He was a leading scientist in plant nutrition and rice physiology whose work connected fundamental understanding of the rice plant with practical strategies for raising productivity, especially in Asia during the early decades of international rice research (beginning early in 60's). His research achievements can be summarized in three tightly connected themes described in detail below.

Mineral nutrition and deficiency physiology:

A central feature of Tanaka's work was his deep expertise in mineral nutrition of plant, particularly the identification and interpretation of nutrient requirements and how these constraints shape rice growth. At IRRI, colleagues mentioned that “mineral nutrition” was his particular passion, and that his role required “taking the tropical rice plant apart” to analyze the physiological role of stems, leaves, and overall architecture, bringing rigorous plant physiological analysis to practical yield improvement.

This emphasis on nutrition physiology, especially diagnosing constraints and understanding plant responses, provided a foundation for evidence-based

nutrient management. In the context of Asia's rapidly intensifying rice systems, the ability to interpret nutrient limitation and crop response was essential for formulating fertilizer recommendations that were both productive and locally suitable.

Whole-plant physiological/architectural analysis supporting high-yield genotypes:

From the beginning, his physiology program helped shape the research direction of IRRI at a formative stage. According to IRRI accounts, the institute's first Director General, Dr. Robert F. Chandler, noted that Tanaka established a "first-class physiology program" and brought extensive expertise to the new institution. Importantly, his contributions were not merely supportive but strategic for the development of early high-yielding semi-dwarf rice. In IRRI's historical narrative of IR8, he is portrayed as having a contribution "equivalent to that of a breeder," helping define the course of early semi-dwarf variety development through physiological analysis and "ideal plant type" (ideotype) thinking.

He was working in close interaction with IRRI's first breeder, Dr. Peter Jennings. This ideotype perspective, explicitly connecting plant architecture, organ function, and resource capture/reallocation, remains a highly influential framework in crop improvement. Tanaka's work helped establish the idea that yield breakthroughs can be accelerated when breeding targets are informed by physiological understanding rather than selected only from empirical performance.

Soil fertility diagnosis and appropriate fertilizer use across diverse Asian environments especially in tropical Asia:

Tanaka also contributed strongly to the agronomic and soil side of yield improvement. He conducted extensive assessments of soil fertility in various Asian countries, contributing significantly to the establishment of appropriate fertilizer management practices. This type of work, i.e., translating knowledge of crop nutrient needs into regionally optimized fertilizer strategies, was crucial

for ensuring that the yield potential of improved cultivars could be expressed across diverse soil constraints.



Professor Tanaka served as President of the Japanese Society of Soil Science and Plant Nutrition (JSSSPN) in 1980 - 1981, President of the International Society of Soil Science (ISSS), today International Union of Soil Sciences (IUSS) from 1986-1990, a member of the Consultative Group on International Agricultural Research (CGIAR) Technical Advisory Committee (TAC) and a member of the Board of Trustees of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

He received the Award of the Japanese Society of Soil Science and Plant Nutrition in 1959, the Japan Agricultural Research Institute Award in 1967, the Japan Prize of Agricultural Science in 1975, and the Japan Academy Prize in 1975 jointly with Professor Yoshiaki Ishizuka of Hokkaido University, who was elected Honorary Member of ISSS/IUSS in 1978.

The late 1980s were a period when soil science increasingly confronted global-scale challenges: intensification of agriculture, land degradation, and environmental pressures, and Tanaka's background, spanning soil fertility diagnosis, plant nutrition, and crop physiological function, was well matched to these integrative demands.

Professor Tanaka played important roles not only as a researcher but also as a leader in Japan's soil and plant nutrition community. He served as President of the Japanese Society of Soil Science and Plant Nutrition (JSSSPN) in 1980-1981.

He actively participated in a wide range of international organizations and scientific networks (e.g., FAO, CGIAR and others), reflecting his role as a connector between disciplinary science and institutional action. Professor

Tanaka's international service reached the highest level of global soil science governance.

Professor Tanaka served as President of the International Society of Soil Science (ISSS) today International Union of Soil Sciences (IUSS) during 1986-1990. This is a particularly notable accomplishment because it signifies recognition by the international community not only of his scholarship but also of his capacity to lead global scientific collaboration.

He was elected Honorary Member of IUSS in 2002.

Prof. Shinano, Hokkaido University and Prof. em. Dr. Takashi Kosaki, Aichi University

Prof. Dr. Andrés Aguilar Santelises

IUSS President 1990-1994

Dr. Andrés Aguilar Santelises was born in Mexico City, he began his studies at the National School of Biological Sciences of the National Polytechnic Institute, where he obtained the title of Bachelor (1970). He carried out his postgraduate studies at the University of Wageningen, Netherlands (MSc. 1973 and Ph.D. 1981). From 1974 on he held the position of Professor at the National School of Agriculture of Chapingo -currently Autonomous University of Chapingo-, where he was Professor Chair for soil chemistry, soil chemical analysis, and soil fertility.

In his research work, he headed several projects in the fields of chemical analysis, soil acidification and application of lime to soils, and soil productivity. He promoted a great number of research projects, succeeding in obtaining financial support from outside for their realization, among them many projects of special importance through international participation, as e.g.: INSTRUCT (Canada, Ecuador and Mexico): ELISA development of soil quality indices (EEC. Costa Rica. Nicaragua and Mexico). He was also the leader of the working group that created the Ecological Atlas of the Hydrographical Basin of Rio Lerma.



Prof. Aguilar Santelises was Deputy Director of Research and Director of Internal Affairs of the Department of Soils and makes important contributions to soil science and also had a leadership function within the Academic Assistance Program of the Autonomous University of Chapingo from 1984 to 1987. He also was the founder and coordinator of the Research Program on Natural Resources and Ecology (1995- 1998) of the Autonomous University of Chapingo, and until his death he was the Editor in Chief of the scientific journal “*TERRA Latinoamericana*”, the official bulletin of the Mexican Soil Science Society.

As General Secretary of the Soil Science Society of Mexico from 1987 to 1988, he took on his role with great dedication and responsibility, providing full support to Dr. Jorge Etchevers Barra in updating and regularization of the journal "*Terra Latinoamericana*" to publish four issues per year instead of just two, and as President of the SMCS from 1989 to 1990 he gave new impetus to soil science research in Mexico.

Being president of the SMCS, he presented Mexico's candidacy during the WCSS in Japan in 1990 to host the World Congress of Soil Sciences in Acapulco in 1994, a task of enormous responsibility, as it was the first time the congress was to be held in Latin America. The venue was obtained, and one of the most brilliant and well-attended congresses in the history of the International Society of Soil Science (ISSS) -currently the IUSS-, was successfully organized.

Dr. Andrés Aguilar Santelises served as President of the International Union of Soil Sciences from 1990 to 1994. After his presidency of the ISSS, Dr. Aguilar Santelises became Editor-in-Chief of the journal "TERRA Latinoamericana" in 1993 and remained in that position until his death in 1999.

Dr. Andrés Aguilar Santelises received the IUSS Dokuchaev Medal in 1994.

Blum, Wiinfried. *In Memoriam*. <https://old.iuss.org/about-the-iuss/iuss-history/obituaries-to-great-soil-scientists/andres-aguilar-santelises-1946-1999/index.html>

https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0187-57792022000100401&lng=es&nrm=iso&tlng=es

Prof. Dr. Alan Ruellan

IUSS President 1994-1998

Professor Alain Ruellan was born on 7th August 1931 in Bourg La Reine, Hauts-de-Seine, France. In 1941 he moved with his family to Rio de Janeiro, Brazil where he lived for several years and after completing secondary studies at the Franco-Brésilien Lycée of Rio de Janeiro, Alain Ruellan went to France for his higher education in agricultural engineering at the École Nationale Supérieure Agronomique in Rennes, in geomorphology at the École Pratique des Hautes Études in Paris, and in pedology at ORSTOM.

In 1958, he began working as a research scientist in soil science for ORSTOM in Berkane, eastern Morocco. Upon his arrival, he headed the Soil Science Department of the Lower Moulouya Regional Mission of the National Irrigation Office (ONI). After ten years in Morocco, he moved to Dakar (Senegal) where he worked as research officer on tropical and Mediterranean soils.

In 1964, Alain Ruellan was assigned to Rabat, where he directed the Experimental Center under the Directorate of Rural Engineering of the Ministry of Rural Development and created the department of agropedology dedicated to the study of the evolution of irrigated soils. Before returning to France, he worked in Senegal as head of a team of soil scientists and cartographers working in various West African countries.

In 1970 he was awarded a Doctorate in Natural Sciences from the University of Strasbourg, France.

In 1972, he was appointed Professor at the National School of Agriculture in Rennes where he developed soil science teaching with strong emphasis on soil morphology and field work. He founded the INRA Soil Science Laboratory from Rennes by recruiting a multidisciplinary team (soil science, geochemistry, hydrology, agronomy). A multidisciplinary approach of the soil was the mark of his teaching and research themes. During this period, he returned to Brazil

(thirty years after leaving his father's country of adoption), he taught in that country soil morphology and invested in popular education for farmers.

In 1982, he was appointed General Director of ORSTOM (now Research Institute for Development, IRD) he will lead until 1987. His tenure completely transformed this institution employing 2 600 persons (800 researchers), first by changing its status into a public research institute and by creating multidisciplinary departments, while ORSTOM was previously organized into disciplines. Through ORSTOM-IRD, Alain Ruellan fully developed his philosophy for research in favor of countries of the South: in his view, research should help these countries to gain their independence (food, health, energy) from the countries of the North. He has thus driven crucial reforms that have reinvigorated IRD and today still guide its activity.

He was offered from 1989 to 1996 the direction of the National Centre of Agronomic Studies in Warm Regions (CNEARC) based in Montpellier. At the same time, from 1990 to 1994, Alain Ruellan was also acting as director of environmental research at CNRS (French national institute for scientific research) and implemented a program of interdisciplinary research in biological sciences and social sciences. During all this period with heavy responsibilities, he never reduced his investment in favor of education in Soil Science: from 1989, he progressively developed a complete set of educational tools (books, films, exhibitions, CD, DVD, flyers ...) devoted to education to soil. And his interest in Brazil became scientifically and politically even stronger as from 1988 he was fascinated by the Amazonia, and he contributed in particular to a program of sustainable development intended for the Amapá state.

In addition to this managerial and research leading work, Alain Ruellan served from 1986 to 1992 as vice-president and then President of the French Association of Soil Science (AFES), and from 1994 to 1998 as President of the International Soil Science Society (ISSS) today International Union of Soil Sciences (IUSS).



In this function, he was extremely active since he organized in Montpellier the 16th World Congress of Soil Science (on the theme of the relationship between soil and human societies, between the soil and the social systems), Congress which remains engraved in all memories of soil scientists.

In 2002, Professor Dr. Alain Ruellan became honorary member of the IUSS.



With a significant support from the secretary general, Prof. Dr. Dr.hc. mult. Winfried Blum from Vienna, he transformed also the ISSS into the present International Union of soil Science (IUSS) making it a broadly multidisciplinary organization.

Prof. Dr. Ruellan finally was successful in this fundamental change leading to the integration of the IUSS in the International Council of Science Unions (ICSU), today the International Scientific Council (ISC).

In recent years, Alain Ruellan continued to work extensively for soil science, with, among others, a booklet coedited with R. Poss distributed at 10 000 copies to teachers of secondary education in France and the publication in 2010 (IRD Editions) of a last book on «*soils and men: a threatened link*».

For Alain Ruellan, soil and men were intimately related. Its humanitarian action, outside the scientific context, was also significant through its very active involvement in several associations to international solidarity and sustainable development, such as the Centre for Research and Information for Development (CRID), or the Centre for Development and International Solidarity (CRIDEV), which he founded.

He was also president from 1983 to 1988 of the CIMADE which is a large ecumenical network aimed to welcome, guide and protect asylum seekers and refugees. Shortly before his death, he had made a last visit to his Brazilian friends, in Brazil, who was like a second homeland for him. Alain Ruellan has, throughout his career, contributed to a very large number of publications concerning the soil, the support to developing countries, and political action for research.

https://fr.wikipedia.org/wiki/Alain_Ruellan

https://www.afes.fr/grands_noms/alain-ruellan/

<https://data.bnf.fr>

NEW STRUCTURE OF THE IUSS

**Bulletin of the International Union of Soil Sciences.
No. 94 1998/2**

EDITORIAL NEW STRUCTURE OF THE INTERNATIONAL UNION OF SOIL SCIENCES

On 26 of August 1998, the last day of the 16th World Congress of Soil Science, the “International Society of Soil Science” became the “International Union of Soil Sciences”. Within the new structure of our organization, National Soil Science Societies can become **full members**; **individual members** are only accepted from those countries where no national organization of soil science exists. Through this change, we have enlarged our outreach to approx. 45000 soil scientists world-wide.

What does this mean for the present individual members and how will the changes be implemented in the near future?

Between now and the 17th World Congress of Soil Science, to be held in Thailand in 2002, the following steps will have to be taken:

1. Structural changes

After the implementation of the new statutes of IUSS by the end of the past World Soils Congress, we are in the process of developing a new scientific structure, consisting of divisions, commissions, working groups and standing committees. The main operational structures will be the divisions, which are to get some funding for the promotion of the different fields of interest within soil sciences. For the implementation of the new scientific structure, an enlarged Standing Committee on Statutes and Structure will meet in October 1999 in

Vienna, in order to elaborate a draft for a new scientific structure. This draft will be published in the IUSS Bulletin and will then be decided upon by the Extraordinary Council of IUSS to be held in Thailand, in April 2000. The new scientific structure will enter into force at the 17th World Congress of Soil Science in Thailand in the year 2002. where the new chairpersons for divisions, commissions, working groups and standing committees will be elected.

2. Finances

From now on until 2002. negotiations will be held with the National Societies, in order to implement the new financial structure, based on contributions from these Societies. The national contributions will depend on different parameters, e.g. on the number of national members, on the distribution of the IUSS Bulletin within the National Society, and on the contribution that a National Society might receive from the National Academy of Sciences of the respective country. Until these negotiations are concluded, the actual system of membership fees is continued.

3. Bulletin and information exchange

Until the year 2000. all National Societies and individual members will receive the Bulletin; as usual. The above cited negotiations with National Societies (see “Finances”) will also include new arrangements concerning the distribution of IUSS information (e.g. the Bulletin).

4. General information network of IUSS

Within the next few months, an IUSS website will be installed at the Secretariat General in Vienna, available free of charge for everybody. The Bulletin of IUSS will be published within this website, thus providing easy access to current information.

Those National Societies whose members have difficulties to get access to this information could install their own IUSS information network, e.g. by including relevant information from the IUSS Bulletin in their national newsletters.

Individual members will still be able to subscribe to the IUSS Bulletin after the year 2000 for a fee of approx. 12 US\$ per year for two issues, as in the past. They will receive the Bulletin by mail from the Secretariat-General twice a year. Finally, let me point out that IUSS celebrates its 75 birthday on the 19 of May, 1999, which makes it one of the oldest international scientific unions.



Winfried E.H. Blum
Secretary General of the IUSS 1990-2002
And Honorary Member of the
International Union of Soil Sciences

In October 2021, Prof. DI Dr. Dr. h.c.mult. Winfried E.H. Blum was the recipient of the globally prestigious “Science for Policy” Award of the International Scientific Council (ISC) in recognition of his work transforming the International Society of Soil Science (ISSS) into the current International Union

Union of Soil Sciences (IUSS). This award also recognized his collaborative work with Dr. Alan Ruellan to bring the IUSS as a member of the International Council of Science Unions (ICSU), today the International Scientific Council (ISC).

The IUSS is proud of him and recognizes him as an inspiring example of dedication, effort, and commitment to soil science for our new generations.

https://old.iuss.org/index.php%3Frex_media_type=download&rex_media_file=00000094.pdf

Prof. Dr. Sompong Theerawong

IUSS President 1998- 2002

Mr. Sompong Theerawong was born in 1939. He graduated in soil science from Kasetsart University, Bangkok, in 1964 and obtained a master's degree in Agronomy from Iowa State University, USA. in 1976.

He started his career at the Department of Land Development (DLD). Ministry of Agriculture and Cooperatives in 1965 and was appointed Deputy Director-General of DLD in 1989.

From 1995 to 1996 and from 1997 to 1998 he held the post of Director-General of DLD. During his office term at DLD he has chaired various committees. He was responsible for soil and water conservation and land management in cooperation with various government and private agencies concerned.

Mr. Theerawong has fully supported and accelerated the development of appropriate technology to solve such soil problems as e.g. acid soils, saline soils, sandy soils and deteriorated soils, in different parts of the country.



He was unanimously elected President of the Soil and Fertilizer Society of Thailand and President of the Soil and Water Conservation Society of Thailand for two consecutive periods, from 1996 until now. At an international level, he has served as the Advisor of the Soil and Water Conservation Network in the International Soil Conservation Organization (ISCO) and Advisor of the World Association of Soil and Water Conservation (WASWC).

Mr. Sompong Theerawong has been strongly involved in different projects in cooperation with such various international agencies as JICA (Japan International Cooperation Agency), NASDA (National Space Development

Agency of Japan), MOA (Mokichi Okuda Association), STA (Science and Technology Agency of Japan), ORSTOM (French Scientific Research Institute for Development Through Cooperation), ITC (International Institute for Aerospace Survey and Earth Sciences). IBSRAM (International Board for Soil Research and Management). UNDP. FAO etc. In August 1998.

He was elected President of the International Union of Soil Sciences (IUSS) and was therefore in charge of the organization of the 17th World Congress of Soil Science that is lobe held in Thailand, in the year 2002.

https://old.iuss.org/index.php%3Frex_media_type=download&rex_media_file=00000094.pdf

Prof. Dr. Donald L. Sparks

IUSS President 2002-2006



I had the wonderful privilege of serving as President of IUSS from 2002-2006. I was the third American President since Jacob Goodale Lipman who served as President of the International Society of Soil Science (IUSS). I had served as Chairman of the IUSS Soil Chemistry Commission and during a series of meetings in Vienna and elsewhere was heavily involved in the development of the structure of the new IUSS.

The highlight of my tenure as IUSS President was the 18th World Congress of Soil Science (WCSS), which was held July 9-15, 2006 in Philadelphia, Pennsylvania. I was ably assisted in the organization of the WCSS by Gary Petersen, IUSS Vice President and Lee Sommers and Larry Wilding who served as Co-Organizers. Many other colleagues joined us in planning the Congress over a period of multiple years. It was decided that Philadelphia would be a most appropriate venue for the 18th WCSS since Philadelphia is known as the birthplace of America where the Declaration of Independence and the U.S. Constitution were signed. Philadelphia was the 1st capital of the U.S. The theme of the Congress was “Frontiers of Soil Science: Technology and the Information Age”, a prescient theme since in 2026 technology and data dominate our world economically, socially, and scientifically.

The 18th WCSS was a terrific success drawing over 2000 participants from countries around the world. Along with my WCSS organizers, we raised private funding to support the attendance of colleagues from less developed countries

to the WCSS, and with the leadership of the USNC/SS, received support from the U.S. National Science Foundation to establish Wilford Gardner Travel Fellowships to assist early career scientists to attend the WCSS. Professor Gardner, a member of the U.S. National Academy of Sciences, was instrumental in the formation of the IUSS. The scientific sessions were characterized by cutting-edge science and the social program was rich in history, music, and tours in the area.

Some of the other initiatives I helped spearhead as President included leadership in the development of our new scientific structure, representing the IUSS at national and international scientific organization meetings including the International Council for Science (ICSU), national soil science society meetings in various countries, and multiple meetings of the IUSS leadership. Serving as IUSS President is certainly one of the highlights of my career.

Career Highlights

Donald L. Sparks is the S. Hallock du Pont Chair in Soil and Environmental Chemistry Emeritus and Francis Alison Professor at the University of Delaware, where he spent his entire 45 year career.

He is internationally recognized for his research in the areas of kinetics of geochemical processes, surface chemistry of natural materials, and impacts of climate change on cycling of metals, carbon, and nutrients in soil and water environments.

Dr. Sparks pioneered the application of kinetics to soils, developing methods ranging over a wide time scale and elucidating reaction mechanisms for sorption, desorption, precipitation and dissolution processes. He was one of the first geoscientists to employ synchrotron radiation to determine sorption mechanisms of metals and nutrients at the soil mineral/water interface and speciation of metal contaminants in soils.

Dr. Sparks' research also focused on the impacts of climate change e.g., flooding, sea level rise, and salinity on carbon complexation with minerals and

cycling of toxic metal(loid)s and nutrients in the Earth's Critical Zone. Synchrotron-based tools (STXM- NEXAFS) were used to determine associations of carbon with other elements in soils and carbon speciation. Additional studies used FT-ICR-MS to determine the temporal molecular fractionation of dissolved organic matter on iron hydroxide surfaces.

Dr. Donald Sparks is the author of three textbooks, 12 edited books, and 370 refereed papers and book chapters.

He is a fellow of five scientific societies and has been the recipient of major awards and lectureships including the Geochemistry Medal from the American Chemical Society, the Liebig Medal from the International Union of Soil Sciences, Pioneer in Clay Science award from the Clay Minerals Society, an Einstein Professorship from the Chinese Academy of Sciences, the Soil Science Research Award from the Soil Science Society of America, the Environmental Quality Award from the American Society of Agronomy, the Philippe Duchaufour Medal from the European Geosciences Union, the Urey Medal from the European Association of Geochemistry, and the Soil Science Society of America Presidential Award.

Dr. Sparks was the recipient of the Alison Award, the highest faculty award, and an Honorary Doctor of Science Degree from the University of Delaware.

He is Honorary Professor at five Chinese universities and CAS institutes. One of the highlights of his career was the mentoring of 65 graduate students and 35 postdoctoral researchers.

Dr. Donald Sparks served as president of the Soil Science Society of America and the International Union of Soil Sciences and as chair of the U.S. National Academy of Sciences (NAS) Committee for Soil Sciences.

Prof. Dr. Roger Swift
IUSS President 2006-2010

Prof. Dr. Roger Swift can be defined as one of the most prominent soil scientists, who during his career has linked not only many continents with respect to soil science research but he also worked in administrative committees amongst others in Australia, New Zealand and Britain.

He did his PHD in the chemistry Department of Birmingham University and in 1969- 1971 he was a post- doctoral fellow in the Soil Science and Plant Nutrition Department of the University in Western Australia. From 1974-1980 he became a Lecturer and Senior Lecturer in Soil Science, Edinburgh School of Agriculture, Edinburgh University, Scotland.



Thereafter he changed to Lincoln University, New Zealand from 1980-1989 where he worked as Professor of Soil Science and Head of the Department of Soil Science. A 4 - years stay from 1990 – 1993 followed as Professor of Soil Science and Head of Department of Soil Science, University of Reading, England and Dean of Faculty of Agriculture and Food, University of Reading (elected for period 1992/95).

Back to Down Under in 1993, he became Chief, CSIRO Division of Soils followed by Chief Research Scientist and CSIRO Fellow Co-ordinator CSIRO Land and Water until 2000. Thereafter followed a longer period as Executive Dean of Natural Resources, Agriculture and Veterinary Science, and Director of the Gatton Campus, University of Queensland. Since June 2011 he is the Emeritus Professor of Soil Science, Queensland Alliance for Agriculture and Food Innovation, University of Queensland.

His main research concentrated in the area of soil chemistry dealing with the properties of soil components and the behavior of macro- and micro-plant nutrients, pesticides, heavy metals and other contaminants in the soil. This research has been undertaken in the context of solving both agricultural and environmental issues. More recently He developed an interest in water quality, particularly with respect to dissolved organic matter and pesticides transported from water bodies from soil. He has also had a long-term interest in the properties and behavior of soil organic matter and other soil colloids including clays and oxides.

In much of his work, he has made use of radioactive and stable isotopes. According to his documents, Roger Swift was fully involved in teaching activities in each of his positions at Edinburgh, Lincoln and Reading Universities. In each institution, he has been responsible for developing new courses and for advising and implementing new undergraduate and postgraduate degree programs in the areas of agriculture, science, environmental science and resource management. His own teaching has been predominantly, though not exclusively, in the area of soil chemistry dealing with the properties and behavior of soil components and plant nutrients.

Professor Swift has had considerable overseas experience both in terms of carrying out projects overseas and supervising students and scientists from a wide range of countries particularly developing countries.

He spends much of his working life in several different countries and also worked on a range of projects dealing with soil problems based in Africa (Kenya, Cameroon, Burundi and Zambia), SE Asia (Malaysia, China and Thailand), the Middle East (Syria), South America (Brazil, Peru and Argentina), Papua New Guinea and Fiji.

These projects have involved topics such as use of organic matter to improve soil fertility and to ameliorate soil acidity and aluminum toxicity; improved nutrient cycling in low input systems; optimum nitrogen and other fertilizer use and nitrate leaching in both Mediterranean and tropical production systems.

He successfully supervised approximately 35 postgraduate (PhD and Masters) research students and 12 postdoctoral fellows.

During his career, he published:

- more than **200** peer-reviewed, original publications including
- approx **175** papers in international scientific and technical journals,
- fourteen chapters in books,
- editor or Co-Editor of eight books; plus
- more than 100 Invited Lectures and Keynote Conference presentations
- numerous research reports, technical reports and book reviews
- many articles in magazines, trade journals and the popular press.

According to Google Scholar, his published scientific work has resulted in more than 20465 career citations (excluding citations of chapters where he is not the lead author) and resulted in an H-index of 64 and an i10 index of 121.

Prof. Swift received prestigious lifetime achievement awards:

- Australian Centenary Medal for services to the Environment (2001).
- Fellowship of the Australian Academy of Technological Sciences and Engineering (FTSE) in recognition of world leadership and outstanding research achievements in the area of soil and environmental science (1999).
- CSIRO Fellow in recognition of outstanding research contribution in the area of Soil Science (1999).

Conference Organization

Over the years, Prof. Swift played a leading role in organizing a number of national and international conferences in the United Kingdom, New Zealand, Australia and Hungary and has also been responsible for organizing specialist

symposia at several Congresses of the International Soil Science Society (ISS), including those held in Hamburg, Germany; Acapulco, Mexico and Montpellier, France.

He worked as Chairman of Commission II (Soil Chemistry) of the International Society of Soil Science (1990-94) and as President (1986-89) of the International Humic Substances Society.

He was Member of the Council of the:

- New Zealand Society of Soil Science (1984-86).
- British Society of Soil Science (1992-94) and Chaired the Soil Colloid Working Party ISSS (1978-1990).

Most important was, however, that the IUSS Bulletin¹⁰⁴ stated that “following elections organized by The Australian Soil Science Society, Professor Roger Swift and Dr. Neil Menzies were proposed and elected as President and Vice-President for the period 2006- 2010 to organize the 19th WCSS to be held in Queensland in 2010”.

The 19th World Congress of Soil Science under the topic "Soil Solutions for a Changing World", held in Brisbane in 2010 with almost 2000 delegates from more than 100 countries addressed critical issues such as climate change, food security, and the sustainable management of soil resources.

The proceedings can be found under Gilkes, R., Prakongkep, N., Gilkes, R. (Ed.), & Prakongkep, N. (Ed.) (2010) ISBN: 9780646537832

Prof. Dr. Rainer Horn

Prof. Dr. Jae E. Yang
IUSS President 2010-2014

Dr. Jae Yang has been professor of soil environmental chemistry since 1990 at Kangwon National University, Korea.

He received the Ph.D. degree from Montana State University, USA in 1987 and had postdoctoral experiences in USA and Canada until 1990. He had served the Dean of College of Agriculture and Life Sciences and Director of Agricultural Experimental Station until the end of February of 2012.



Dr. Yang became a President of International Union of Soil Sciences (IUSS) in 2010 and will be in his position until 2014. Major areas of his research and teaching are on soil environmental biogeochemistry, soil pollution and remediation, and assessments of bioavailability and risk of nutrients and contaminants in the soil-water-crop continuum.

Major areas of his research and teaching is on soil environmental biogeochemistry, soil pollution and remediation, and assessments of bioavailability and risk of nutrients and contaminants in the soil-water-crop continuum.

He has drawn about 90 research grants and advised more than 60 graduate students. Dr. Yang has published more than 180 peer reviewed research papers, +300 abstracts, coauthored many books or chapters and registered more than 10 patents.

Dr. Yang has served on a number of national policy and research committees, the councils of scientific societies and the editorial boards of several journals.

Professor Yang feels that the field of soil science is largely expanding because of the growing interests and needs from society in not only food security and safety but also human health and ecosystem services.

In addition, many state-of-the-art emerging technologies being developed in other disciplines are waiting for soil scientists to use for education, research and policy integration.

Thus, he strongly believes that to meet the most demanding societal needs and challenges, soil science implementation should be multidisciplinary, interorganizational, intergovernmental and global with adopting the holistic integrations of research, policy and strategic plans.

<https://www.20wcss.org/data/topic/cv/Jae%20E.%20Yang.pdf>

Change of the Presidential election system

During the presidencies of Prof. Dr. Roger Swift, Prof. Jae Yang and Prof. Dr. Rainer Horn, the council discussed repeatedly about a change in the IUSS Presidency system and finally concluded to elect the new president not by the national soil science society which hosts the following International Soil Science Congress (each 4 years) but based on the voting of all national soil science societies.

The system was changed to 3 terms for in total 6 years: working as President elect, President and Past President during two years in every position.



Prof. Prof. h.c.mult. Dr. Dr.h.c.mult Dr. Rainer Horn

IUSS President 2014-2016

Rainer Horn was born May 7th, 1950, in Essen/Germany studied after his high school degree (Abitur) at the University of Hannover Horticulture with the specialization in Soil Science, and graduated 1973 with the Diplom degree under the well-known Prof. Dr. Paul Schachtschabel and Prof. Dr. K.H. Hartge (both honorary members of IUSS).

Guided by Prof. Dr. K.H. Hartge, he graduated at the Institute of Soil Science, Technical University Hannover 1976 with his PHD thesis: Mechanical strength changes due to aggregate formation of a mesozoic clay in Soil Physics/Soil Science. His further education and specialisation at the Technical University Berlin under Prof. Dr. H.P. Blume finally resulted in the Habilitation thesis for Soil Science in 1981 entitled: Effect of soil aggregation on the mechanical soil strength and its consequences on physical properties.



During this time as assistant Professor he furthermore deepened his understanding and knowledge of soil genetic and chemical topics including urban soil sciences and environmental engineering. Especially the urban wastewater in situ filtering and cleaning over more than 100 years and the increasing environmental pollution required new soil physical approaches to optimize the filter efficiency and at the same time to minimize the environmental atmosphere and groundwater pollution.

In 1982, he was appointed as Professor of Soil Science at the university of Bayreuth, where he and his research team started based on his knowledge and research and literature experiences during his former education and scientific

research approaches with a new area in soil physics/soil sciences by the application of the unsaturated soil mechanics theories, which he continuously developed and applied for unsaturated structured soils worldwide to quantify the mechanical strength of soils and to also link this data with the hydraulic, chemical and partly also biological soil properties and functions.

This research was continued after his change at the Christian Albrechts University, Kiel in 1988, where many of his overall 60 graduated PHD students, 4 assistant Professors with habilitation thesis, and more than 300 Bachelor and Master students deepened the understanding of mechanical processes and structure dependent soil strength and stress distribution including the coinciding changes in physicochemical, hydraulic, pneumatic and thermal processes besides the consequences for crop yield, soil flooding as well as soil erosion. Based on the analytical outcome of these physical, mechanical and chemical measurements on far more than 700 completely analysed soil profiles (down to 100 cm depth) under various land use management and climatic conditions during his worldwide activities over in total 40 years he created a well-documented database.

Today, his approach is widely agreed on and internationally applied to quantify pedo-, geo-, anthropogenic impacts on soil strength and structure formation under various climatic conditions and land use managements. Based on these findings, corresponding soil strength maps at various scales (from site-specific large-scale recommendations for sustainable soil and land-use management strategies up to small scale, e.g. country or European scale) can be deduced to formulate strategies or recommendations for site specific soil management /tillage procedures with respect of maintaining resilient soils, to identify environmental impacts, and to maximize and preserve soil resilience, or to derive amelioration strategies. It already served as input data for the development of soil protection laws on a farm, regional, state, country or continent scale on various precision levels. These approaches are also described in Chapter 8 on soil degradation and soil functioning mapping, defining soil quality indicators and their thresholds in the ETC/ULS Report | 2021 for the European Union.

In addition to the dominating soil mechanical and coupled environmental research topics, Dr. Horn and his team also focused on soil structure formation and coupled processes in managed unsaturated soils including the impact on chemical, hydraulic, biological, and thermal functions on macro- but even more important on microscale (Zeta potential and rheological scale) and the quantification of the rigidity impacts as boundary conditions. The analyses of hydraulic flux processes for the long term impermeable design of waste deposit capping systems including the saturated and unsaturated 3 dimensional flow and transport processes in layered systems resulted in new strategies to construct and to maintain impermeable and rigid pore systems based on laboratory but also field experiments.

Publications

He is the author of 27 books and monographs, 564 papers in refereed international journals, 134 refereed book chapters and reviews, > 400 refereed, published conference papers, > 800 conference papers non reviewed

Honorary Member and Awards

His scientific and international reputation can be also documented by the obtained AWARDS: Soil Science Society of Romania, ca 1992, Romanian Academy of Agriculture and Forestry Science, 1994, International Soil Tillage Research ISTRO 2018, Polish Soil Science Society 2019, German Soil Science Society, 2019, IUSS Honorary Member, 2020, Latin American Soil Science Society 2023, Fellow award 2005 of the American Soil Science Society, Fellow award 2006 of the American Society of Agronomy, Soil Science Award 2019, American Soil Science Society, International Soil Science Award (SSSA) 2019; Latin American Soil Science Society, 2019, Foreign Fellow of the Chinese Soil Science Society, Nanjing, 2022.

Honorary Doctor of the: University of Applied Sciences and Environment, Iasi, Romania 2012, Banat University Timisoara, Romania, Nov. 2015, Federal University of Technology, Akure, Ondo State, Nigeria 2016, and University Bodenkultur, Vienna, Austria 2022, as well as Honorary Professor Polytechnical

University Lublin, Poland 2014, Chinese Academy of Sciences, Institute for Soil Science, Nanjing 2017, Nanjing Agricultural University, Nanjing, China October 2024.

Prof. Horn has served the national and international scientific organisations since 1990 as Chair Division S-1 (Soil Physics) of Soil Science Society of Germany (1990-1996), IUSS Commission I (Soil Physics) (1994 – 1998), Working Group: Pedotechnique, (1990 -1994); Environmental Soil Mechanics (1998-2002), Commission 3.4 Soil Technology and soil management 2002-2006, Division 3 (2010-2014), President International Soil Tillage Research Organisation ISTRO 2000 – 2009, President of the German Soil Science Society (2008-2011), Chair of the Presidential election committee IUSS (2019-2026).

Activities for IUSS as President

Prof. Dr. Horn was elected in 2012 during the inter-congress council meeting in Jeju/South Korea and became the first directly elected President of the IUSS for the period 2013-2018. He took over the Presidency of Prof Jae Yang after the Jeju Congress 2014 until end of 2016. His Past Presidency ended in 2018.

In December 2013, the UN had declared 2015 as the “International Year of Soils” based on the initiative of His Majesty the King Bhumibol Adulyadej of Thailand. It provided IUSS the best opportunity to discuss the critical topics of “soils and their very specific properties, their sensitivity concerning the irreversible vulnerability due to mismanagement but also the urgent need to educate humanity and perhaps most effectively children, and young people” which was professionally approached during the presidency of Prof. Dr. Laura Bertha Reyes Sanchez.

During the presidency of Prof. Horn, he reestablished as the IUSS representative the scientific cooperation with FAO as well as he strengthened the scientific exchange with the International Science Council ISC. He sustained a constant and inclusive activity towards the strengthening of every favorable action for the preservation of Soil as a guarantee of food security and existence of life on

the planet during more than 40 worldwide visits of national soil science societies, in congresses like the XIX Latin American Congress of Soil Sciences in San José or the Soil Science Congress in Honduras (both in 2015) where the DECLARACIÓN DE SAN JOSÉ was signed, or the Soil Science Congresses in Peru, Ecuador, Honduras, Punta Arenas/Chile, and during uncounted speeches amongst others in Rome (FAO), Bogor or Nanjing (ESAFS congresses), Tokio, Moscow, Sao Paulo, Montevideo, London, Paris (ICS), Tallinn: (EU Ministry meeting), EU-South African Soils congress etc.) and numerous panel discussions. In a visionary way, he not only guided the IUSS as the President of this Union towards the recognition of the diverse key roles played by soils in addressing the major resource, environmental, health and social problems which humanity is currently facing.

His visions were expressed through the *Vienna Soil Declaration* of December 7, 2015, as well as in the FAO during the celebration of the International Year of Soil, December 5th, 2014, in Rome. He declared "The International Decade of Soils (IDS) 2015-2024" calling IUSS to maintain and extend our actions in favor of soil sustainability beyond the International Year of Soils (IYS) 2015.

He initiated during this decade IDS the publication of 1 book annually to address global issues of the time for the public and scientists globally like Nortcliff, S. (ed.) (2015), or Lal, R., Horn, R., Kosaki, T. (2018).

Dr. Horn's deep interest in Soil education and citizen raising awareness was made clear when through "The International Decade of Soils 2015-2024 Program" he furthermore defined two large IUSS priorities: "stop the land degradation as the most insidious and underestimated challenge of the 21st century", and "direct the main focus of all activities on school age children and young adults (who will be teenagers and young adults in 10 years' time)".

Until today, Dr. Horn also commits himself to a better education and raised awareness of children and young people in soil sciences which he actively supported already during his presidency within the educational project of the Latin-American Soil Science Society: "Thus are the soils of my Nation[®]", and the educational project "THE IUSS GOES TO THE SCHOOL[®]", actively.

He participated both in educational demonstrations in the field <http://www.iuss-goes-to-school.org.mx/presidents/>, and by supporting the publication of educative soil science books for children and translating teaching materials into German for children and their teachers <http://www.iuss-goes-to-school.org.mx/crop-cards/>.

Furthermore, the documentation of the national soil science societies histories in IUSS from its foundation until today gives a perfect overview about the ISSS/IUSS formation and development.

Prof. Dr. Rattan Lal
IUSS President 2017-2018

During his tenure as President of the International Union of Soil Sciences (IUSS), **Dr. Rattan Lal** significantly expanded the global visibility, reach, and scientific impact of the soil science community. His leadership was characterized by international engagement, promotion of soil-centered solutions to global challenges, and consistent communication through his widely read Viewpoint essays.

Leadership of the 21st World Congress of Soil Science (2018)

A major milestone of Dr. Lal's presidency was the 21st World Congress of Soil Science (WCSS), held August 12–17, 2018, in Rio de Janeiro, Brazil—the second time the congress was hosted in Latin America since its founding in 1927.

Organized in partnership with:

- The Latin American Soil Science Society (SLCS)
- The Brazilian Soil Science Society (SBCS)



The congress was expected to bring together over 7,500 participants from more than 140 countries, reflecting the largest gathering of soil scientists and related industries worldwide. Under Dr. Lal's leadership, the event emphasized:

- Scientific exchange
- Innovation in soil and environmental management
- Strengthening international collaboration
- Partnerships between research institutions and industry.

His presidency helped position the WCSS as a global platform for learning,

networking, and advancing solutions for soil-related environmental and food security issues.

Published one book per year on the current issues of soil science

Awarded Distinguished Service Medal to political leaders who advanced soil science nationally and internationally. Important among these leaders were:

- Dr. Klaus Toepfer, Germany
- Mr. Stephen Le Foll, France
- Mr. Aziz Akhnouch, Morocco

Authorship of the Monthly IUSS “Viewpoint” Series (2017–2020)

From 2017 through 2020, Dr. Lal regularly composed the IUSS Viewpoint—a monthly or quarterly editorial offering scientific insight, global perspective, and thought leadership on soil issues. These Viewpoints were central to IUSS communication and are still archived as part of the union’s scientific discourse.

Highlights of the Viewpoint Contributions

2020 – Themes of Global Unity and Regenerative Solutions

- “COVID-19: The World is One Family”
- “Tenets of Regenerative Agriculture in Response to the COVID-19 Pandemic”
- “Seizing the Moment”

These essays focused on COVID-19, global resilience, and the role of soil-centered agriculture in healing ecosystems and supporting communities.

2018 – Soil, Society, and Global Food Security

Topics included:

- Soil pollution
- Soil’s role in food and nutritional security
- Drought and ancient civilizations
- Urbanization pressures
- Drylands
- Degradation and human behavior

- The “glamour” and public perception of soil science
- Emission-negative agroecosystems

Dr. Lal also issued a Special Farewell Viewpoint in December 2018 reflecting on his term and the future of global soil stewardship.

2017 – Foundational Soil Themes During Early Presidency

Essays addressed:

- Sustainable intensification
- Soil health and anthropocentrism
- Ecological costs of soil management
- Soil as a factor in peace and global stability
- The emerging concept of “Medical Pedology”
- “In Soil We Trust”
- Soil as a global icon
- Soil science without borders

These Viewpoints explored ethical, ecological, and philosophical dimensions of soil management.

Educational Outreach and Public Engagement

Dr. Lal’s Viewpoints were also recorded as video messages (2017–2018) and made available on the **IUSS YouTube channel**, broadening access to educators, students, and the global public. Comments and discussion on these Viewpoints were encouraged via the official IUSS email.

Overall Impact

Across his presidency, Dr. Lal:

- Elevated soil science as essential to addressing climate change, food security, biodiversity loss, and global sustainability.
- Strengthened international collaboration across continents and scientific communities.
- Provided consistent thought leadership through more than **40 Viewpoint essays**.
- Helped guide the successful organization of the largest and most globally diverse WCSS in history.

- Promoted soil as a key natural resource for planetary health and human well-being.

His tenure is widely regarded as a period of growth, global outreach, and visionary advocacy for soils as a foundation of life and civilization.

Prof. Dr. Takashi Kosaki

IUSS President 2019-2020

Prof. Dr. Takashi Kosaki was born on 24th December 1952 in Osaka, Japan. He graduated from Department of Agricultural Chemistry, Kyoto University, Japan, in 1975 then pursued his soils study in Kyoto University and the University of Wisconsin-Madison, USA, under the joint-supervision of Prof. Keizaburo Kawaguchi and Prof. Richard B. Corey, respectively, obtaining M.S. in 1977.

He continued his research work in the doctoral program at Kyoto University with guidance of Prof. Kazutake Kyuma and was granted Doctor of Agriculture degree from Kyoto University with the dissertation entitled “Studies on the Method of Efficient Utilization of Soil Survey Data” in 1982. He started his career as a pedologist/soil chemist after Dr. Frank Moormann, in the International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria, in 1982-1985 mainly being engaged in the research project on “Soil Fertility and Suitability Evaluation for Developing Rice-based Agriculture in West Africa” managed by Dr. Anthony S.R. Juo, Senior Soil Chemist and Acting Leader of Farming Systems Program, IITA.

Then he joined Obihiro University of Agriculture and Veterinary Medicine, Japan, as Assistant Professor in 1985, returned to Kyoto University as Associate Professor in 1990 and took over Prof. Kyuma to chair the Laboratory of Soil Science, Graduate School of Agriculture, as Professor in 1994.

He was concurrently appointed as the chair of Laboratory of Terrestrial Ecosystems Management, Graduate School of Global Environmental Studies, during 2002 to 2008. After 14 years' service as Professor, he was granted Emeritus Professor from Kyoto University and moved to Department of Tourism Science, Tokyo Metropolitan University, Japan, newly established in 2008, and then to Department of Global Liberal Arts, Aichi University, Japan, in 2017, serving as Professor in teaching and supervising the undergraduate and

graduate students. He retired in 2023 with the title of Emeritus Professor of Aichi University and is now continuing his research as Senior Researcher of the Institute of International Affairs of the same university.

Scientific Achievements

Development of the method for efficient utilization of soil resources data and fertility evaluation in different ecosystems in the tropics:

Becoming computers more popular for storing, processing and retrieving data efficiently in 1970s, Prof. Kosaki introduced them into soils resources data management and constructed a prototype of the soil information systems called COSMAS (Computer-based Soil data Management System) (Kosaki et al., 1981). He modified and improved the system into SYFARM (System for Farm environment Monitoring) afterwards in 1980s so as to monitor and analyze soil and environmental data based on multivariate statistical procedures for suggesting an appropriate option in controlling soil condition favorable for a specific use of soil resources to end-users such as farmers, planners, decision makers, etc.

He tested this technique at IITA together with field experiment at the selected benchmark sites in West Africa, i.e., Nigeria, Cameroon, Sierra Leone and Liberia. He introduced the soil fertility evaluation for paddy rice production developed by Kyuma and his team for Tropical Asia into West Africa and showed their lower inherent potentiality and thus the need of higher care in increasing nutrient and water holding capacity than in Asia (Kyuma et al., 1986).

He further extended this research into South America, i.e., Colombia, Peru, Brazil and Paraguay and identified the similar soil-born constraints as West Africa, suggesting the above-mentioned soil care is applicable in South America as well. This method is recently re-applied under the framework of international research collaboration projects to analyze and evaluate soil degradation possibly caused by rapid development of economy in the selected areas in

Tropical Asia including Thailand, Vietnam, Philippines, Malaysia, Bangladesh and India, whose soils are less weathered.

Among his scientific achievements are the following:

Spatio-temporal analysis of soil degradation processes and its application to soil remediation and rehabilitation in the world.

Fifty-two percent of the land used for agriculture is moderately or severely affected by soil degradation which affects 1.5 billion people globally, but soil degradation is diverse in processes and thus in the method of remediation and rehabilitation in time and space. Using the techniques of geostatistics or pedometrics since 1980s, he started a variety of soil degradation researches globally: soil organic matter decline and salinization in Kazakhstan, Central Asia (Yanai et al., 2005; Takata et al., 2007; Funakawa et al., 2007a); desertification in Niger, West Africa (Ikazaki et al., 2009); soil erosion in Syria, Middle East (Shinjo et al., 2000); nutrient leaching and organic matter decline under shifting cultivation in Thailand and acidification in Indonesia, Southeast Asia (Funakawa et al., 2011); GHG emission in Japan, East Asia (Yanai et al., 2003).

The researches have been conducted under the framework of international collaboration with respective national organizations and outcomes were interpreted to and shared with the farmers and other stakeholders as a technology transfer package such as “Land Use Strategy for Sustaining Grain Production on Chernozemic Soils in Central Asia” (Funakawa et al., 2007b), “Salinization-free Farm Allocation and Water Distribution Strategy for Irrigation Agriculture in Arid and Semi-arid Regions” (Funakawa and Kosaki, 2007), “Fallow Band System for Combating Wind Erosion in West Africa” (Ikazaki et al., 2011), “Alternative Agroforestry-assisted Continuous Cropping in Humid Asia” (Fujii et al. 2015), etc.

He published the outcomes as over 200 books and original papers, some of which were granted Best Paper Award and Achievement Award of the academic societies and the ministries such as the Japanese Society of Soil Science and

Plant Nutrition (JSSSPN), the Japanese Society of Pedology (JSP), American Society of Agricultural and Biological Engineers (ASABE) and the Ministry of Agriculture, Forestry and Fisheries of the Government of Japan (MAFF). These achievements made him the winner of the prestigious awards such as the JSSSPN Award in 2010, the International Soil Science Award of the Soil Science Society of America (SSSA) in 2020, the Japan Prize of Agricultural Science of Association of Japanese Agricultural Scientific Societies (AJASS) in 2022 and the East and Southeast Asia Federation of Soil Science Societies Award (ESAFS Award) in 2024.

Contributions to the International Union of Soil Sciences (IUSS), its regional bodies, national societies, interdisciplinary academic communities and the International Science Council.

Prof. Kosaki was elected and served for the IUSS as Vice-Chair of Commission 3.5 in 2008-2014, as Chair of Division 3 in 2014-2017 and as President-elect, President and Past President in 2017-2022. During the 9 years of his service as a member of the Executive Committee, he made a great effort in steering and managing the IUSS in all aspect, particularly in activating and strengthening the relationship with regional federations, i.e., East and Southeast Asia Federation of Soil Science Societies (ESAFS), European Confederation of Soil Science Societies (ECSSS), Africa Soil Science Society (ASSS), Soil Science Society of East Africa (SSSEA) and Federation of Eurasian Soil Science Societies (FESSS), and 63 national societies, as well as interdisciplinary collaboration with a variety of academic communities, e.g. European Geosciences Union (EGU), American Geophysical Union (AGU), Japan Geoscience Union (JpGU), etc. It was evidenced by 25 international symposia with a variety of scientific topics which he organized as the activities of Commission 3.5 and Division 3 of the IUSS and the publications thereof as 6 special issues or sections of *Soil Science and Plant Nutrition* (SSPN), one of the IUSS cooperating journals, and other academic journals in 2009-2015 (Kosaki, 2010; Naidu et al., 2011; Kosaki et al., 2012; Gicheru et al., 2014; Kosaki and Gabriels, 2015; Morel et al., 2015).

During his presidency, he showed the leadership in enhancing soil and soil

sciences education and published IUSS books “Soil and Sustainable Development Goals. Lal et al., 2018, and “Soil Sciences Education Global concepts and teaching (2020)” (Kosaki et al., 2020) together with past presidents, Rainer Horn, Rattan Lal, and Laura Bertha Reyes Sánchez



IUSS Soil Globe

He also designed and started distributing “soil globe” (picture) for promoting soil and soil sciences and enhancing public awareness thereof for “International Year of Soils (IYS) 2015” and thereafter.

He, furthermore, presided over the Research Forum

of the IUSS in 2021-2022 and convened the session “Challenges in cross-cutting issues to cope with in the IUSS” at the 22nd World Congress of Soil Science (WCSS) 2022, Glasgow, UK.

He sent himself to a mission in energetically delivering the message of the IUSS, mostly in person, at 29 international conferences during his presidency in 2016-2022 even under the difficult conditions due to the COVID-19. As the IUSS liaison officer for the ISC, he exerted himself for promoting and increasing the presence of the IUSS in hosting and convening the Members Forum “ISC Members’ outlook on their contribution to advance Sustainable Development Goals” as a pre-event of the ISC General Assembly 2021. Due to the above contribution to the IUSS, he was bestowed Distinguished Service Award in 2020 and elected Honorary Member in 2024.

He was serving for the ESAFS in handling all variety of its activities for more than three decades. He started working with Prof. Kyuma, the Father of ESAFS and was Honorary Member of the IUSS, for establishing the federation, organizing the first conference in Osaka, Japan, and leading the field excursion in Southwest Japan in 1991. He then has been working time to time as a member

of the International Advisory Committee to guide the conference and to propose and organize the symposia or sessions with specific topics like soil degradation, sustainable rice production, soil and environmental education, etc. in almost every biannual conference since 2009. Most of them were jointly convened or closely collaborated with the divisions, commissions and working groups of the IUSS as well as Gent University, Belgium, and Tokyo Metropolitan University, Japan, so that the ESAFS be aware of and popularized in the international soils communities, resulting in its better recognition as one of the regional bodies of the IUSS than before.

In his home country, he served for the Japanese Society of Pedology (JSP) as Editor-in-Chief of *Pedologist* (2008-2009) and President (2010-2013) and has been Honorary Member since 2012. He established the 5th Committee on Soil Classification in Japan in 2013 in order to reform the national soil classification system into the one that is revised and updated with new academic findings and is easily comparable to the international systems such as Soil Taxonomy and WRB.

In the Japanese Society of Soil Science and Plant Nutrition (JSSSPN), he was appointed as Editor-in-Chief of *Soil Science and Plant Nutrition* (1996-1997), Chair of Division 5 “Soil Genesis, Classification and Land Evaluation” (1998-2000) and Chair of Division 6 “Soil Fertility and Management” (2006-2008), Editor-in-Chief of *Japanese J. Soil Science and Plant Nutrition* (2008-2009) and elected as Vice-President (2010-2012) and President (2013-2014). He dedicated his time to internationalization of the above societies and showed his leadership for IYS 2015 in promoting public awareness of soil and soil sciences. Additionally, he worked together with the soil scientists of the national academies and governments of the G20 countries and succeeded to deliver the Joint Statement “Food and Nutrition Security: Improving Soils and Increasing Productivity” as a product of science 20 Meeting (S20) at Rosario, Argentina, in 2018.

In terms of international education, technology transfer and social implementation Prof. Kosaki have been engaged in supervising 13 international students from 10 countries (China, Indonesia, Kazakhstan, Korea, Mongolia,

Philippines, Thailand, Senegal, Sri Lanka and Tanzania) beside Japan in doctorate programs at the graduate schools of Kyoto University and Tokyo Metropolitan University, Japan, and the major research topics have been associated with soil degradation, i.e., water and wind erosion, salinization, organic matter decline and soil acidification. Six scientific papers published as part of their research under his guidance were granted Best Paper Awards of *Pedologist* journal or *Soil Science and Plant Nutrition* Journal and four of those students were granted the Encouragement Award by the Japanese Society of Soil Science and Plant Nutrition.

He was also involved in Japan International Cooperation Agency (JICA) Training Program “Soil Testing for Sustainable Agricultural Production and Environmental Conservation” participated by over 300 young scientists, extension specialists and administrators from 28 developing countries (Argentina, Bangladesh, Bolivia, Cambodia, Chile, Egypt, Ethiopia, Ghana, Haiti, Indonesia, Kenya, Laos, Madagascar, Morocco, Mozambique, Myanmar, Namibia, Nepal, Paraguay, Peru, Philippines, Senegal, Sudan, Tanzania, Uganda, Vietnam, Zambia, Zimbabwe, etc.) during the last 30 years.

Prof. Kosaki and his team established a variety of technology transfer packages to cope with global environmental issues. One example is “Fallow Band System for Combating Wind Erosion in West Africa”, which is a paradigm shift in soil management against wind erosion, and was tested for 439 householders in 75 villages of 23 districts and 5 regions in Niger, West Africa, proved useful and then agreed by small holder farmers to change into this soil management (Ikazaki et al., 2011). This package is now being disseminated in other countries in West Africa with the support of local NPOs and JICA.

Prof. Dr. Laura Bertha Reyes Sánchez

IUSS President 2021-2022

Laura Bertha Reyes Sánchez is Mexican, Chemistry from the National and Autonomous University of Mexico (UNAM), with Ph.D. studies in Biology with a focus on Soil Science (UNAM); master's in sciences education and Ph.D. in Natural Sciences for Sustainable Development from ITCR and UNAM. She is Member of the National System of Researchers of Mexico and full-time professor at the campus FES-Cuautitlán of UNAM.

Since 1986, Dr. Laura Bertha Reyes Sánchez demonstrated her ability to promote Soil Sciences creating and implementing at university level the educative project "Thus are the Soils of my Nation®" which was recognized in 2000 by the Mexican Society of Soil Science as national project. Dr. Reyes Sánchez' professional competence, her continuous interest, creativity and her strong commitment in training of teachers in Soil Sciences for sustainability allowed her to generate and consolidate at regional level the project "**Thus are the Soils of my Nation®**" which was widely recognized in 2004 by the Latin American Soil Science Society by declaring it the Latin American educational project <https://www.slcs.org.mx/index.php/educacion-y-ensenanza/asi-son-los-suelos-de-mi-nacion> and <https://www.slcs.org.mx/index.php/informacion-general/declaraciones/6-declaracion-de-cartagena-de-indias>. Creating consequently the "**Latin American Network of Education and Teaching of Soil Science®**" (RELAE ECS® its acronym in Spanish) <https://www.slcs.org.mx/index.php/educacion-y-ensenanza/red-latinoamericana-de-educacion>.





As an inherent part of the project “Thus are the Soils of My Nation®”, Dr. Reyes has worked on educating children and young people and raising awareness among scientists, soil science societies, schools, and universities about the need to educate school-age children on sustainable soil management to preserve it as an essential element for life's existence on Earth through the creation of the **“Symposium on Educational Innovations in Soil Science Teaching”** as a proper space for children and young people https://www.slcs.org.mx/images/2024/HISTORICO_SIMPOSIO_DE_INNOVACIONES_EDUCATIVAS_EN_LA_ENSEANZA_DE_LA_CIENCIA_DE_L_SUELO.pdf.

This Symposium is organized within the national and Latin American Soil Science Congresses in which teachers and researchers participate with whom it is sought that children live and interact to simultaneously educate children and sensitize professionals, teachers, and scientists about the need to educate citizens from their childhood in a culture of preservation of natural resources in general, and the soil resource in particular. She has taught training courses for teachers on soil science education in Mexico, Argentina, Chile, Ecuador, and Brazil, as well as about the interdisciplinary link between soil science and green chemistry for sustainability in Mexico, Chile, Colombia, Costa Rica, and Ecuador. She has given more than 400 lectures on these topics to date.



Laura Bertha Reyes Sánchez served as Secretary General of the Latin American Society from 2005 to 2018, a position to which she was unanimously re-elected until her resignation in 2018, year in which she was elected President-Elect of the IUSS.

At the head of the Latin American Soil Science

Society, Dr. Reyes Sánchez managed to consolidate the 20 Soil Science Societies that make up the SLCS like a solid working group collaborating on educational and scientific projects and encouraging all SLCS countries to join and collaborate closely with the IUSS and GSP-FAO in all their actions and activities to promote the IUSS World Soil Day and sustainability of soil resources.

Consistent with her educational project in Soil Science, Laura Bertha Reyes-Sánchez has collaborated with the FAO Global Soil Partnership since 2012, is co-author of the FAO Soil Atlas of Latin America and the Caribbean https://esdac.jrc.ec.europa.eu/Library/Maps/LatinAmerica_Atlas/Documents/LAC_atlas_EN.pdf, she participated and is co-author of both the Pillar 2 Action Plan https://www.fao.org/fileadmin/user_upload/GSP/docs/ITPS_Pillars/anne_xIII_pillar2.pdf, and the Pillar 2 Implementation Plan of the FAO Global Soil Partnership <https://www.fao.org/3/bq927e/bq927e.pdf>. Dr. Reyes-Sánchez also participated in the review of the documents for the elaboration of the Voluntary Guidelines for Sustainable Soil Management in her role as responsible for Pillar 2 for Latin America and the Caribbean, and in 2016 she was elected by his peers in Pillar 2 as the Global Chair of Pillar 2 of the GSP-FAO <https://www.fao.org/global-soil-partnership/pillars-action/2-awareness-raising/es/>.

In 2018, the recognition of the international Soil Science community towards her educative and scientific work as well as her development project for the IUSS was expressed by the electronic voting process that made her the first woman elected as President of the International Union of Soil Sciences in 95-years history of the IUSS, becoming the IUSS' President for the period 2019-2024.

As President of the IUSS she wrote the draft and led the elaboration of the final document of the IUSS Strategic Plan 2021-2030 which was approved by the Council at the WCSS of Glasgow in 2022 with 75.8% of the Countries endorsing the IUSS



Laura Bertha Reyes-Sánchez
President of the International Union of Soil

first time an IUSS Strategic Plan approved by the Council
<https://www.iuss.org/strategic-plan/>.

Since becoming president of the International Union of Soil Sciences, her commitment and activities in favor of strengthening soil science worldwide were written into the IUSS Strategic Plan 2021-2030 through the establishment of policies for its governance, including the **“IUSS Diversity, Equity and Inclusion Policy”**, the **“IUSS Open Access Publications Policy”** and the **“IUSS Electronic Elections Policy”** among her three most important legacies. An outstanding part of her activity as president of the IUSS was always the organization and promotion of the celebration of the IUSS World Soil Day (WSD) worldwide. Dr. Reyes Sánchez's genuine interest in Soil Science education was made clear when she launched the worldwide educational project "THE IUSS GOES TO THE SCHOOL®", as an integral part of the IUSS Strategic Plan 2021-2030 whose main objective is to educate in soil science and raise awareness about the need for its sustainable management which she led <https://doi.org/10.3389/sjss.2023.12208>, <https://doi.org/10.1016/B978-0-12-822974-3.00091-4> and <https://doi.org/10.3389/sjss.2024.13752>. The project is supported by 28 National Soil Science Societies, the European Society for Soil Conservation, and WASWAC.

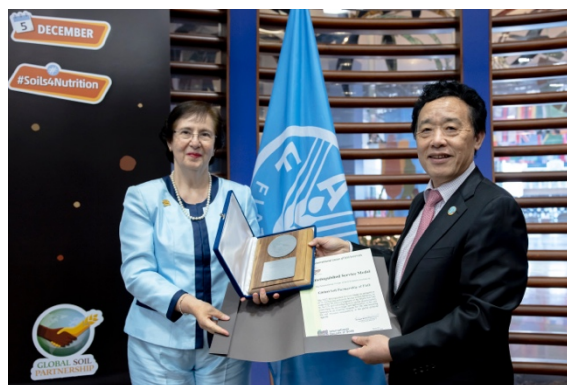
In 2019, she was appointed by the IUSS as permanent representative to the General Assembly of the Global Soil Partnership in Rome for the period 2019-2024, and in 2020, she made to FAO-GSP a “Joint Educational Action Proposal between the FAO and the IUSS” to collaborate on a global educational initiative for children and young people as a priority task, thus achieving for the first time a letter of understanding between the IUSS and the FAO-GSP to carry out joint educational actions worldwide, through an education and awareness program on Soil Science for its preservation between "The IUSS GOES TO THE SCHOOL" educative project and FAO-GSP. In this way, and with the clear objective of involving soil scientists and soil science societies, as well as research institutions and universities from around the world, in efforts to educate and raise awareness on soil preservation, among the future citizens of the world, she promoted the joint educational work of the project "THE IUSS GOES TO THE SCHOOL®" with FAO-GSP having launched as partners

Booklet and Poster contests for children to celebrate the WSD in 2020, 2021, 2022, 2023 and 2024 about “Soil Biodiversity”, “Salty Soil Adventures Halt soil salinization, boost soil productivity”, “Soils: where food begins”, “Soil and water a source of life”, and “Caring for Soils: measure, monitor manage” consecutively. As a result, together FAO and IUSS have co-published: three **Collections of 10 Children's stories around the World** on those topics: <https://doi.org/10.4060/cb4185en>, <https://doi.org/10.4060/cc0530en> and <https://doi.org/10.4060/cc7127en> achieving to project and disseminate the educational work of the IUSS as well as reaching great visibility of the Union worldwide.

Her work to promote sustainable soil management extends to society through stakeholders' meetings, community services, and continued participation in congresses, symposia, seminars, webinars, and international conferences with researchers, politicians, teachers, academics, children, and university students <https://doi.org/10.1111/ejss.13395>, <https://doi.org/10.1016/j.soisec.2023.100124>, <https://old.iuss.org/newsroom/iuss-waswac/index.html> and https://old.iuss.org/index.php%3Frex_media_type=download&rex_media_file=waswac_iuss_pp_list_of_supporters_20211031.pdf



Laura Bertha Reyes Sánchez awarding Professor Dr. Taolin Zhang, Vice Minister of the Ministry of Agriculture and Rural Affairs of China with the **IUSS Distinguished Service Medal 2021**.



Laura Bertha Reyes Sánchez awarding FAO-Global Soil Partnership with the **IUSS Distinguished Service Medal 2022** which is received by Mr. QU Dongyu Director-General of FAO.

Dr. Reyes-Sánchez has not only written and edited children's books and teaching materials but also promotes this activity among scientists to make children and young people of school age literate in soil science and raise

awareness about the soil resource value for the existence of life on our planet. Highlighting in this sense, the authorship, coordination, editing and publication launched in 2024 of the book "SOIL IS A SOURCE OF LIFE, WATER AND FOOD" which brings together educational material for children in English, Spanish, German, French and Portuguese, written and translated by her and by scientists from various countries under her coordination. This book contains 30 crop cards & short stories, and 11 children's books in 1750 pages. <https://www.iuss.org/soil-publications/iuss-publications/soil-is-a-source-of-life-water-and-food/> (Reyes-Sánchez & Horn. 2024).

Her commitment and firm support for the formation of young scientists' groups within the National Soil Science Societies worldwide is also highlighted. She strongly encouraged and supported young soil scientists' activities worldwide and as the IUSS' President, working together with the young scientists from Poland and having the support of the Polish Society of Soil Science, her decisive engagement and mightily support resulted in the proposal, creation, and approval in 2022 of the IUSS' "Young and Early Career Scientists" Working Group (YECS) <https://doi.org/10.3389/sjss.2023.12208>. In support of both the IUSS DEI policy and promoting recognition of Young and Early Career Scientists, Dr. Reyes-Sánchez proposed, substantiated and achieved the approval by the Council of the IUSS "**Emma Marie Antoine Täuber Award**", which bears the name of one of the women present at the founding of the IUSS in Rome in 1924. She also designed the "Emma Marie Antoine Täuber" medal, which was convened for the first time for awarding at the WCSS-2026.

For more than 36 years, Dr. Reyes has dedicated herself to promoting the study and awareness of soil science to achieve its preservation as an essential element for food security, to preserve the biogeochemical cycles, soil biodiversity, and the existence of life on this planet, working both with children and young people, as well as with citizens or teaching courses to train teachers in Chile, Argentina, Costa Rica, Brazil, Ecuador, and Mexico. With those same objectives, she has participated as a keynote speaker invited in countless national and international conferences worldwide, especially as a guest lecturer for FAO-GSP during various Symposia or during its General Assemblies, as well as in any academic and/or scientific event that promotes soil sustainability.

As a chemist, she has contributed to soil sustainability through the study, teaching, and practice of Green Chemistry as a working philosophy whose primary purpose is to prevent pollution rather than remedy it, carrying out a collective effort to minimize or eliminate contamination from its source, and thus minimize the impacts on the environment and humans, without sacrificing scientific and technological advances. She has published 13 books (author editor), 16 chapters in soil and chemistry books, 65 articles and several GSP-FAO documents.

Activities for IUSS as President

As IUSS president, Dr. Reyes Sánchez presided and co-led, with Dr. Bruce Lascelles, the 22nd World Congress of Soil Science, held in Glasgow from July 31 to August 5, 2022, with big success despite the Covid-19 pandemic. In his role as IUSS President and Past President, she attended **89** scientific events in total offering lectures at congresses and academic meetings for National Societies, **25** of them on-line or through a video because the pandemic. These events took place in Austria, Chile, Malaysia, Brazil, China, Colombia, Poland, Argentina, Uzbekistan, Japan, Dominican Republic, Russia, Guatemala, Mexico, Ukraine, El Salvador, Honduras, France, Bolivia, Italy, Venezuela, Spain, Ecuador, Thailand and other countries around the world supporting them through conferences, research, and educational activities to improve knowledge and advance on emerging topics to achieve the sustainability of the soil resource.

During the XXII World Congress of Soil Science in Glasgow, U.K., The IUSS Centenary, and the XXIII World Congress of Soil Science in Nanjing, China, she organized the symposia: How to move towards gender equity?; Children and young people say present at the IUSS Centenary Celebration; Moving the IUSS toward Diversity, Equity, and Inclusion; Bridging young and senior soil scientists to foster future generations of soil advocacy, and Accelerating equity in Soil Sciences to strengthen the IUSS. As the IUSS representative to the FAO, she participated as an invited speaker and guest lecturer in **28** General Assemblies, Global Symposia, and World Webinars organized by the Global Soil Partnership from 2019 to 2024.

IUSS WSD is every year a more important event worldwide and not only have we worked hard to spread it, but also as IUSS President and Past President she attended **35** WSD celebrations as speaker in different countries worldwide distributing her presentations at different days and times. Also talking on behalf of the IUSS during the FAO WSD celebration in Rome, 2020 and 2021, 2022 and 2023.

In addition to preparing the draft of the IUSS Strategic Plan 2021-2030 and leading its approval by the IUSS Council, she processed and signed an understanding letter with FAO, the MOU between IUSS-WASWAC, the MOU between the IUSS-SCGES of the ISC, three Copublishing agreement IUSS-FAO for three different books, the position paper for COP 26 on the Interlinkages of Soil and Climate Change: Protecting the Soil is Protecting the Climate which was endorsed by 48 National and Regional Soil Science Societies belonging to the IUSS and she drafted the Contract for the Secretariat of the IUSS 2023-2026. Besides IUSS publications with FAO, Dr. Reyes Sánchez published seven books and five chapters for IUSS as editor and author including "The IUSS Centennial documentation of its national members" <https://www.iuss.org/soil-publications/iuss-publications/iuss-1924-2024/>. She also produced videos to celebrate the 97th, 98th, and 99th anniversaries of IUSS and Christmas in 2019, 2020, 2021, 2022, and 2023.



Among the recognitions that Laura Bertha Reyes-Sánchez has received from the national and international community of Soil Sciences for her contributions to soil science knowledge, education of children and young people, her support to Young and Early Career Soil Scientists (YECS) activities, DEI initiatives and training of teachers in Green Chemistry and natural sciences for the sustainable soil management, the following stand out: Appointment as Distinguished Visitor of the Old City of Guatemala **2011**; Latin American Soil Science Award in **2014**; Álvaro Barsellos Fagundes Medal of the

Brazilian Society of Soil Science in **2018**; Honorary Member of the Costa Rican Soil Science Association in **2019**; Honorary Member of the Spanish Soil Science Society in **2021**; Fellowship Award from the Soil Science Society of China in **2022**; East and Southeast Soil Sciences Asia Federation Award: ESAFS-**2022**; Distinguished Service Award from the International Union of Soil Sciences in **2022**; Honorary Member of the Soil Science Society of Poland in **2023**; Honorary Member of the Guatemalan Soil Science Association in **2024**; Honorary Member of the Soil Science Society of Chile in **2024**, Honorary Member of the Soil Science Society of Chile in **2024**, Corresponding Member of the Deutsche Bodenkundliche Gesellschaft in **2025**, Honorary Member of the Ukrainian Society of Soil Scientists and Agrochemists in **2025**, Honorary Member of the Latin American Soil Sciences Society in **2025**, and UNAM's University Merit Medal-2025 for 50 years of professorship-&-research in **2025**.

Laura Bertha Reyes Sánchez won the **IUSS Communication Award**, which was awarded for the first time during the 23rd World Congress of Soil Science in Nanjing, China in 2026.

Prof. Dr. Edoardo A. C. Costantini

IUSS President 2023-2024

Formation, career, research and teaching activities - Edoardo A.C. Costantini (born 1955) obtained his Doctoral degree *Summa Cum Laude* in Agricultural Sciences in 1979, from the University of Florence (Italy) Department of Geopedology (director prof Fiorenzo Mancini), defending an experimental thesis in soil science, awarded publication status.

He obtained professional qualification as agronomist in 1980. In 1981 he was appointed Research Scientist at the Experimental Agronomic Institute in Modena, and in 1985 at the Experimental Institute for Soil Study and Conservation in Florence.

He became Senior Researcher in 1999 and Research Director in 2010 at the Council for Agricultural Research (CRA), later the Research Centre for Agriculture and Environment of the Council for Agricultural Research and Economics (CREA) where he served until his retirement at the end of 2018. From 2014 to 2016 he acted as Director of the Research Centre for Agrobiology and Pedology in Florence. He was also Contract Professor of General, Systematic and Applied Pedology at the University of Siena (1988 - 2008) and in 2014 he obtained the National Scientific Qualification for Full Professor (Level I) in the disciplinary sector Agricultural Chemistry, Agricultural Genetics and Soil Science. Since 2021 he has been Senior Researcher at the National Research Council of Italy (CNR-IBE).

His research covers a wide range of topics, including soil–crop relationships and terroir; soil degradation processes; soil quality and soil health indicators; crop management for soil restoration; soil survey and digital soil mapping; soil databases and GIS; cultural and natural values of soils; history of soil science; soil in agricultural and environmental policies. He has conducted extensive field research and soil surveys in most of Europe and in Australia, the USA, Mexico, Ecuador, South Africa, Turkey, Thailand, and India, and has coordinated

numerous international and national projects funded by European institutions, the NATO, Italian ministries, and the FAO Global Soil Partnership. He is author of more than 300 papers, soil maps and books, including “*The Soils of Italy*”, which has received over 16k accesses.



Honours and Awards - His distinctions include Honorary Membership of the Italian Soil Science Society (2025), the Italian Knowledge Leaders Award (2023), the Gerold Richter Award of the European Society for Soil Conservation (2019), the Norman Hudson Memorial Award of the World Association of Soil and Water Conservation (2017), the Balducci Award of the Italian Soil Science Society (2002). He is

also a member of the Italian Academy of Geogofili (2016) and the National Academy of Agriculture (2017).

Activities for the IUSS

A member of the Italian Soil Science Society and the IUSS since 1980, he has held numerous national and international roles, including President of the IUSS Commission on Paleopedology (2003–2010). He has organized scientific sessions at all IUSS World Congresses from 1998 to 2022 and 15 international IUSS conferences and workshops worldwide. In 2022, he became the first Italian elected President of the IUSS. As President Elect, he collaborated in the preparation and securing Council approval of the IUSS Strategic Plan 2021–2030. Upon assuming the presidency, he made a strong commitment to advancing the implementation of the Strategic Plan, focusing on the achievement of its core objectives.

Improving the organizational capacity and management of the IUSS

He promoted the launch of the *2025-2034 Decade of Soil Sciences for Sustainable Development*, (DSSSD - “Healthy Soils for Humanity”), officially

endorsed by the IUSS Research Forum and the Council, and supported by major international organizations including the FAO Global Soil Partnership, the International Science Council, the Coalition for Soil Health, the European Society for Soil Conservation, and the “4 per 1000” initiative. The main aim of the Decade is to prioritize the production, dissemination, and use of actionable scientific knowledge on soil management in support of achieving the targets of the Sustainable Development Goals (<https://www.iuss.org/decade-of-soil-sciences-for-sustainable-development/>). He supported the assignment of the IUSS Distinguished Service Award (2024 to the Honorable Penelope Wensley; 2026 to MEP Dr. Martin Hojsík) and successfully proposed, substantiated and secured the approval by Council of two new high-level IUSS awards to acknowledge outstanding results in Innovation and Communication.

He established and supported several task forces addressing key institutional needs: evaluation of IUSS-funded projects, guidelines for the World Soil of the Year, revision of statutes and by-laws, development of the IUSS website, evaluation of the Secretariat, and guidelines for the IUSS events. A major effort was also devoted to facilitating the establishment and operation of the new full-time Secretary and the Secretariat.

Strengthening the linkages with Full Members and the Scientific organisms of the IUSS

He introduced an annual online forum for Council members, improving communication and participation, with the designation of national focal points for international connections. He promoted the expansion of IUSS membership (Albania, Moldova, Egypt, Vietnam, and contacts with Morocco, Sweden, and Kenya) and maintained close interactions with national and regional societies to support their organization of international meetings or sessions at IUSS meetings.

During his presidency, a major activity consisted of representing IUSS through invited keynote lectures at 24 international congresses and conferences organized by member societies and IUSS Commissions either in person or

online where he introduced the Union and, in several cases, also presented original research studies and perspectives.

Empowering outreach and international collaboration: He have expanded cooperation with leading international organizations to raise awareness of soils and increase their consideration in global agendas.

UNESCO: He developed the collaboration between IUSS, FAO, and UNESCO for the promotion of soil sustainability and the implementation of the DSSSD, obtaining the official endorsement of the decade by UNESCO, and collaborated for introducing sustainable soil management in Geoparks and Biosphere reserves, co-drafting the Concept note for the UNESCO global soil initiative.

He delivered a keynote lecture and participated in a round table at the UNESCO conference on “Soils at the hearth of integrated landscape management”, 2024, Morocco. He also introduced the IUSS at the UNESCO UNCCD COP 16 Presidency event: Presenting and mobilizing key stakeholders around Soil Health, 2024, Saudi Arabia.

FAO-GSP: He represented the IUSS at the General Assembly of the Global Soil Partnership (GSP), in 2025 and in 2026, and in the preparation meetings of the European Soil Partnership (ESP). A major result was the collaboration with the IUSS Commission SUTMA for a joint conference with the GSP.

He has introduced the IUSS at webinars organized by FAO-International Network of Salt-Affected Soils, 2023, and the Global Soil Laboratory Network, 2023, and presented the history of the IUSS at the meeting of the Italian soil partnership, 2023. The collaboration with GSP of FAO also included the participation in the Evaluation team for the FAO contests “Tiny soil detectives” and “Soil in a minute” held for the WSD 2025.

International Science Council (ISC): He was appointed by the IUSS as its representative to the ISC and to the Disaster Risk Reduction (DRR) Standing Committee of the Geounions. In this role, he participated in meetings, roundtables, and the General Assemblies of the ISC in 2023 and 2025. His

contributions included reviewing and voting on official documents, as well as presenting IUSS initiatives such as the DSSSD.

He facilitated the involvement of IUSS experts in several ISC and UN initiatives, including contributions to documents on soil salinity and soil erosion, participation in the *Distinguished Lecture Series on Sciences for Sustainable Development*, and engagement in the ISC–UNEP Global Survey.

He also supported collaboration with the Geounions, including engagement in candidate nominations for ISC positions, and contributed to the endorsement of a UN World Day of Karst, ensuring recognition of the role of soil in the declaration. He actively promoted and organized roundtables among ISC unions and associations, chairing the first three sessions. Within the DRR framework, he contributed to the development of policy briefs on various themes and facilitated the involvement of IUSS specialists. He also successfully supported the nomination of IUSS member Prof. Yongguan Zhu as Vice-President of the ISC for Membership.

He also strengthened IUSS partnerships with several other institutions by organizing panels, delivering invited lectures, signing MoUs, and representing the Union at major conferences, policy forums, and initiatives across Europe and globally. These collaborations involved the World Association of Soil and Water Conservation, the European Geographic Union, the European Society for Soil Conservation, the Save the Soil and the Coalition for Soil Health movements, the International Association for Promoting Geoethics, G7 institutions, Ministries of Agriculture and of Culture, the European Innovation Partnership, and the European Joint Program on Soil.

Organization of the Centennial of the IUSS

He has been the main coordinator of the Centennial, which took place from May 19 to 21, 2024, in Florence (Italy) as celebratory conference marking the 100th anniversary of the founding of the IUSS. This event was the first world congress of the IUSS to be held in Italy since its foundation in Rome in 1924. The congress saw the participation of nearly 1,500 experts from 73 countries. He

also coordinated the production of a video about the very place where the IUSS was established in Rome in 1924 (Villa Lubin), (<https://www.youtube.com/watch?v=2EOXZrsdgTg>), the pre-congress excursion to Villa Lubin in Rome, and the post conference excursion to wine-growing terroirs in Central-South Italy.

Enhancing IUSS publications

He coedited the books: “Sustainable soil management as a key to preserve soil biodiversity and stop its degradation”, IUSS, 2022; “Soil Science in Italy: 1861-2024”, Springer, 2024; digitalization of the “1924 Proceedings of the Fourth International Conference of Pedology”, IUSS, 2024; book of scientific excursions, IUSS, 2024, and proceedings of the Centennial congress, IUSS, 2026. Co-author of the WASWAC-IUSS Position Paper “Protecting the soil is protecting the climate”, Soil Security, 2024.

Conclusions:

During his presidency, Edoardo A.C. Costantini has pursued a comprehensive strategy aimed at consolidating the IUSS as the global voice of soil science. This effort combined institutional strengthening, scientific leadership, and an unprecedented level of international engagement with major organizations in science, agriculture, and environmental governance. He was strongly focused in increasing the participation of IUSS members, supporting the recognition of excellence, and improving the allocation of economic resources. Overall, his presidency has consolidated the IUSS as a more connected, visible, and impactful international scientific union, capable of linking high-level research with policy and societal needs.

Prof. Dr. Victor Okechukwu Chude

IUSS President 2025-2026

Prof. Victor Okechukwu Chude hails from Anambra State, Nigeria. He holds a Doctoral and Master of Science degrees in Soil Science from the University of Ibadan, Nigeria and a B.Sc in Plant/Soil Science from the University of Nigeria, Nsukka.



His core professional interests are Soil Fertility and Plant Nutrition with a strong affinity for Integrated Soil Fertility Management of tropical soils. Prof. V. O. CHUDE represented the Soil Science Society of Nigeria (SSSN) in the International Union of Soil Sciences (IUSS) Council for 15 years.

Prof. Chude is one of the most widely travelled Soil Scientists in Nigeria. He has been a key speaker at numerous national and international seminars and conferences on the status of Soil Science in Nigeria across countries such as Germany, Brazil, USA, Niger, Togo, Netherlands, Burkina-Faso, Australia, Italy, Kenya, China, Korea, Colombia, Israel to mention a few. He is a Council Member of the International Union of Soil Sciences (IUSS) as well as International Society of Plant Nutrition.

Academic and Professional Career

Professor Chude's academic and research career spans several decades of meritorious service. He served as a Senior Research Fellow at the Cocoa Research Institute of Nigeria and later as a Professor of Soil Science at Ahmadu Bello University (ABU), Zaria, between 1987 and 2002. During his tenure at ABU, he supervised 13 PhD and 13 MSc theses, in addition to several undergraduate research projects, contributing significantly to capacity building and knowledge generation in soil science.

At ABU, he represented the Faculty of Agriculture on the University Board of Research, Biology Complex, and Central Boards (1994–1997). He also served as Head of the Department of Soil Science in the Faculty of Agriculture between 1996–2000. In these roles, he actively participated in University governance and served as an External Examiner and Assessor for undergraduate, postgraduate, and professorial appointments in several Nigerian Universities. He was also a University Senate Representative on the Governing Board of the Division of Agricultural Colleges, ABU, from 2000 to 2002.

National and International Policy Engagement:

Beyond academia, Professor Chude has provided high-level advisory services to government and development partners. He served as a consultant to the Nigerian Honourable Minister of Agriculture and Rural Development on matters relating to Research Institutes in Nigeria. He has served as the Northwest Coordinator of the National Fertilizer Project, with several completed research projects with local and international research collaborators like IFDC, IITA.

He served as Chairman of the Africa Soil Partnership and National Focal Person for the Global Soil Partnership (GSP) of the Food and Agriculture Organization of the United Nations (FAO) in Nigeria. In this capacity, he supervised Nigeria's technical contributions to FAO-led global digital soil mapping initiatives, facilitating national data harmonization, methodological alignment, and integration of Nigerian soil information into global soil databases and decision-support platforms.

He also contributed as a Soil Fertility Consultant to the National Programme for Food Security (NPFS), a joint initiative between the Federal Government of Nigeria and FAO/UN, providing technical inputs that supported the Agricultural Transformation Agenda. In addition, he served as a Member of the National Technical Executive Committee of the Nigeria Farmers' Soil Health Scheme (NFSHS), where he contributed to strategic planning, technical advisory processes, and the development of implementation frameworks aimed at strengthening soil health management across Nigeria.

Furthermore, he played a key role in the drafting and technical development of the National Soil Management Policy, providing scientific guidance and professional oversight to ensure alignment with international best practices in sustainable soil management, climate resilience, and food security.

Leadership within Professional Bodies:

Prof. Victor Okechukwu Chude is currently the Pioneer Registrar/CEO of the Nigeria Institute of Soil Science (NISS), under whose leadership the Institute received the 2021 King Bhumibol World Soil Day Award, a Life member and Fellow of the Soil Science Society of Nigeria (SSSN). He served as the President of the Society from 2003 to 2018; Member, International Union of Soil Sciences (IUSS) since 1979; Member, Standard Organization of Nigeria Technical Committee on Fertilizer and Agro-allied Products, and Member, National Fertilizer Solutions Association of America. His sustained commitment to IUSS activities, coupled with his scientific standing and leadership experience, led to his nomination and subsequent election as President-Elect of the IUSS during the World Soil Science Congress in Glasgow in August 2022.

Presidency of the International Union of Soil Sciences:

Professor Chude's tenure as President-Elect 2023–2024 and his assumption of office as President of IUSS in January 2025 reflect a long-standing dedication to advancing soil science through global leadership, institutional stewardship, and international engagement. During this period, he actively represented IUSS at major international fora, scientific meetings and governance platforms, contributing to dialogue on soil health, food security, climate resilience and sustainable development.

As President-Elect, he played a central role in the IUSS Inter-Congress 2024 held in Nanjing, China (20 – 24 October 2024), which served as a key governance milestone for the Union. The meeting included Council and Executive Committee sessions focused on preparations for the 23rd World Congress of Soil Science (WCSS 2026), election of the next President-Elect,

and strategic planning. His participation in these deliberations supported leadership continuity, institutional cohesion and alignment with the IUSS Strategic Plan. The Inter-Congress also featured an international scientific symposium and field visits, reinforcing the integration of governance, science and regional engagement.



Fig. 1 y 2: Prof. CHUDE during the Presidents' Committee meeting at the IUSS Inter-Congress in Nanjing, China

In addition, Prof. Chude participated at the IUSS Centennial Celebration and Congress in Florence, Italy (May 2024), marking 100 years of the Union's contributions to global soil science. He also participated in international science policy dialogue through engagement with the International Science Council, including attendance at the ISC Mid-Term Meeting in Paris (May 2023), thereby strengthening the visibility of soil science within the broader international scientific community.

International Representation and Scientific Exchange:

As IUSS President, he further strengthened the Union's global presence through representation at international conferences and award ceremonies. Notably, the 2025 IUSS Distinguished Service Medal was conferred on Senator Robert Black of Canada during the "Soils for Our Future" Joint Conference in Winnipeg (July 2025), recognizing outstanding contributions to soil-related public policy; the award was presented on behalf of the IUSS President. He also contributed to international scientific exchange through invited lectures and presentations, including a video keynote address to the 2025 Conference of the

Japanese Society of Soil Science and Plant Nutrition, focusing on international challenges in soil science and expectations for young scientists.

Alongside his international responsibilities within IUSS, Prof. Chude continued to contribute to the advancement of soil science at the national level through long-standing professional roles held independently of his IUSS presidency. In Nigeria, the Nigeria Institute of Soil Science (NISS), under his stewardship, implemented a range of initiatives aimed at strengthening professional standards, public awareness and sustainable soil management.

Between 2019 and 2025, NISS consistently promoted public awareness of soil conservation through the annual celebration of World Soil Day on 5 December. These events provided effective platforms for sensitizing Nigerian society to the importance of soils for food security, environmental sustainability and climate resilience, and were organized in collaboration with key partners, including the Food and Agriculture Organization of the United Nations, the Soil Science Society of Nigeria, the National Agency for the Great Green Wall, OCP Africa, and Indorama Eleme and Chemicals Limited. These collaborations strengthened linkages between science, industry and public institutions.

Significant progress was also achieved in strengthening the soil science profession through structured professional registration and capacity development. Since the inception of NISS, a total of 397 candidates has been inducted as Registered Soil Scientists, including 54 new professionals in 2023. This system has contributed to enhanced professional standards, improved cohesion within the discipline, and strengthened exchange of knowledge and experience among practitioners in both the public and private sectors.

Prof. Chude also actively participated in workshops and annual conferences of the Soil Science Society of Nigeria (SSSN), which served as important platforms for scientific exchange, capacity development and policy dialogue among researchers, practitioners and decision-makers. As Registrar of NISS, he championed the implementation of a Five-Year Action Plan focused on the sustainable management and protection of soil resources in Nigeria. The Action Plan promotes sustainable soil management for conservation and productivity; encourages investment, technical cooperation and policy support; strengthens

education, awareness and extension services; advances targeted soil research and development; improves soil data quality and information systems; and supports the harmonization of methods, measurements and indicators for sustainable soil management.



Fig 3: Prof. V. O. Chude during the virtual Trainers Workshop

In addition, NISS undertook accreditation and inventorization programmes involving soil and fertilizer analytical laboratories in universities, research institutes, private laboratories and fertilizer blending facilities across Nigeria. These initiatives aimed to ensure compliance with internationally accepted standards, thereby strengthening quality assurance, reliability and confidence in soil testing and fertilizer services.

Farmer-oriented soil advisory services were further strengthened through the implementation of the FAO Global Soil Doctors Programme in Nigeria, which focuses on practical soil diagnosis and management at field level. In 2024, agronomists from Indorama Fertilizers and Chemicals Limited were trained as Soil Doctors and equipped with soil testing tools to support hands-on advisory services for farmers.

Continuous professional development was also supported through webinars organized for Registered Soil Scientists in both the public and private sectors, with invited lectures by leading international experts, including Professor Gerard



Heuvelink of the International Soil Reference and Information Centre, exposing participants to advances in soil data, modelling and global soil information systems.

Laboratory Accreditation, Farmer Advisory Services, and Capacity Development:

Under his leadership, NISS further implemented an OCP-funded project aimed at disseminating innovative technologies for the management of problematic soils in Nigeria. The project involved soil sampling and analysis, field assessments, formulation and validation of balanced fertilizer blends, and capacity-building workshops for farmers and extension agents, contributing to improved soil management practices, enhanced fertilizer use efficiency and increased agricultural productivity.

While these initiatives were national in scope, they provided valuable institutional experience that informed Prof. Chude's advocacy within IUSS for stronger professionalization, capacity development and engagement across Africa. At the IUSS level, efforts focused on encouraging wider participation of African soil scientists and national societies in Union activities, increasing visibility of soil science and supporting inclusive approaches to membership and capacity building, while recognizing the structural and financial challenges involved in expanding such initiatives across multiple countries.

Vision, Legacy, and Forward Outlook:

At the outset of his presidency, Professor Chude articulated a vision to consolidate the IUSS as a scientifically strong, inclusive, and policy-relevant global organization, with increased participation from under-represented regions, stronger engagement of early-career scientists, and clearer alignment with global development agendas.

This vision has been advanced through stewardship of major international events, promotion of professional standards, strengthened global engagement, and sustained advocacy for soil health as a foundation for food security, climate resilience, and environmental sustainability.

Looking ahead, his recommendations emphasize:

- Continued implementation of the IUSS Strategic Plan (2021–2030)
- Strengthening global soil data and knowledge systems
- Deeper engagement with international climate and development policy processes
- Expanded capacity building in developing regions
- Reinforcement of IUSS as a unifying and authoritative global voice for soil science

AT THE BEGINNING OF OUR NEXT HUNDRED YEARS

Bruce Lascelles 2026-2027

Prof. Dr. Bruce Lascelles

IUSS President 2026-2027

I am honoured to have been invited to contribute to this book and daunted by the weight of history presented across the men and women who have provided leadership, direction and expertise to the benefit of the International Union of Soil Sciences and to the soil science community.

I am a soil scientist from the UK. My family moved from Scotland to rural North Devon in the south-west of the UK when I was just 1 year old and this is where I grew up. My love of the natural world started as a child spending my days, when not at school, exploring the woods, fields and rivers around the house. I now live in Cotswolds, a beautiful landscape formed of limestone plateaus and steep-sided river valleys.

At school, physical geography was a real highlight for me and, looking back, I recognise the real importance of good teachers who can engage on a topic and instil a life-long passion for a subject. This passion for the natural environment was strengthened in my A Level studies where I first delved properly into the world of soils – how they formed, their variability and their importance. And this drove me to want to study soils further at university, and as my father had been a forester in his early career before becoming a teacher I chose to study both forestry and soil science at Bangor University in North Wales.

Whilst I enjoyed the forestry part, it was soil science, and the beauty of soils themselves, which really enthused me – again perhaps also because of the quality of the lecturers – and so after travelling for a year I returned to Bangor to undertake a PhD looking at environmental and pedogenic change over the Holocene period. This gave me the opportunity to study soils both in detail and

at a landscape scale, and in the context of the wider environment and environmental change, including the influence we have had.

This laid the foundation for the majority of my career – bridging the gap between disciplines such as ecology, hydrology and hydrogeology and their intricate linkages to soils.

I undertook a number of research projects after my PhD, including a post-doctoral research position at the University of Leicester where I studied rill formation using a rainfall simulator, collaborating with soil process modellers. After a period of writing scientific abstracts I moved into consultancy, working closely with ecologists initially and then with the full spectrum of environmental disciplines, and am currently Director of Sustainable Land Management at Arcadis.

I have also had significant business and leadership experience: I have led several teams, including a team of over 200 people and had responsibility for significant budgets.

My work has focused on several key areas:

- Soil survey.
- Agricultural Land Classification survey/assessment.
- Developing soil handling and sustainable management strategies.
- Designing habitat creation/restoration/translocation schemes.
- Assessing soil physical and chemical characteristics to define options for Biodiversity Net Gain and carbon sequestration; and
- Advocacy relating to soil science and the physical environment.

I have been involved with the British Society of Soil Science since 1991 when I started my PhD, and was honoured to be voted in as President for the 2 years between 2021 and 2022.

I brought my business leadership, strategic thinking, relationship building and commercial acumen to the role which overlapped with the culmination of over 10 years of work leading the team preparing for and delivering the 22nd World Congress of Soil Science in Glasgow.



Dr. Bruce Lascelles WCSS22 Closing Ceremony

This Congress was a scientific and commercial success despite the uncertainties due to the Covid-19 pandemic, a result due to the fantastic team that worked together to achieve this (with a 50:50 split of men and women on the Working Group).

It was opened by our Patron, The Duke of Gloucester and attended by nearly 1700 delegates, with over 30% coming from outside Europe and the USA, who delivered nearly 1000 posters.

Three of the five plenary speakers were women and a blind review process was used for abstract selection resulting in a 57:43% split between men and women speakers (from those who provided gender information). Sustainability was also a core pillar and we delivered what we believe was the first Environmental Impact Assessment of an international congress and have shared our learnings from this across the wider international congress and convention community.

Over my career, both with Arcadis and with the British Society of Soil Science, I have built a strong network, in part from making opportunities to speak at conferences or on panels as well as developing and delivering training courses for organisations in support of their drive to understand soils and build knowledge within their organisations.

As an example I was pleased that through this network we were able to get the

video address from the then Prince Charles at the close of the Congress in 2022 https://drive.google.com/file/d/19ZgSIbrz_Zw8S6VIAqV1T6ndqTvD954s/view?usp=sharing.

I am a strong advocate for soils within and beyond the soils community, for example working closely with archaeologists to broaden their understanding of the soils world within which so much of our heritage and culture is held and preserved.

The IUSS is and has to be a central cog in driving soil science development, provision of support for the science and the dissemination of this scientific knowledge to as wide an audience as possible. There is much to do now but also a critical need to look to the future.

Stepping into the role of President Elect at the start of 2025 felt daunting and there is so much I have learned so far.

I now have a much clearer appreciation of the importance of IUSS, an organisation which comprises 60,000 soil scientists globally, who through their networks and with the support, guidance and structure of IUSS have the ability and opportunity to educate, influence and engage on soils in the widest context.

The IUSS Mission is to *promote all branches of soil science and its applications, to promote contacts among scientists and other persons engaged in the study and the application of soil science, to stimulate scientific research and to further the application of such research*. Aligned to this is the Decade of Soil Sciences for Sustainable Development focused on Healthy Soils for Humanity, aimed at prioritising the production, dissemination and use of actionable scientific knowledge to achieve the targets of the Sustainable Development Goals.

To deliver this we need a strong, functional organisation with clear strategic direction and a plan to deliver the strategy. This delivery has to support the scientists at the heart of the research, and has to ensure the application is enabled through knowledge transfer, engagement across the sciences and the public, and

tapping in to and building energy across youth groups and movements associated with land and soil.

Looking forward, key activities will need to include:

1. Ensuring all activities have a clear focus on advancing the discipline of soil science and supporting the development of soil scientists across the IUSS community.
2. Developing and delivering an IUSS Strategy Implementation Plan with clear priorities set against capacity within the Secretariat, Divisions, Commissions, Working Groups and wider membership (and to include capacity-building where required).
3. Ensuring commercial stability, with growth where possible.
4. Building strengthened relationships and engagement with all National Societies and all organisations involved with soil, climate, water biodiversity etc.
5. Promotion of Equality, Diversity and Inclusion in all IUSS activities and business operations, driving a focus on an equitable transition in the face of the climate and biodiversity crises; and
6. Promotion of and support for the Early Careers soil science community, who will be critical to the future of IUSS and the soil science community.

Soil is complex, incredibly diverse and locally variable. The characteristics of the soil at any given location are the unique outcome of the soil forming factors – geology, topography, climate, time and land management. And importantly, soil is a non-renewable resource.

Supporting scientific endeavour, fostering positive interactions and debate and creating greater and wider engagement around soil is so important. We need to build knowledge and understanding of the critical role of soils – they are a

fundamental part of our life support system alongside air, water and biodiversity. They underpin our resource requirements, and they deliver the ecosystem services that enable life on earth.

I think we all know that, outside of our community, soil, this thin skin of the earth, has been vastly underappreciated. And so, we must reach beyond these walls to listen and learn from others, ensuring we understand the different perspective and different imperatives.

Change is happening – I would say that now is a good time to be a soil scientist. Soil science is at the intersection of existential global challenges — climate change, food security, water quality, biodiversity loss, and sustainable infrastructure — so demand for expertise is growing rapidly. Advances in technology, data science, and policy focus mean soil scientists can have greater impact for society and the environment and build great careers along the way.

I look forward to what the soil science community and IUSS can achieve in the next 100 years – a community and supporting Union uniquely positioned to deliver solutions which benefit society and future generations.



Dr. Bruce Lascelles
The IUSS' President who ushers
OUR NEXT HUNDRED YEARS

The IUSS' Presidents Throughout One Hundred Years of its History

In memory of the founders of Soil Science and in gratitude to the thousands of men and women who during these first one hundred years have dedicated part of their lives and work to the construction and strengthening of the International Union of Soil Sciences.

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International Union of Soil Sciences®

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