REMEMBERING ROLAND SOUCHEZ

The International Polar Foundation (IPF) is deeply saddened to learn of the passing of glaciologist Professor Roland Souchez on July 30th, who made important contributions to the fields of glaciology and climate science during his decades-long career. A Full Member of the Science Class of the Royal Academy of Belgium, and Professor Emeritus and former Dean of the Faculty of Sciences at the Université libre de Bruxelles (ULB), Professor Souchez made important contributions to the fields of glaciology and climate science during his decades-long career.

Roland Souchez was born in the borough of Uccle in Brussels in 1938. He earned his Doctorate of Science at the ULB in 1963. His area of expertise was isotopic glaciology, which studies the isotopes of oxygen and hydrogen in an ice core sample to reconstruct temperatures of the polar regions in past climates, contribute to determine its age and decipher potential phase changes. Roland Souchez also looked at gas trapped in ice cores (content, composition and their isotopic ratios) to decipher past atmospheric conditions and post-deposition alterations. He was particularly interested in studying basal ice, which is created from the interaction between ice sheets and bedrock below it.

From an early stage, he became deeply involved in the development of Antarctic glaciological research, participating in dozens of research expeditions to both poles and alpine regions.

His first foray into Antarctica was as a member of the 1964-65 Belgo-Dutch Antarctic expedition to study ice-cored moraines in the Sør Rondane Mountains, not far from the present-day Princess Elisabeth Antarctica station. From there he participated in a number of international research expeditions, including

with the United States Antarctic Program (1965-1966 and 1966-1967), the Italian National Antarctic Research Program in Antarctica (PNRA). He took part in expeditions with the Geological Survey of Canada, the University of Aberdeen (UK), and the University of Edinburgh (UK) to Greenland and the Canadian Arctic to study basal ice outcrops. Due to his extensive expertise, he was asked to lead research efforts on basal ice sequences retrieved from most of the international deep ice core drilling efforts, both in Greenland (GRIP, North GRIP, NEEM) and in Antarctica (EPICA Dome C, EPICA DML, Vostok). He also studied basal outcrops in glaciers in the Swiss Alps with the University of Cambridge (UK) and the Institut des Geosciences et l'Environment (IGE - formerly LGGE) in Grenoble (France).

“Roland was a reference in his field,” commented IPF Founder and President Alain Hubert, who was nominated for the prestigious 2024 Belgica Prize by Professor Souchez. “His contributions to glaciology and climate science, and not to mention his contributions to the Belgian and international scientific community, were truly impressive. He will be greatly missed.”

Professor Souchez handed Alain Hubert the Belgica Prize at a ceremony at the Royal Academy of Sciences of Belgium only a few weeks ago on June 10th.

Of course, fellow glaciologists who had the privilege of working with him over the years feel his loss.

“Roland was a pioneer glaciologist in Belgium,” stated fellow glaciologist at the ULB and IPF Board Member Professor Jean-Louis Tison, who has been on several missions to Antarctica himself over the years. “He has been a mentor to three generations of Belgian glaciologists after his first stay with the Belgian-Dutch expedition in the Sør Rondane Mountains in 1964-1965, where he studied the dynamics of ice cored moraines. Since then he specialised in basal ice studies and, in that context, he visited a great number of glaciers in the Alps, Alaska, the Canadian Arctic, Greenland, and the Antarctic. He was internationally renown for his seminal work on water stable isotopes in ice, and how it can be used to trace phase changes in glaciers, understand the complex dynamics of the basal part of ice sheets, how it affects the preservation of paleoclimatic signals, and how it can record the extreme environmental conditions, coupled with gas measurements in ice bubbles. For this, he was invited to join many of the international deep drilling projects as an expert and leader in the study of their basal part. Roland was a hardworking scientist fully dedicated to his passion.”

“Roland Souchez's career fits perfectly into the spirit and tradition of the Glaciology Laboratory of the Department of Earth and Environmental Sciences of the Faculty of Sciences of the Université Libre de Bruxelles, which he directed for several years,” commented glaciologist Professor André Berger from the Université catholique de Louvain, co-founder of the International Polar Foundation and Member of the Class of Sciences at the Royal Academy of Belgium. “Both passionate about ancient climates, we became friends, and in particular we worked to award the ARB Belgica medals from 1989 to the present. His work on the interface between glacial ice and rocky or aquatic bedrock makes it possible to indicate up to what depth glacial soundings are reliable and therefore up to what time in the past we can reconstruct the evolution of ancient climates. It also allows us to better understand the dynamics and instability of glacial masses.”

Over the six decades of his career, Professor Souchez created an impressive body of work, co-authoring 96 publications and a few books. He earned many distinctions and achievements, including becoming the Dean of the Faculty of Sciences at the ULB between 1981 and 1984. He also spent several years abroad as a Visiting Professor at other institutions, including at the University of Maryland in 1970 and the University of Ottawa in 1971. He was Associate Professor at the University of Paris between 1984 and 1985.

Professor Souchez also served as a Visiting Professor at the Université Catholique de Louvain (UCLouvain) for two years between 1998 and 2000, where he held the Francqui Chair during his second academic year

there. The Franqui programme facilitates academic exchanges from different Belgian and international academic institutions.

He was elected correspondent of the Class of Sciences at the Royal Academy of Belgium in 1999 and became a Member of the Academy five years later in 2004. He also served as Director of his Class in 2007.

Professor Souchez also received the Antarctic Medal from the United States Government, and the U.S. Board on Geographic Names officially named Souchez Glacier after him in West Antarctica.

His lasting impact was, needless to say, enormous.

You can listen to Professor Souchez discuss polar ice and its connection to the global atmosphere in an interview from 2016 (in French).