SHORT COURSE
INTRODUCTION TO THE THEORY AND PRACTICE OF SAMPLING (TOS) IN SCIENCE, TECHNOLOGY, INDUSTRY COMMERCE AND SOCIETY

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MISTY HILLS CONFERENCE CENTRE MULDERSDRIFT, JOHANNESBURG
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SAIMM
THE SOUTHERN AFRICAN INSTITUTE OF MINING AND METALLURGY
FOUNDED 1894

Course provider: Kim H. Esbensen, professor, KHE Consulting, Denmark

This short course starts from level zero in a novel didactic framework without excessive mathematics and statistics, developing a conceptual framework with which TOS' six Governing Principles and four Sampling Unit Operations can be understood in a unifying manner, enabling everybody to start sampling in a correct fashion in just one day.

The course covers sampling from stationary lots, from moving, dynamic lots (process sampling), also focusing on sampling in the analytical laboratory. The course makes use of many practical examples and cases.

Analytical results forming the basis for decision making in science, technology, industry, society, commerce must be relevant, valid and reliable. But analytical results cannot be detached from the specific conditions under which they originate.

Proper representative sampling emerges as the critical success factor before analysis: 'Sampling is not gambling' (Pierre Gy).

This short course deals with how to acquire defensible representative samples from heterogeneous materials, lots and processes for optimal Quality Control e.g. in industrial processing & manufacturing, for environmental monitoring a.o. All sampling processes must be in full compliance with the Theory and Practice of Sampling (TOS), the world's only science-backed guarantee against hidden economic losses, preparing for valid decision making.

Course documentation is the widely used textbook: '**Introduction to the Theory and Practice of Sampling**'

About the Presenter

Kim H. Esbensen, a geologist/geochemist/data analyst of training, has been working 20+ years in the forefront of chemometrics, but since 2000 he has devoted most of his scientific R&D and educational outreach to the theme of representative sampling.

This concerns mainly sampling of heterogeneous materials, processes and systems (Theory of Sampling, TOS), PAT (Process Analytical Technology) and chemometrics.

Kim H. Esbensen, Ph.D, Dr. (hon), has been research professor in Geoscience Data Analysis and Sampling at GEUS, the National Geological Surveys of Denmark and Greenland (2010-2015), chemometrics & sampling professor at Aalborg University, Denmark (2001-2015), professor (Process Analytical Technologies) at Telemark Institute of Technology, Norway (1990-2000 and 2010-2015) and professeur associé, Université du Québec à Chicoutimi (2013-2016).

From 2015 he gradually phased out a 30+ year academic career for a new quest as an independent consultant from 2016: https://kheconsult.com but as he could not terminate his love for teaching, he continues as an international visiting, guest and affiliate professor at several universities.

He has been a member of six scientific societies, has published over 250 peer-reviewed papers and is the author of a widely used textbook in Multivariate Data Analysis (33,000 copies), published in its 6.th edition in 2018. He was chairman of the taskforce behind the world's first, and only, horizontal (matrix independent) sampling standard (2013). He is editor of the science magazine TOS forum and writes the regular SAMPLING column in the open access magazine Spectroscopy Europe/Spectroscopy Asia https://www.spectroscopyeurope.com/sampling.

Esbensen is fond of the right breed of friends (and dogs), swinging jazz, fine cuisine, contemporary art and classical music. He has been collecting science fiction novels for more decades than what he is comfortable contemplating, still, as ever - it's all in the future …

FOR FURTHER INFORMATION, CONTACT:

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