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TRACKING TRENDS & PERFORMANCE IN BASIC RESEARCH

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2009 : June 2009 - Author Commentaries : Jan Åke Jönsson

AUTHOR COMMENTARIES - 2009

May 2009


Jan Åke Jönsson

 Featured Scientist from *Essential Science Indicators*SM

According to a recent analysis of Essential Science Indicators from *Thomson Reuters* data, the work of Professor Jan Åke Jönsson achieved the highest percent **increase** in total citations in the field of Chemistry from October to December 2008. His current record in this field includes 67 papers cited a total of 1,286 times between January 1, 1999 and February 28, 2009.

Prof. Jönsson is at the Analytical Chemistry Division at Lund University in Sweden. In the interview below, he talks with ScienceWatch.com about his highly cited work.

SW: Would you tell us about your educational background and research experiences?

I am a Ph.D. (1978) and professor (2000) at Lund University, Sweden, where I have spent practically all my scientific life, now coming close to retirement. I have been teaching analytical chemistry and environmental science for decades and my research has been centered in separation science, in the earlier years, physico-chemical matters, then later field flow fractionation, and now, since the '90s, novel extraction techniques. I have many contacts all over the world, more in "east" and "south" (Africa) than in "west."

SW: What would you say is the main focus of your research?

The main focus nowadays is about the basics and application of membrane-based extraction techniques. These techniques can provide unsurpassed concentration enrichment factors (often thousands of times), high selectivity, and very little solvent consumption with cheap and simple means.

The use of hollow porous fibers for the membranes (resulting in a technique sometimes called LPME, short for liquid phase microextraction) is especially efficient—disposable and efficient extraction devices costing cents can be easily made and applied. This is useful for environmental sampling and analysis, in food chemistry and for use in developing countries.

There are also possibilities to use these devices to determine freely dissolved fractions and chemical activities, which is a currently much-discussed, interesting topic in environmental chemistry.

SW: Where do you think this technology will be in five to ten years?

We expect it to be used more in environmental and other applications. This will be dependent on the acceptance by regulatory authorities (which is a very slow process), and generally in the scientific

Figure 1: +details

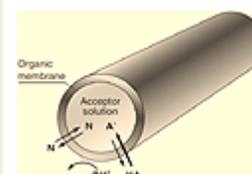


Figure 2:



community, which is on its way, as our papers are widely read.

SW: What would you like the "take-away lesson" about your research to be?

That efficient and selective extractions can be made with very simple and cheap means. It is not necessary to stick to shaking lots of expensive, toxic, and flammable solvents, or to fiddle with expensive SPE cartridges. ■

Prof. Jan Åke Jönsson
Analytical Chemistry
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Jan Åke Jönsson's current most-cited paper in *Essential Science Indicators*, with 150 cites:

Jönsson JA, Mathiasson L, "Liquid membrane extraction in analytical sample preparation I. Principles," *TRAC-Trend Anal Chem* 18(5): 318-25, May 1999. Source: *Essential Science Indicators* from Thomson Reuters.

Additional Information:

KEYWORDS: ANALYTICAL CHEMISTRY, SEPARATION SCIENCE, EXTRACTION TECHNIQUES, MEMBRANE-BASED EXTRACTION TECHNIQUES, HOLLOW POROUS FIBERS, LIQUID PHASE MICROEXTRACTION, LPME, ENVIRONMENTAL CHEMISTRY, FOOD CHEMISTRY, LOW COST.



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