search group to synthesize and characterize new inorganic and polymeric electrolytes, as well as mixed ionic-electronic conductors.

John Oswald Thomas was recently appointed professor of solid state electrochemistry at Uppsala University, Sweden. After receiving his bachelor's degree in physics from Oxford University in 1965, he received a PhD in crystallography from London University in 1969, and then moved to a postdoctoral position at Uppsala, where he has remained since. His research interests have spanned experimental and theoretical studies of hydrogen-bonded systems, the development of the Rietveld x-ray powder refinement method and, more recently, structural and molecular dynamics studies of solid mobile-ion systems. His latest interest has been real-time studies of solid-state electrochemical processes by diffraction methods.

M. Stanley Whittingham is professor of materials chemistry and director of the Materials Research Center at the State University of New York at Binghamton. He was formerly with the Corporate Research Laboratories of Exxon Research and Schlumberger. He obtained his MA and DPhil in organic chemistry from Oxford University, and then spent four years at the Center for Materials Research at Stanford University. His research has focused on the synthesis, characterization and properties of nonstoichiometric inorganic compounds with emphasis on ambient temperature reactions, solid state electrochemistry and ion transport properties. His group discovered the ambient temperature lithium intercalation batteries. He has chaired many international and national meetings, including the 11th International Symposium on the Reactivity of Solids held in Princeton in 1988. Whittingham is the principal editor of *Solid State Ionics*. □

Letters to the Editor

Dear Editor,

Encouraged by your interest in readers' opinions and by emphasizing the Society's interdisciplinary approach, I wish to take up a special materials question.

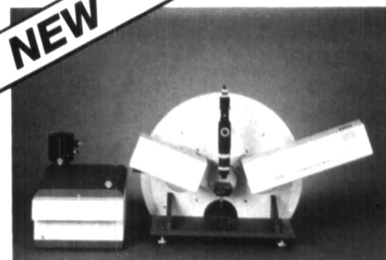
Dental amalgam for filling carious teeth has been a matter of controversy for a long time. However, it has not been unambiguously shown that the amounts of mercury released by corrosion and wear are either neglectable or unacceptable from a biological point of view.

After years of interest in the issue, it is my opinion that the matter is suffering from lack of interdisciplinary approach. At the same time, there are a few questions with equally distinct interdisciplinary character as the question of dental amalgams, touching on fields such as metallurgy, electrochemistry/corrosion, mechanical properties, wear, analytical chemistry, toxicology, biology and biocompatibility, and medicine, e.g., neurology and immunology.

One of the reasons of the prolonged use of dental amalgams has been lack of attractive and better new dental materials. Thus, development of new materials with good properties at acceptable cost would make the use of mercury alloys for implants superfluous. The issue might perhaps be a challenge for MRS.

With best regards,

Jaro Pleva
Hagfors, Sweden



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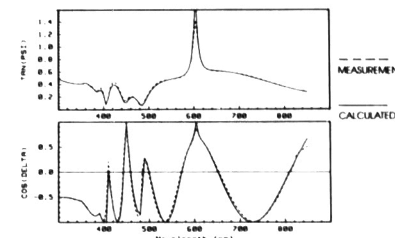
The new 4th generation SOPRA Spectroscopic Ellipsometer (MULTILAYER OPTICAL SPECTROSCOPIC SCANNER – THE MOSS) is now available to help you to characterize your thin or thick films, analyze multilayers, map your wafers, fine tune your process. We can provide measurements from 230 nm to 1.1 microns at speeds up to 40 full spectra per second * !! The moss is based on an PC Computer System and can be demonstrated in your lab today.
Give us a call and we will be glad to arrange for you to see the moss in action.
* with the optional OMA detector system.

SIMOX-multilayer-characterization

The Tan (psi) and Cos (delta) spectra here below show the fit of the measured spectrum and the model simulated spectrum after regression calculation.



A cross comparison between Spectroscopic Ellipsometry and X-TEM gives very good agreement and show a better resolution of the multilayer structure.

Materials	S.E. Thickness in nm	X-TEM Thickness in nm
SiO_2	2.5	2.5
Si	96.6	95.1
SiO_2	388.5	419
$SiO_2 + Si_{(30/70)}$	19.5	
$SiO_2 + Si_{(60/40)}$	9.0	
SUBSTRATE SiCr		

APPLICATIONS FOR RESEARCH AND CONTROL
Physics of surface, Optical coating, Thin Films, Multilayer, Semiconductor, Implantation, Superlatttices, Solid State ;

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FRANCE : SOPRA SA
26/68 Rue Pierre-Joigneaux
F - 92270 Bois-Colombes
Tél. : 33-1 42 42 04 47
Fax : 33-1 42 42 29 34

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