

# Symposium H

MONDAY OCTOBER 9<sup>TH</sup>



## 8:15 A.M. – 10:00 A.M. ORAL SESSION H1

Chairperson: Dr. J. A. Varela (R. Muccillo)

Room: PETROBRAS

- 8:15 – 8:45 A.M. INFLUENCE OF THE NANOSTRUCTURE ON THE ELECTROCHEMICAL PERFORMANCE OF MATERIALS FOR INTERMEDIATE TEMPERATURE SOLID OXIDE FUEL CELL. **(H592, Invited)**. Enrico Traversa (University of Rome Tor Vergata, Italy)
- 8:45 – 9:15 A.M. FABRICATION AND TESTING OF SOLID OXIDE FUEL CELLS. **(H520, Invited)**. F. C. Fonseca, (IPEN), D. Z. de Florio (UNESP), E. N. S. Muccillo (IPEN), R. Muccillo (IPEN).
- 9:15 – 9:30 A.M. COMPOSITES OF NICKEL, ZIRCONIA AND CARBON NANOTUBES. **(H529)**. A. S. Ferlauto (UFMG), D. Z. de Florio (UNESP), F. C. Fonseca (IPEN), V. Esposito (University of Rome Tor Vergata, Italy), R. Muccillo (IPEN), E. Traversa (University of Rome Tor Vergata, Italy), L. O. Ladeira (UFMG).
- 9:30 – 9:45 A.M. SCANDIA-STABILIZED ZIRCONIA (SCSZ) OBTAINED BY THE POLYACRYLAMIDE METHOD. **(H515)**. G. C. C. Costa (IPEN), R. Muccillo (IPEN).
- 9:45 – 10:00 A.M. GRAIN GROWTH AND IMPEDANCE SPECTROSCOPY OF  $\text{Ce}_{0.9}\text{Gd}_{0.1}\text{O}_{2-\delta}$  SOLID ELECTROLYTE. **(H522)**. E. N. S. Muccillo (IPEN), R. Muccillo (IPEN).
- 10:00 – 10:15 A.M. ANALYSIS OF SINTERING ZIRCONIA-YTRIA CERAMICS BY IMPEDANCE SPECTROSCOPY. **(H536)** R. Muccillo (IPEN), E. N. S. Muccillo (IPEN), D. Z. de Florio (UNESP), J. A. Varela (UNESP). ■



## 10:15 A.M. - 10:30 A.M. – COFFEE BREAK



## 10:30 A.M. – 12:30 P.M. – ORAL SESSION H2

Chairperson: Dra. E. N. S. Muccillo (Dr. F. C. Fonseca)

Room: PETROBRAS

- 10:30 – 11:00 A.M. NiCu/CGO ANODES FOR DIRECT OXIDATION OF HYDROCARBONS AND ALCOHOLS. **(H593, Invited)**. A. Sin (Pirelli, Italy), M. Cancellier (Pirelli, Italy), E. Roda (Pirelli, Italy), E. Kopnin (Pirelli, Italy), M. Arimondi (Pirelli, Italy), M. Morrone (Pirelli, Italy), P. Caracino (Pirelli, Italy), P. Sarkar (Alberta Res. Council, Canada), L. Yamante (Alberta Res. Council, Canada), M. Liu (Alberta Res. Council, Canada), E. Baker-Hemmings (Politecnico di Milano, Italy), C. Cavallotti (Politecnico di Milano, Italy).

- 11:00 – 11:30 A.M. CERAMIC MATERIALS AND INDUSTRIAL DEVELOPMENT DIRECTIONS OF SOLID OXIDE FUEL CELLS. **(H545, Invited)**. D. Z. de Florio (UNESP), J. A. Varela (UNESP), F. C. Fonseca (IPEN), E. N. S. Muccillo (IPEN), R. Muccillo (IPEN).
- 11:30 – 11:45 A.M. DIRECT PROBING OF SEMICONDUCTOR BARIUM TITANATE DOPED VIA EFM. **(H502)**. S. M. Gheno (UFSCar), H. L. Hasegawa (UFSCar), P. I. Paulin F. (UFSCar).
- 11:45 – 12:00 P.M. NANOSIZED-Ta<sub>2</sub>O<sub>5</sub> POWDER AND THIN FILMS SYNTHESIZED BY A SOFT-CHEMICAL ROUTE AND THEIR APPLICATION AS HUMIDITY SENSORS. **(H548)**. D. Manzani (INPE), M. C. A. Nono (INPE), S. M. Zanetti (INPE).
- 12:00 – 12:15 P.M. IMPEDANCE SPECTROSCOPY STUDY OF  $\text{Li}_{1.5}[\text{Al}_{0.5}\text{Ge}_{1.5}(\text{PO}_4)_3]$  GLASS AND GLASS CERAMICS. **(H538)**. A. M. Cruz (UFSCar), A. C. M. Rodrigues (UFSCar).
- 12:15 – 12:30 P.M. HYPERFINE INTERACTION STUDIES ON  $\text{Y}_2\text{Cu}_2\text{O}_5$  AND  $\text{HO}_2\text{Cu}_2\text{O}_5$ . **(H576, Invited)**. P. R. J. Silva (CBPF), H. Saitovich (CBPF). ■



## 12:30 P.M. – 2:00 P.M. – LUNCH



## 2:00 P.M. – 2:45 P.M. – PLENARY LECTURE

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## 2:50 P.M. – 4:20 P.M. ORAL SESSION H3

Chairperson: Dr. D. Z. de Florio (Dra. S. M. Zanetti)

Room: PETROBRAS

- 2:50 – 3:20 P.M. MICROSTRUCTURE AND CHARGE TRANSPORT IN  $\text{W}_3\text{-Bi}_4\text{Ti}_3\text{O}_{12}$  CERAMICS. **(H591, Invited)**. A. C. Caballero (Instituto de Cerámica y Vidrio, Spain), T. Jardiel (Instituto de Cerámica y Vidrio, Spain), M. Villegas (Instituto de Cerámica y Vidrio, Spain).
- 3:20 – 3:50 P.M. CHEMICAL SYNTHESIS OF NANOSTRUCTURED CERAMIC THIN FILM FOR ELECTRONIC ELECTROCHEMICAL DEVICES. **(H594, Invited)**. E. R. Leite (UFSCar)
- 3:50 – 4:05 P.M. VISIBLE EMISSION FROM ER-DOPED  $\text{SnO}_2$  THIN FILMS DEPOSITED BY SOL-GEL. **(H579)**. L. P. Ravaró (UNESP), E. A. Morais (UNESP), L. V. A. Scalvi (UNESP), M. S. Li (USP-SC).
- 4:05 – 4:20 P.M. ELECTRODEPOSITION OF  $\text{Fe}_3\text{O}_4$  LAYERS ON SILICON SUBSTRATES. **(H587)**. J. S. Cruz (UFSC), V. C. Zoldan (UFSC), M. L. Munford, N. García (CSIC, Spain), A. A. Pasa (UFSC). ■



**4:20 P.M. – 4:40 P.M. – COFFEE BREAK**



**4:20 P.M. – 5:45 P.M. – POSTER SESSION PH1**

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**5:50 P.M. – 6:35 P.M. – PLENARY LECTURE**

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## TUESDAY OCTOBER 10<sup>TH</sup>



**8:15 A.M. – 10:00 A.M. – ORAL SESSION H4**

Chairperson: *Dr. E. Longo (Dr. P. R. Bueno)*

Room: PETROBRAS

**8:15 – 8:45 A.M.** DEVELOPMENT OF BaTiO<sub>3</sub>-EPOXY COMPOSITES OF HIGH PERMITTIVITY. **(H512,Invited)**. A. Ramajo (INTEMA, Argentina), M. M. Reboredo (INTEMA, Argentina), M. S. Castro (INTEMA, Argentina).

**8:45 – 9:15 A.M.** ADMITTANCE SPECTROSCOPY OF POLYCRYSTALLINE SEMICONDUCTORS. **(H595, Invited)**. P. R. Bueno (UNESP), J. A. Varela (UNESP), E. Longo (UNESP).

**9:15 – 9:30 A.M.** INFLUENCE OF THE TiO<sub>2</sub> ON THE SIZE AND MORPHOLOGY OF POWDER PARTICLE AND GRAIN OF SnO<sub>2</sub>-BASED VARISTOR CERAMIC SYSTEM. **(H568)**. E. M. Santos (UNESP), D. B. Santos (UNESP), M. A. Ramirez (UNESP), M. A. Zaghete (UNESP), P. R. Bueno (UNESP), J. A. Varela (UNESP).

**9:30 – 9:45 A.M.** FABRICATION OF SNO<sub>2</sub>-BASED VARISTOR CERAMICS FOR INDUSTRIAL APPLICATIONS **(H570)**. M. A. Ramirez (UNESP), J. F. Fernandez (Instituto de Cerámica y Vidrio, Spain), J. de Frutos (Universidad Politécnica de Madrid, Spain), M. A. de la Rubia (Universidad Politécnica de Madrid, Spain), P. R. Bueno (UNESP), E. Longo (UNESP), J. A. Varela (UNESP).

**9:45 – 10:00 A.M.** OBTENTION OF MULTIFERROIC CERAMICS BY COPRECIPITATION. ELECTRICAL AND MAGNETIC RESONANCE **(H590)**. M. Villegas (Instituto de Cerámica y Vidrio, Spain), J. de Frutos (Universidad Politécnica de Madrid, Spain), J. A. Matutes-Aquino (CIMAV, Chihuahua, Mexico), F. Cebollada (Universidad Politécnica de Madrid, Spain), E. Menendez (CSIC, Madrid, Spain). ■



**10:15 A.M. - 10:30 A.M. – COFFEE BREAK**



**10:00 A.M. – 12:30 P.M. – ORAL SESSION H5**

Chairperson: *Dr. J. A. Eiras (Dr. E. R. Leite)*

Room: PETROBRAS

**10:30 – 11:00 A.M.** DESIGNING MATERIALS FOR GLASS-FREE LTCC MODULES. **(H596,Invited)**. D. Suvorov (Jozef Stefan Institute, Ljubljana, Slovenia)

**11:00 – 11:30 A.M.** DIELECTRIC DISPERSION IN FERROELECTRIC MATERIALS. **(H597,Invited)** J. A. Eiras (UfSCar).

**11:30 – 11:45 A.M.** FERROELECTRIC PROPERTIES OF PIEZOELECTRIC FIBERS FOR ADAPTATIVE MATERIALS SYSTEMS **(H571)**. F. N. Souza (EMPA, Switzerland), F. Clemens (EMPA, Switzerland), J. Heiber (EMPA, Switzerland), E. M. V. Guimaraens (EMPA, Switzerland), T. Graule (EMPA, Switzerland), C. P. Bergmann (UFRGS).

**11:45 – 12:00 P.M.** EFFECT OF SYNTHESIS ROUTE ON THE ELECTRICAL PROPERTIES OF Ba(Ti<sub>0.9</sub>Zr<sub>0.1</sub>)<sub>3</sub> CERAMICS **(H584)**. F. Moura (UNESP), M. A. Zaghete (UNESP), A. Z. Simões (UNESP), B. Stojanovic (UNESP), L. Perazolli (UNESP), A. J. S. Oliveira (UFMA), J. A. Varela (UNESP), E. Longo (UNESP).

**12:00 – 12:15 P.M.** IMPACT OF ALUMINA DOPING ON ELECTRONIC STRUCTURE AND ELECTRICAL RESPONSE OF ZnO-BASED VARISTORS. **(Hxxx)**. D. Fernandez Hevia (INAEL, Toledo, Spain), J. de Frutos (Universidad Politécnica de Madrid, Spain), A. C. Caballero (Instituto de Cerámica y Vidrio, Spain), J. F. Fernandez (Instituto de Cerámica y Vidrio, Spain). ■



**12:30 P.M. – 2:00 P.M. – LUNCH**



**2:00 P.M. – 2:45 P.M. – PLENARY SESSION**

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**4:20 P.M. – 4:40 P.M. – COFFEE BREAK**



**4:20 P.M. – 5:45 P.M. – POSTER SESSION PH2**

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**5:50 P.M. – 7:20 P.M. – ROUND TABLE**

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