

Rede PaCOS

The Brazilian SOFC Network

PROCAC/MCT

Ministério da
Ciência e Tecnologia



Paulo Emílio V. de Miranda, LabH2 Coppe / UFRJ
Rede PaCOS Coordinator

Gilmar Clemente Silva, LabH2 Coppe / UFRJ
Rede PaCOS Vice-Coordinator

Rosana Z. Domingues, / UFMG
Herval Ramos Paes Junior, LAMAV/UENF
Rede PaCOS Consulting Committee

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Brazilian Program on Fuel Cells

- Rede PaCOS (SOFC Network)
- Rede PEM (PEMFC Network)
- Rede Produção de Hidrogênio (Hydrogen Production Network)

Rede PaCOS

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Rede PaCOS **Information**

Rede **PaCOS-i**

Objective: SOFC information dissemination in private and public research, development and industrial sectors in Brazil

Rede PaCOS **Research & Development**

Rede **PaCOS-P&D**

SOFC cooperative research, development and demonstration projects

Historical Facts

- **Mars 2004:** Creation and First Seminar. Participation of SOFCNet
- **July 2004:**
 - *Rede PaCOS* – *SOFCNet* representatives meeting in Europe
 - *Rede PaCOS* – *The SOFC Society of Japan* representatives meeting in Japan
 - *Rede PaCOS* delegation participation in the 6th European Solid Oxide Fuel Cell Forum
 - *Rede PaCOS* delegation participation in the 15th World Energy Congress and at the Prof. Dokiya Memorial Symposium in Japan
 - *Rede PaCOS* delegation participation in the 2nd International Conference on Fuel Cell Science, Engineering and Technology in the USA
 - First *Rede PaCOS* Work Meeting at Itaipava, RJ
- **November 2004:**
 - Approval of *Rede PaCOS* research and development collaborative projects
 - Organization of the hydrogen production and fuel cells networks by the MCT
- **January 2005:**
 - *Rede PaCOS* – *SOFCNet* representatives meeting at Jülich, Germany

Partners



**Laboratório
de Hidrogênio
COPPE - UFRJ**

- Development of ceramic suspensions to print screening anodes and cathodes
- Development of SOFC membrane-electrodes assemblies
- Methane-air SOFC testing

NUCAT

- catalytic anode materials development for SOFC and for hydrogen production



- electrical characterization of electrode and electrolyte materials

Partners



- Anode materials development for internal reformation



- Development and microstructural characterization of SOFC components
- Development of fabrication procedures for single SOFC cells



- Development of lathanum chromite for current collection and of SOFC electrodes by spray pyrolysis

Partners



UFBA

- Development of catalytic materials for SOFC electrodes
- Development of SOFC single cells



- Development and characterization of electrical grade ceramic materials.



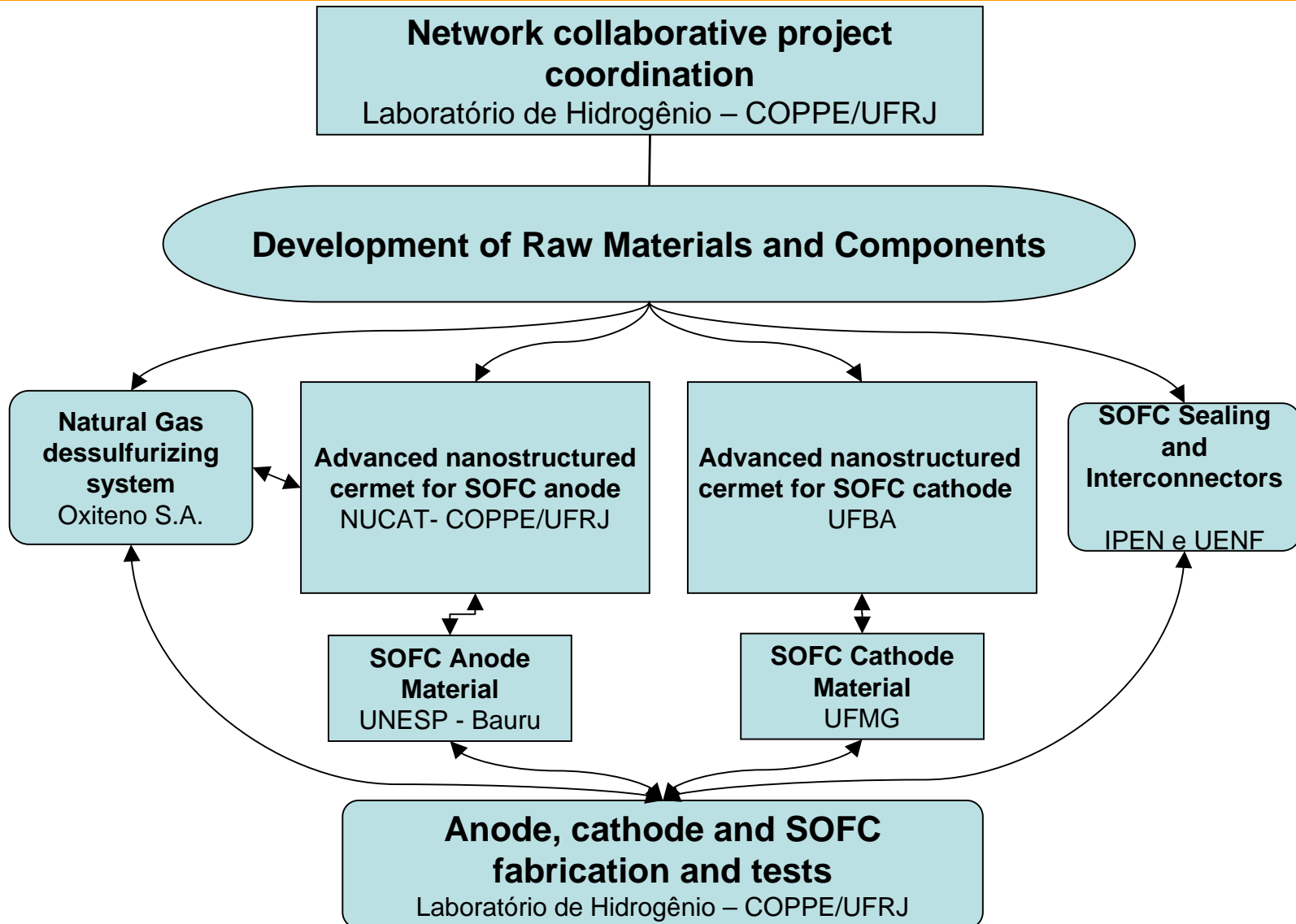
OXITENO

- Development of catalysts
- Dessulfurization of natural gas

Rede PaCOS-**P&D** Collaborative Projects

- ✓ **Cooperative Network on Solid Oxide Fuel Cell - Rede PaCOS** CT-FVA/CNPq
- ✓ **Intermediate Temperature Solid Oxide Fuel Cell** CT-Energ/MCT/CNPq
- ✓ **Development of Membrane-Electrode-Assemblies for SOFC** CT-Energ/MCT/CNPq
- ✓ **Cooperative Research on Electrochemistry of Ceramic Materials for SOFC** International Cooperation - CNPq/GRICES

SOFC Fabrication and Test



Future Prospects

- Discussion and proposal of a national cooperative research and development program on SOFC
- To foster human resources formation on SOFC and related themes
- To foster partnership with enterprises
- Further develop collaborations with foreign partners