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EDUCATION

2001 PhD in Material Science, Université Paris Sud, (France)
Subject: “ Characterization and Synthesis of New carbon nitride materials; Thin films and Nanotubes”
Supervisor: Christian Colliex (CNRS) and O. Stéphan (LPS)

1997 MSc in Chemistry. Instituto de Carboquímica (CSIC)+University of Zaragoza (Spain).
Subject: The kinetic study of Conradson carbon residue conversion in the catalytic hydroprocessing of petroleum residues.
Supervisor: María Teresa Martínez (CSIC) and Rafael Bilbao (University of Zaragoza)

1996 BSc in Chemistry, University of Zaragoza (Spain).

RESEARCH ACTIVITIES

March 2002-present Argonne National Laboratory, Argonne, IL, USA
Visiting Postdoctoral Research Associate at Argonne National Laboratory, Material Science Division, Project: “ Carbon Nanotubes-Nanocrystalline Diamond Nanocomposites”

January 2002-present Rensselaer Polytechnic Institute, Troy, NY, USA
Postdoctoral Research Associate under the project “Carbon Nanotubes-Nanocrystalline Diamond Nanocomposites”

November 2001-December 2001 Université Paris Sud, Orsay, (France)
Postdoctoral European Contract in the Framework Training Mobility Research (TMR)
“Synthesis Structure and properties of new carbon-based hard materials”

November 1998-October 2001 Université Paris Sud, Orsay, (France)

Pre-doctoral European Contract in the Framework Training Mobility Research (TMR)
“Synthesis Structure and properties of new carbon-based hard materials”

March 1998-September 1998 University of Sussex, Brighton (United Kingdom).

Fellowship “ European Program of Research CAI-CONSI+D” at the School of Chemistry Physics and Environmental Science, in order to work on nanotube production and purification with the team of Professor Sir H.W. Kroto FRS (Nobel Laureate in Chemistry,1996) and Dr. D.R.M. Walton.

October 1997-February 1998 University of Sussex, Brighton (United Kingdom).

British Council Fellowship at the School of Chemistry Physics and Environmental Sciences, in order to work with the team of Professor Sir H. W. Kroto FRS (Nobel Laureate in Chemistry, 1996) and Dr. D R M Walton. I worked on nanotubes production by pyrolysis of organic precursors over different catalysts (Co, Ni, Fe...) and by electrolysis of LiCl with different metals (Pb, Bi, Sn).

October 1996- September 1997 Instituto de Carboquímica C.S.I.C., Zaragoza, (Spain).

Post-graduate grant. Participating in the project 7220-EB7344, “New carbon products derived from coal” in collaboration with INCAR, Oviedo (Spain), Centre de Pyrolyse de Marienau (France), BST Teeside Laboratories (U.K), NCRI, Newcastle (U.K), and PB-84-0224 “Producción y caracterización de nuevas formas de carbón”. My dissertation “Kinetics of Conradson carbon residue conversion in the catalytic hydroprocessing of petroleum residue” was submitted and accepted (equivalent to a Master Thesis). I worked on production of carbon nanotubes by pyrolysis of benzene.

July 1995-October 1996 Instituto Carboquímica C.S.I.C. Zaragoza (Spain).

Professional training. Participation in the CEE project JOU2-CT92-0206. “Hydroprocessing of Heavy Petroleum Fractions” in collaboration with REPSOL, Cartagena (Spain) and German Petroleum Institute Clausthal-Zellerfeld (Germany). During this time I performed the experiments for my dissertation.

July -September 1994 Instituto Carboquímica C.S.I.C. Zaragoza (Spain).

Research Work Training.

PUBLICATIONS.

1- G. Safran, A. Kolisch, S. Malhuitre, **S. Trasobares**, I Kovacs, O. Gestzi, M. Menyhard, C. Colliex, G. Radnoci. “Modulated CN_x films prepared by Ion Beam Assisted Deposition” Diamond and Related Materials (in press 2002).

2- **S. Trasobares**, O. Stephan, C. Colliex, W.K. Hsu, H.K. Kroto, D.R.M. Walton, “Compartmentalised CN_x nanotubes; Chemistry, Morphology and Growth.” Journal of Chemical Physics in press (2002) to appear in June.

3- **S. Trasobares** , S. Gao, O. Stephan, A. Gloter, C. Colliex, J. Zhu, “Isolating and Identifying the ELNES signal of CN nanocrystals embedded in an amorphous matrix” Chemical Physics Letters, 352, (2002) 12-19.

4- C. Colliex, M. Kociak, O. Stephan, K. Suenaga, **S. Trasobares**. “ Spatially Resoled EELS on Carbon-based nanostructures” G. Benedek et al. (eds) Nanosstructured Carbon

for Advanced Applications, 201-232, 2001 Kluwer Academic Publishers. Printed in Netherlands.

- 5- **S. Trasobares**, O. Stéphan, C. Colliex, G. Hug, W.K.Hsu, H.W; Kroto, D.R.M. Walton. "Electron beam puncturing of carbon nanotubes containers for release of stored N₂ gas". European Journal Physics B, 22, 1, 117 (2001).
- 6- W.K. Hsu, Y.Q. Zhu, S. Firth, M. Terrones, H. Terrones, **S. Trasobares**, R.J.H. Clarck, H.W. Kroto, D.R.M. Walton. "W_xMo_yC_zS₂ nanotubes" Carbon, 39, 7, 1107-1111, (2001)
- 7- W.K. Hsu, Zhu Y.Q., Boothroy C.B., **Trasobares S**, Terrones H., Grobert N.,Terrones M., Escudero R., Chen G.Z., Colliex C., Windle A.H., Fray D.J., Kroto H.W., Walton D.R.M." Mixed-phase W_xMo_yC_zS₂ nanotubes" Chemistry of Materials 12, (12), 3541, (2000)
- 8- Grobert, N., M. Terrones, **S. Trasobares**, K. Kordatos, H. Terrones, J. Olivares, J. P. Zhang, P. Redlich, W. K. Hsu, C. L. Reeves, D. J. Wallis, Y. Q. Zhu, J. P. Hare, A. J. Pidduck, H. W. Kroto and D. R. M. Walton. "A novel route to aligned nanotubes and nanofibres using laser- patterned catalytic substrates." Applied Physics A, 70 (2): 175,(2000).
- 9- Hsu, W. K., J. Li, H. Terrones, M. Terrones, N. Grobert, Y. Q. Zhu, **S. Trasobares**, J. P. Hare, C. J. Pickett, H. W. Kroto and D. R. M. Walton. "Electrochemical production of low-melting metal nanowires." Chemical Physics Letters 301(1-2): 159,(1999).
- 10- Hsu, W. K., **S. Trasobares**, H. Terrones, M. Terrones, N. Grobert, Y. Q. Zhu, W. Z. Li, R. Escudero, J. P. Hare, H. W. Kroto and D. R. M. Walton. "Electrolytic formation of carbon-sheathed mixed Sn-Pb nanowires." Chemistry of Materials 11(7): 1747, (1999).
- 11- Hsu, W. K., Y. Q. Zhu, **S. Trasobares**, M. Terrones, N. Grobert, H. Takikawa, J. P. Hare, H. W. Kroto and D. R. M. Walton. "Solid-phase production of carbon nanotubes." Applied Physics A, 68(4): 493, (1999).
- 12- Terrones, M., P. Redlich, N. Grobert, **S. Trasobares**, W. K. Hsu, H. Terrones, Y. Q. Zhu, J. P. Hare, C. L. Reeves, A. K. Cheetham, M. Ruhle, H. W. Kroto and D. R. M. Walton. "Carbon nitride nanocomposites: Formation of aligned CxNy nanofibers." Advanced Materials 11(8): 655, (1999).
- 13- **Trasobares, S.**, M. A. Callejas, A. M. Benito, M. T. Martinez, D. Severin and L. Brouwer. "Upgrading of a petroleum residue. Kinetics of Conradson carbon residue conversion." Industrial & Engineering Chemistry Research 38, (3): 938, (1999).
- 14- Grobert, N., M. Terrones, A. J. Osborne, H. Terrones, W. K. Hsu, **S. Trasobares**, Y. Q. Zhu, J. P. Hare, H. W. Kroto and D. R. M. Walton "Thermolysis of C-60 thin films yields Ni-filled tapered nanotubes." Applied Physics A, 67(5): 595 (1998)..
- 15- Martinez, M. T., A. M. Benito, M. A. Callejas and **S. Trasobares**. "Kinetics of sulfur removal from a liquid coal residue in thermal, hydrothermal, and hydrocatalytic cracking." Energy & Fuels, 12 (2): 365, (1998).
- 16- **Trasobares, S.**, M. A. Callejas, A. M. Benito, M. T. Martinez, D. Severin and L. Brouwer. "Kinetics of Conradson carbon residue conversion in the catalytic hydroprocessing of a Maya residue." Industrial & Engineering Chemistry Research 37(1): 11, (1998).

REPORT AND CONFERENCE PRESENTATIONS

“Morphology, Chemistry and Local transformation of Compartment Carbon-Nitrogen Nanotubes”, Microscopy 2001, 3-7 September (**2001**). Barcelona, Spain. Oral Presentation.

“Compartmentalised Carbon Nanotubes, their Morphology, Chemistry and Transformation under the Electron Beam” NANOTEC01, 29 August-1 September (**2001**), Brighton, United Kingdom. Oral Presentation.

“Electron beam Puncturing of Carbon nanotubes Containers for Release of Stored N₂ gas” NT01- IInd International Workshop on the Science and Applications of Nanotubes, Potsdam, 22-25 July (**2001**). Poster Presentation.

“Carbon Nanotubes, their Properties and new Morphologies” Invited talk at Trans-Diam3, 26-27 June, (**2001**) Amiens, France.

“Doping and/or filling carbon nanotubes with Nitrogen: An EELS investigation. MRS Fall Meeting, Boston, Mass., 27 November-1 December (**2000**). Oral Presentation

S. Trasobares, R. Raty, T. Sikora, G. Hug, C. Colliex, “Electron energy-Loss Spectroscopy investigation of CN nanostructures” Proceedings 12th European Congress on Electron Microscopy, Brno, Edited by J. Gemperlovà, I. Vávra. Vol 2, (**2000**), 241.

“Energy Electron Loss Spectroscopy analysis of CN nanofibres”. Poster Presentation in NanoteC99, University of Sussex, Brighton (England), 8-10 September, (**1999**).

“Electrolysis and Solid Phase Generation of Nanostructures”. Oral Presentation at the Nanotechnology in Carbon Realted Materials Conference, University of Sussex, Brighton. 9/9-11/9 (**1998**).

“Production of Novel Nanomaterials”, Oral Presentation in 1^{er} Colloque GDR Nanotubes, 13-15 January,ONERA, Chatillon, France (**1999**).

Grobert, N., J. P. Hare, W. K. Hsu, H. W. Kroto, A. J. Piddock, C. L. Reeves, H. Terrones, M. Terrones, **S. Trasobares**, C. Vizard, D. J. Wallis, D. R. M. Walton, P. J. Wright and Y. Q. Zhu (**1998**). Nanotechnology of nanotubes and nanowires: From aligned carbon nanotubes to silicon oxide nanowires. Electronic Properties of Novel Materials - Progress in Molecular Nanostructures - XII International Winterschool. **442**: 29-33.

Grobert, N., M. Terrones, A. J. Osborne, H. Terrones, W. K. Hsu, **S. Trasobares**, Y. Q. Zhu, J. P. Hare, H. W. Kroto and D. R. M. Walton (**1998**). Pyrolysis of C-60-thin films yields Ni-filled sharp nanotubes. Electronic Properties of Novel Materials - Progress in Molecular Nanostructures - XII International Winterschool. **442**: 25-28.

M.T. Martínez, M.A. Callejas, **S. Trasobares**, D. Severin, L. Brouwer, K. Kelemidou, I. Könecke, E. Carbó, J.M. Jiménez, F.J. Gómez, C. Rial, A. Hernández, C. Aguilar. "Hydroprocessing of Heavy Petroleum Fractions". Contract No. JOU2-CT92-0206, Final Report 30-08-96. (**1996**)