

Juan Antonio Aguilar Garib, Dr.

I. Addresses:

Work	Home	Internet
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II. Expertise areas and research interest

- Application of process technology aimed to process optimization, scientific advice for making decisions, taking into account materials, energy and environmental aspects.
- Novel technologies for supplying energy to processes.
- Development of know-how applied to materials processing.

III. Education

- Visiting Scholar at the Center for Energy and Environmental Resources, University of Texas at Austin (1997-1998)
- Doctorate in Materials Engineering, Universidad Autónoma de Nuevo León (1991)
- Master of Science: Metallurgy, Instituto Tecnológico de Saltillo (1986)
- Mechanical Engineering, Instituto Tecnológico de Saltillo (1984)

IV. Academic appointments

- Head of the Department of Thermal Engineering at the Facultad de Ingeniería Mecánica y Eléctrica, Universidad Autónoma de Nuevo León (2002-)
- Professor: Materials Engineering Program (1991-)
- Faculty Staff: Center for Energy and Environmental Resources, University of Texas at Austin (1997-1998)

V. Professional appointments

- Center for Systems of Manufacture, Instituto Tecnológico y de Estudios Superiores de Monterrey (1990-1991)
- HYLSA Research and Development (Mexican Steel Corporation), Doctorate Project (1987-1991)

VI. Honors

- UANL Research Award 1991, 2001 and 2003: Most prestigious university-wide award granted by UANL to the best research work (Category of Engineering and Technology, Award 2003 was granted in 2004)
- SNI Fellow: Distinction granted to high standard researchers by the Mexican Council for Science and Technology (CONACYT) through the National System of Researchers (1998-)
- Tecnos 2000 Award: Distinction granted by the Government of the Mexican State of Nuevo León to the best technological development conducted under a program between an enterprise and an University (Category of paper HYLSA-UANL 2000)
- Advisor of the best Undergraduate thesis, UANL (1999, granted in 2000)
- Advisor of the best Master thesis, Universidad Autónoma de Nuevo León (2001, granted in 2002)
- Study fellowships: For Doctoral Studies from CONACYT (1987-1991), for Master Studies from COSNET (1984-1986).
- Member of the Academic Group "Synthesis and characterization of materials" (Program for Faculty Improvement). October, 2003.
- Member of the Mexican Academy of Sciences. November 2003.

VII. Publications

- Journal papers: 2 papers published in the Modelling and Simulation on Materials Science and Engineering, 4 in The Journal of Microwave and Electromagnetic Energy, 2 in Advances of Materials Journal, 2 in Ceramics International, 1 in Materials Science Forum and 1 in British Ceramics Transactions.
- Magazine articles: 6 papers published in Ciencia UANL, 9 in Ingenierías and 1 in Comercio Exterior (Bancomex)
- Conference proceedings: The International Microwave Power Institute (7), Materials Research Society (5), The Materials Society (3), AMPERE (3), Euroceramics (1), Microwave World Congress (1). 18 papers published in congresses held in México (Mexican and international).
- Technical reports: 13 technical reports for HYLSA, 1 for Genermex, and 1 for ITESM related with PEÑOLES (Mexican ceramics and refractory corporation).

VIII. Talks

Talks: 20 presentations without proceedings.

IX. Student thesis supervision (concluded)

- Supervised: 2 Doctor, 8 Master of Sciences and 2 BS

X. Main projects

- Study of the interaction of microwaves with ceramic materials (2002-present) Granted by CONACYT
- Sintering of nickel - manganese compounds with microwaves (2002-present) Granted by ECOS (France)-ANUIES (México)
- Ceramics processing by means of microwaves (1997-2001) Granted by CONACYT and PAICYT (University of Nuevo León Program for Scientific and Technological Research).
- Microwaves for reduction of metallic oxides (1993-1997). Granted by CONACYT.
- Carburization kinetics of alloys exposed to reducing atmospheres (1992-1995) HYLSA contract.
- Reduction kinetics of iron ores (1989-1991) HYLSA contract.
- Production of MgO in vertical furnaces (1990) ITESM contract for PEÑOLES.
- High temperature corrosion due to fuel oil combustion (1987-1989) HYLSA contract.

XI. Teaching

- Graduate courses taught: Thermodynamics, Heat transfer, Metallurgy (Ferrous and non ferrous), Physic metallurgy, Kinetics and phase transformation, Materials science, Corrosion, Mechanical metallurgy, Process simulation, Materials characterization.
- Undergraduate course taught: Physical Metallurgy, Electromagnetic properties of materials.

XII. Skills

- Computer skills: Natural use of a personal computer including typical Windows (and Macintosh). Specific software includes Labview for data acquisition.
- Laboratory skills: Use of equipment such as termogravimetry, electronic microscopy, microwave heating systems and development of experimental arrangements.
- Workshop skills: Machine-tools technician.

XIII. Personal Information

Date of Birth: June 30th, 1963

Birthplace: Matamoros, Tamaulipas, México

Languages: Spanish (Mother language) and English

December, 2005