

**Prof. Nasr E. Fouad**  
**Professor of Physical Chemistry**  
*Chemistry Department, Faculty of Sciences, Minia University, El-Minia 61519, EGYPT*

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### **Personal Information**

**Date of birth** : January 10, 1960  
**Place of birth** : El-Minia, Egypt  
**Nationality** : Egyptian  
**Sex** : Male  
**Marital status** : Married, one kid

### **Current Position**

- Professor of Physical Chemistry at Chemistry Department, Faculty of Science, Minia University.

### **High Education**

**B.Sc.** (Chemistry), 1981, Distinction (with Honour), Minia Univ.;

**M.Sc.** (Phys. Chem.), 1985, Minia Univ.; and

**Ph.D.** (Phys. Chem.), 1989, Minia Univ./ Munich Univ./Germany

### **Theses**

**M.Sc.**, *Surface Investigation of Chromia-Coated Catalysts*, under joint supervision of Prof. R.B. Fahim and Prof. M.I. Zaki (Chem. Dept., Minia Univ.).

**Ph.D.**, *Characterization and Activity of Supported Chromia Catalysts*, under joint supervision of Prof. R.B. Fahim, Prof. M.I. Zaki, Prof. S.A.A. Mansour (Minia Univ.) and Prof. Dr. H. Knözinger (Munich Univ./Germany).

### **Professional Career**

- **Demonstrator**, 1981-1985, Chem. Dept., Minia Univ.;
- **Assistant Lecturer**, 1985-1989, Chem. Dept., Minia Univ.;
- **Lecturer of Physical Chemistry**, 1989-1995, Minia Univ.;
- **Associate Professor of Physical Chemistry**, 1995-2000,

- **Visiting researcher**, LUM University, Germany,
- **Visiting Professor**, Umm-Alqura university, KSA, 1420-1422
- **Professor of Physical Chemistry**, 2000-till present, Minia Univ.

## **RESEARCH Activity**

**General area** : Physical Chemistry  
**Field** : Surface Chemistry and Heterogeneous Catalysis  
**Specilization** : Synthesis and characterization of catalytic solids.  
 Kinetics of catalytic reaction ant thermodynamics of thermal decomposition processes.

## **FELLOWSHIPS AND AWARDS**

**Grants body:** *Alexander von Humboldt Foundation / Germany*

**Institution:** Institute of Physical Chemistry, Munich Univ., Germany.

**Sponsorship:** Prof. Dr. H. Knözinger.

**Duration** : 1997 - 1998.

**Grants body:** *Ministry of High Education of Egypt.*

**Institution:** Institute of Physical Chemistry, Munich Univ., Germany.

**Sponsorship:** Prof. Dr. H. Knözinger.

**Duration:** 1987 – 1989, and 1997

## **PUBLICATIONS**

Scientific papers published in international periodicals.

- 1 - Thermal Decomposition and Creation of Reactive Solid Surfaces. IV.  
 Effect of  $\text{NH}_4\text{NO}_3$  inclusion on the thermal genesis of chromia catalyst  
 from a parent gel.  
 - M. I. Zaki and **N. E. Fouad**  
 - *Thermochimica Acta*, 95, (1985) 73
- 2 - Physicochemical Investigation of Calcined Chromia-Coated Silica and  
 Alumina Catalysts : Characterization of chromium-oxygen species  
 - M. I. Zaki and **N. E. Fouad**, J. Layrer and H. Knözinger  
 - *Applied Catalysis*, 21, (1986) 359
- 3 - Chromia on Silica and Alumina Catalysts : A thermoanalytical and

- spectroscopic investigation of thermal genesis of the catalysts.  
- **N. E. Fouad**, H. Knözinger, M.I. Zaki and S.A.A. Mansour  
- *Z. Phys. Chem.*, 171, (1991) 75
- 4 - Nitrogen and Pyridine Adsorption on Chromia-coated Silica and Alumina Catalysts : Proping the chromia dispersity  
- H.M. Ismail, **N.E. Fouad** and M.I. Zaki  
- *Adsorption Science and Technology*, 8, (1991) 34
- 5 - Chromia on Silica and Alumina Catalysts : Chromia dispersion as determined by N<sub>2</sub>-adsorption measurements  
- **N.E. Fouad**, H. Knözinger, H.M. Ismail and M.I. Zaki  
- *Z. Phys. Chem.*, 173, (1991) 201
- 6 - Particle Characteristics of Thermally Recovered Iron Oxide Pigments from Steel-pickling Chemical Waste : Effects of heating variables  
- H.M. Ismail, **N.E. Fouad**, M.I. Zaki and M.N. Magar  
- *Powder Technology*, 70, (1992) 183
- 7 - A Spectro-thermal Study of Chromium Trioxide : Characterization of intermediate decomposition products  
- **N.E. Fouad**  
- *Bull. Fac. Sci., Assiut Univ.*, 22 (1-B), (1993) 55
- 8 - Characterization of Bimetallic RePd/SiO<sub>2</sub> Catalysts by X-ray Diffractometry and UV/Visible Spectroscopy  
- **N.E. Fouad** and K.M.E. Attyia  
- *Bull. Fac. Sci., Assiut Univ.*, 22 (2-B), (1993) 49
- 9 - Thermogravimetry of WO<sub>3</sub> Reduction in Hydrogen : Kinetic characterization of autocatalytic effects  
- **N.E. Fouad**, K.M.E. Attyia and M.I. Zaki  
- *Powder Tchnology*, 74, (1993) 31
- 10 - Chromia on Silica and Alumina Catalysts : Temperature-programmed reduction and structure of surface chromates  
- **N.E. Fouad**, H. Knözinger and M.I. Zaki  
- *Z. Phys. Chem.*, 186, (1994) 231
- 11 - Thermoanalytic Resolution of Hydrogen-Influenced Reductive Events in The Decomposition Course of Ammonium Paratungstate  
- **N.E. Fouad**, A.K.H. Nohman and M.I. Zaki  
- *Thermochimica Acta*, 239, (1994) 137
- 12 - Thermoanalytic and Spectroscopic Studies of the Synthesis of Supported Palladium catalysts in H<sub>2</sub>/Pd/SiO<sub>2</sub> Parent System  
- K.M.E. Attyia and **N.E. Fouad**  
- *J. Thermal Analysis*, 42, (1994) 1207
- 13 - Non-Isothermal Kinetics of CrO<sub>3</sub> Decomposition Pathways In Air

- **N. E. Fouad**  
- *J. Thermal Analysis*, 46, (1996) 1271
- 14 - Temperature-programmed Reduction of Calcined Chromia-Coated Alumina and Silica Catalysts: Probing Cr<sup>VI</sup>-oxygen species  
- M.I. Zaki, **N.E. Fouad**, G.C. Bond and S.F. Tahir  
- *Thermochimica Acta*, 285 (1996)167
- 15 - Impacts of Hydrogen Spillover on the Reduction Behaviour of Tungsten oxide : Isothermal and nonisothermal approaches  
- **N.E. Fouad**  
- *J.Anal. Appl. Pyrolysis*, 44 (1997) 13
- 16 - Pyridine as a Probe for Characterization of Surface Acid Sites on Chromium and Zirconium Oxides : A diffuse reflectance spectroscopic study.  
- G.A.H. Mekhemer, **N.E. Fouad**, A.K.H. Nohman and H.A. Khalaf.  
- 6<sup>th</sup> Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, 13-16 Dec. (1997), Ain-Shams Univeristy, Cairo, Egypt.
- 17 - Chromia on Silica and Alumina : The CO Oxidation Activity  
- **N.E. Fouad**, H. Knözinger and M.I. Zaki  
- *Z. Phys. Chem.*, 203 (1998) 131
- 18 - Recovery of Red oxide Pigmentry Powders from Chemically-Modified Steel-Pickling Chemical Waste.  
- **N.E. Fouad**, H.M. Ismail and M.I. Zaki  
- *J. Material Science Letters*, 17 (1998) 27
- 19 - Stability of Surface Chromates : a physicochemical investigation in relevance to environmental reservations about calcined chromia catalysts  
- M.I. Zaki, M.A. Hasan and **N.E. Fouad**  
- *Applied catal. A: General* 171 (1998) 315.
- 20 - Charakterisierung der Basizität von Modifizierten MgO-Katalysatoren.  
- P. Thomasson, **N.E. Fouad** and H. Knözinger  
- *XXXI. Jahrestreffen deutscher Katalytiker, 18-20 März 1998, Universität Leipzig, Germany*
- 21 -Thermal and Spectroscopic Studies of Chromium Chromate Hexahydrate - A likely composition for redox surfaces of calcined chromia catalysts.  
- **N.E. Fouad**, S.A. Halawy, M.A. Mohamed and M.I. Zaki  
- *Thermochimica Acta*, 329 (1999) 23
- 22 - CO and CH<sub>4</sub> Total Oxidation over Manganese Oxide Supported on ZrO<sub>2</sub>, TiO<sub>2</sub>, TiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> Catalysts.  
- M.I. Zaki, M.A. Hasan, L. Pasupulety, **N.E. Fouad** and H. Knözinger  
- *New Journal of Chemistry*, 12 (1999) 1197.

- 23 - The Influence of Phosphate and Sulphate Ions on Surface Texture of Alumina  
 - A. K. H. Nohman, G. A. H. Mekhemer, **N. E. Fouad** and H. A. Khalaf  
 - *Adsorption Science & Technology*, 17-8(1999) 665.
- 24 - Silver on Silica and Alumina: A spectro-thermal investigation of created silver metal on unreduced silver nitrate-impregnated catalysts  
 - **N.E. Fouad**  
 - *Bull. Fac. Sci., Assiut Univ.*, 28 (1999) 1
- 25 - Surface to Bulk Characterization of Phosphate Modified Aluminas  
 - G.A.H. Mekhemer, A.K.H. Nohman, **N.E. Fouad** and H.A. Khalaf  
 - *Colloids and Surfaces*, 161-3 (2000) 439
- 26 - IR Study of Adsorption and Reaction of MBOH on the Surface of Pure and Modified MgO : Probing the catalyst surface basicity  
 - **N.E. Fouad**, P. Thomasson and H. Knözinger  
 - *Appl. Catal. A:General*, 194-195 (2000) 213.
- 28 - Surface Transformation Reactions of Aceton, Acetylene and Methylbutynol on the Surface of Y/MgO Catalyst  
 - **N.E. Fouad**, P. Thomasson and H. Knozinger  
 - *Appl. Catal. A:General*, 196 (2000) 125.
- 29 - Spectro-thermal investigation of the Decomposition Intermediates Developed throughout Reduction of Ammonium Paratungstate  
 - **N.E. Fouad**, A.K.H. Nohman and M.I. Zaki  
 - *Thermochimica Acta*, 343 (2000) 139.
- 30 - Genesis of Cr(II) in H<sub>2</sub>/CrO<sub>3</sub> System : parameter control  
 - **N.E. Fouad**  
 - *J. Thermal Analysis*, 60 (2000)1
- 31 - Characterization of Ammonium Tungsten Bronze [(NH<sub>4</sub>)<sub>0.33</sub>WO<sub>3</sub>] in the Thermal Decomposition Course of Ammonium Paratungstate  
 - **N.E. Fouad**, A.K.H. Nohman, M.A. Mohamed and M.I. Zaki  
 - *Journal of Analytical and Applied Pyrolysis* **56** (2000)23 .
- 32 - Nonisothermal Decomposition of Rhodium Acetate Monohydrate : A kinetic and thermodynamic study  
 - **N.E. Fouad**, M. A. Mohamed,  
 - *Journal of Analytical and Applied Pyrolysis* **56** (2000) 123.
- 33 - Kinetic and Thermodynamic Parameters of the Non-isothermal Decomposition of Chromium Chromate Hexahydrate in Different Reactive Gas Atmospheres- A Scanning Calorimetric Study.  
 - S.A. Halawy, **N.E. Fouad**, M.A. Mohamed and M.I. Zaki  
 - *J. Thermal Analysis and Caloremetry*, **65** (2001) 167-176

- 34** -Effect of the Preparation Method of Al-Mg-O Catalysts on the Selective Decomposition of Ethanol  
 - A..A. Abde-Raddy, **N.E. Fouad**, M.A. Mohamed , S.A. Halawy  
 - *Monatshefte fur Chemie, 133* ( 2002)1351-1361
- 35** - Influence of Pretreatment Atmosphere on the Nature of Silica-Supported Pd Generated via Decomposition of Pd(acac)<sub>2</sub> : an FTIR spectroscopic study of adsorbed CO.  
 - W. Daniell, H. Landes, **N.E. Fouad**, H. Knözinger  
 - *Journal of Molecular catalysis A: Chemical*, **178** (2002) 211 .
- 36** - Low-temperature adsorption of oxygen on calcined chromia: IR spectroscopic and sorptometric evidence for oxygen-assisted topochemical reduction of surface chromate species  
 - R.B. Fahim, M.I.Zaki, **N.E. Fouad** , M.Abdel-Khalik and N. Shippard  
 - *Applied catalysis A: General* **265** (2004) 229
- 37** - Surface texture and specific adsorption sites of sol–gel synthesized anatase TiO<sub>2</sub> nanoparticles  
 Mohamed I. Zaki , Gamal A.H. Mekhemer , **Nasr E. Fouad** , Tushar C. Jagadale , Satishchandra B. Ogale  
 - *Materials Research Bulletin* 45 (2010) 1470–1475
- 38** Temperature-programmed and X-ray diffractometry studies of hydrogen-reduction course and products of WO<sub>3</sub> powder: Influence of reduction parameters  
 - M.I. Zaki , **N.E. Fouad**, S.A.A. Mansour, A.I. Muftah  
 - *Thermochimica Acta* 523 (2011) 90– 96
- 39** - TiO<sub>2</sub> nanoparticle size dependence of porosity, adsorption and catalytic activity  
 - Mohamed I. Zaki, **Nasr E. Fouad**, Gamal A.H. Mekhemer, Tushar C. Jagadale, Satishchandra B. Ogale  
 - *Colloids and Surfaces A: Physicochem. Eng. Aspects* 385 (2011) 195– 200