

## Georgios D. Chryssikos

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### Education

1987 Ph.D. in Physical Inorganic Chemistry, Brown University, Providence, RI, USA  
1983 Diploma of Chemistry, University of Athens

### Research appointments

2021- Coordinator, Applied Spectroscopy Laboratory, TPCI/NHRF  
2004-2017 Coordinator, Applied Spectroscopy Laboratory, TPCI/NHRF  
2002- Director of Research at the Theoretical and Physical Chemistry Institute, NHRF  
1998-2002 Senior Researcher at TPCI/NHRF  
1992-1998 Associate Researcher at TPCI/NHRF  
1988-1991 Assistant Researcher at the TPCI/NHRF.  
1985-1986 Travelling Scholar from Brown University to NHRF, Athens.  
1984-1987 Research and Teaching Assistant, Chemistry Department, Brown University, USA

### Main research interests

- Crystallochemistry of minerals. Structure / property relationships with emphasis in the study of clays by Near-Infrared spectroscopy. Clay-based hybrid materials.
- Structural / spectroscopic characterization of polymers – biopolymers. Secondary structures and interactions at interfaces. Colloids.
- Application of spectroscopic techniques to industrial production monitoring and quality control - Chemometrics.

### External funding

Coordinator of about 25 research projects funded by the private sector, or by National and European sources. R&D services to the industry.

## Conferences and invited talks

GDC has participated in more than 70 international conferences, 17 invited.

## Teaching activities

Graduate seminar courses in Applied Vibrational Spectroscopy. Univ. of Athens (Dept. of Biology) and Univ. of Ioannina (Dept. of Materials Engineering)

## Professional affiliations and activities

Member of the Clay Minerals Society (USA) and the American Mineralogical Society.

Associate Editor of *Clays & Clay Minerals* (2014 - )

## Publications

113 publications in international journals, 2 book chapters, >30 papers in refereed conference proceedings, 2 international patents, co-editor of one book. More than 6000 non-self-citations, h-index=42 (ISI).

## Selected recent publications

"Methods for determination of the layer charge of smectites: A critical assessment of existing approaches", G.E. Christidis, G.D. Chryssikos, A. Derkowski, R. Dohrnsn, D.D. Eberl, E. Joussein, S. Kaufhold, *Clays Clay Miner.* **2023**, *71*, 25-53.

"On the unusual temperature dependence of kaolinite intercalation capacity for N-methylformamide", F. Andreou, E. Siranidi, A. Derkowski, G. D. Chryssikos, *Clays Clay Miner.*, **2023**, *70*, 796-807

"Intercalation of N-methylformamide in kaolinite: In situ monitoring by near-infrared spectroscopy and X-ray diffraction", F. Andreou, B. Barylska, Z. Ciesielsca, M. Szczerba, A. Derkowski, V. Gionis, E. Siranidi, G. D. Chryssikos, *Appl. Clay Sci.*, **2021**, *212*, 106209.

"Smectite in bentonite: near infrared systematics and estimation of layer charge", C. Tsiantos, V. Gionis, G. D. Chryssikos, *Appl. Clay Sci.*, **2018**, *160*, 81-87.

"The nature of laponite: pure hectorite or a mixture of different trioctahedral phases?" G. E. Christidis, C. Aldana, G. D. Chryssikos, V. Gionis, H. Kalo, M. Stöter, J. Breu, J.-L. Robert, *Minerals*, **2018**, *8*, 314.

"Measuring the layer charge of dioctahedral smectites by O-D vibrational spectroscopy", A. Kuligiewicz, A. Derkowski, K. Emmerich, G.E. Christidis, C. Tsiantos, V. Gionis, G. D. Chryssikos, *Clays and Clay Miner.* **2015**, *63*, 443-456.

"Revisiting the infrared spectrum of the water-smectite interface". A. Kuligiewicz, A. Derkowski, M. Szczerba, V. Gionis and G. D. Chryssikos, [\*Clays & Clay Miner.\*, \*\*2015\*\*, \*63\*, 15-29](#)

"Vibrational investigation of indigo–palygorskite association(s) in synthetic Maya blue", C. Tsiantos, M. Tsampodimou, G. H. Kacandes, M. Sanchez del Rio, V. Gionis, G. D. Chryssikos, [\*J. Mater. Sci.\*, \*\*2012\*\*, \*47\*, 3415-3428](#).