Ioannis (Yiannis) Sanakis, Director of Research
Institute of Nanoscience and Nanotechnology
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Personal
Date of Birth**:** January 25, 1967
Place of Birth: Artemon, Sifnos Island, Cyclades, Greece

Education
PhD: University of Ioannina (Dept of Physics), December 1995.
B. Sc: University of Athens (Dept of Physics), June 1990.

Dissertation:
"Study of the Paramagnetic Centers of Photosystem II of Higher Plants by EPR and Mössbauer Spectrocopic Techniques" carried out at the Institute of Materials Science, NCSR "Demokritos"

Professional Experience:
01/05- Research Scientist, Institute of Nanoscience and Nanotechnology NCSR "Demokritos"
01/04-1/05. Research Fellow, Institute of Materials Science, NCSR "Demokritos"
10/00-9/04. Vis. Ass. Prof. Dept of Biological Applications and Technology, University of Ioannina
12/99-12/04: Research Fellow Institute of Materials Science, NCSR "Demokritos"
10/97-12/99: Postdoctoral research fellow, Dept of Chemistry, Carnegie Mellon University, Pittsburgh, Pennsylvania, U.S.A. (supervisor Prof. Eckard Münck)
11/96-10/97: Research Fellow Institute of Materials Science, NCSR "Demokritos"
09/89-12/94: Graduate fellow, Research Fellow Institute of Materials Science, NCSR "Demokritos" (supervisor, Dr Vasili Petrouleas)

Publications in peer reviewed journals: 173
Chapters in collective volumes: 3
Conferences/workshops: 47.
Citations: ~7250/6005 (without self citations) (Scopus)
h-index : 45 (Scopus, May 2026)

Research Interests
Molecular Magnetism, Low Dimensional Magnetism and Magnetism at the Nanoscale, Bioinorganic systems, Spin Based Quantum Computing, Electron Paramagnetic Resonance Spectroscopy, Mössbauer Spectroscopy, Magnetometry, Cryogenics.

Activities:
- Helium Liquefaction Unit of INN: Supervisor (2013-)
- International M.Sc. Program in Quantum Computing and Quantum Technologies, Democritus University of Thrace, NCSR Demokritos. Member of the coordination committee.
- Member of the Scientific Council of INN (2020-2024)
- Member of the Management Committee of the COST Action, Explicit Control Over Spin-states in Technology and Biochemistry (ECOSTBio), 2014-2018 (26 countries).

Funding:
- "Helium Liquefaction and Low Temperature Spectroscopy", Internal project ELKE #12611.
- "Multifunctional Metal Organic Frameworks and the Fine Tuning of their Magnetic, Photoluminescence and Sorption Properties through Single - Crystal Ligand Exchange Reactions", Research Promotion Foundation of Cyprus Program EXCELLENCE/1216/0076 University of Cyprus (Prof. A. Tasiopoulos) (2019-2021).
- "Photosynthetic Water Splitting: The Critical Stages before Oxygen Release" "Human Resources Development, Education and Lifelong Learning 2014-2020" (2020-2021).

Teaching Experience

I. Dept of Biological Applications and Technology, University of Ioannina
1.Physics (2000-2004),
2. Physical Chemistry Laboratory (2000-2004)
II. Dept of Chemistry, University of Ioannina, Graduate Course "Bioinorganic Chemistry".
1. Topics on Molecular Magnetism (2002-)
III. Dept of Chemistry and Dept of Materials Science and Technology, University of Ioannina, Graduate Course "Chemistry and Technology of Materials"
1. Topics on Molecular Magnetism (2002-)
IV. National Technical University of Athens, School of Applied Physical and Mathematical Sciences Graduate Course

1. EPR Spectroscopy (2005-).

V. Dept of electrical and computer engineering, Democritus University/NCSR Demokritos. Msc in Quantum Computing and Quantum Technologies

1. Quantum Devices (2023-)
2. Qubit Devices (2023-)
3. Quantum Solid State Physics (2023-)

PhD Theses:
Supervision of one PhD thesis, examiner in 15 PhD theses.
Master Theses:
Supervision of two Master theses, examiner in 3 Master theses

Organization of International Meetings and Workshops
1. "Workshop on Current Trends in Nanoscopic and Mesoscopic Magnetism"
5-9 September 2006, Santorini, Greece
2. "2nd North America Greece Cyprus Workshop on Paramagnetic Materials"
18-21 June 2007, Syros, Greece.
3. "2nd Workshop on Current Trends in Nanoscopic and Mesoscopic Magnetism"
1-5 September 2008, Delphi, Greece.
4. "4th Workshop on Current Trends in Nanoscopic and Mesoscopic Magnetism"
11-14 June 2012, Ouranoupolis, Greece.
5. "EUROMAR 2013"
June 31- Juy 5, 2013, Herssonissos, Crete, Greece.
6. "5th North America Greece Cyprus Workshop on Paramagnetic Materials"
1 – 4 June 2015, Athens, Greece
7. "6th Workshop on Current Trends in Molecular and Nanoscale Magnetism"
9 – 13 October, 2016, Pylos, Greece
8. "8th North America Greece Cyprus Workshop on Paramagnetic Materials"
17-22 June 2018, Mystras, Greece.
9. "8th Workshop on Current Trends in Molecular and Nanoscale Magnetism»
27-31 May 2019, Rhodes, Greece.
10. Joint CTMNM/NAGC Conference, 7-12 May, 2023, Spetses, Greece.
11. NAGC 2025, 5-9 May 2025, Syros, Greece

Representative recent publications:
"Exploratory Synthetic Studies of the Praseodymium/Di-2-Pyridyl Ketoxime System Leads to Unusual Reactivity and Interesting New Molecules" C. Stamou, C. Polyzou, C. C. Stoumpos, C. P. Raptopoulou, D. Papaioannou, Y. Sanakis, V. Psycharis, S. P. Perlepes *Inorg. Chem.* 2026, 65, 6385−6401
"Field-Induced Slow Magnetization Relaxation of a Tetrahedral S=2 $Fe^{II}S_4$-Containing Complex" M. Pissas, E. Ferentinos, P. Kyritsis, and Y. Sanakis, *ChemPlusChem.* 2024, 89, e202400109.
"Heterometallic clusters based on an uncommon asymmetric "V-shaped" $[Fe^{3+}(\mu\text{-}OR)Ln^{3+}(\mu\text{-}OR)_2Fe^{3+}]^{6+}$ (Ln = Gd, Tb, Dy, Ho) structural core and the investigation of the slow relaxation of the magnetization behaviour of the $[Fe_2Dy]$ analogue" M. Savva, D. I. Alexandropoulos, M. Pissas, S. P. Perlepes, C. Papatriantafyllopoulou, Y. Sanakis, A. J. Tasiopoulos *Dalton Trans.* 2023, 52, 6997. (cover)

"Arrested substrate binding resolves catalytic intermediates in higher-plant water oxidation" G. Zahariou, N. Ioannidis, Y. Sanakis, D. A. Pantazis, Angew. Chem. Int. Ed. 2021, 60, 3156-3162.

"Magnetic Properties and Electronic Structure of the S = 2 Complex [MnIII{(OPPh2)2N}3] Showing Field-Induced Slow Magnetization Relaxation" Y. Sanakis, J. Krzystek, D. Maganas, A. Grigoropoulos, E. Ferentinos, M. G. Kostakis, V. Petroulea, M. Pissas, K. Thirunavukkuarasu, W. Wernsdorfer, F. Neese, P. Kyritsis. Inorg. Chem. 2020, 59, 13281-13294

"A microporous Co(II) - based 3-D metal organic framework built from magnetic infinite rod-shaped secondary building units" A. Kourtellaris, E. E. Moushi, I. Spanopoulos, P. N. Trikalitis, M. Pissas, G. S. Papaefstathiou, Y. Sanakis, A. J. Tasiopoulos, Eur. J. Inorg. Chem. 2019, 4056-4062 (cover)

"Interactions between H-bonded [$Cu^{II}_3(\mu_3$-OH)] triangles; A combined magnetic susceptibility and EPR study" L. Mathivathanan, A. K. Boudalis, P. Turek, M. Pissas, Y. Sanakis, R. G. Raptis Phys. Chem. Chem. Phys. 2018, 20, 17234-17344

"Site preferences in hetero-metallic [$Fe_{9-x}Ni_x$] clusters: a combined crystallographic, spectroscopic and theoretical analysis" A. N. Georgopoulou, K. Al-Ameed, A. Boudalis, D. F. Anagnostopoulos, V. Psycharis, J. E McGrady, Y. Sanakis and C. P. Raptopoulou, Dalton Trans, 2017, 46, 12835–12844

"A Redox-Induced Spin-State Cascade in a Mixed-Valent $Fe_3(\mu_3$-O) Triangle" E. V. Govor, K. A. Ameed, I. Chakraborty, C. S. Coste, O. Govor, Y. Sanakis, J. E. McGrady, and R. G. Raptis, Angew. Chem. Int. Ed. 2018, 56, 582-586.