ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ

ΘΩΜΑΣ ΒΑΣ. ΜΠΑΚΑΣ

Καθηγητής

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ΤΟΠΟΣ ΓΕΝΝΗΣΗΣ: Θήβα

ΟΙΚΟΓΕΝΕΙΑΚΗ ΚΑΤΑΣΤΑΣΗ: Έγγαμος με δύο παιδιά.

Διοικητική εμπειρία

2005-06 Διευθυντής Τομέα
2007-08 Διευθυντής Τομέα,
1999-... Επιστημονικός υπεύθυνος των μονάδων PXRD και VSM του Δικτύου Υποστήριξης Έρευνας του Πανεπιστημίου Ιωαννίνων.
2000-2005 Επιστημονικός Υπεύθυνος του Τμήματος Επιστήμης και Τεχνολογίας Υλικών (νέο όνομα Τμήμα Μηχανικών της Επιστήμης Υλικών) Πανεπιστημίου Ιωαννίνων.
2001-2005 Αναπληρωτής Πρόεδρος του Τμήματος Φυσικής του Πανεπιστημίου Ιωαννίνων.
2009-2011 Πρόεδρος του Τμήματος Φυσικής του Πανεπιστημίου Ιωαννίνων.
2011-2013 Πρόεδρος του Τμήματος Φυσικής του Πανεπιστημίου Ιωαννίνων.
2011-... Μέλος της ΜΟΔΙΠ (Μονάδα Διασφάλισης Ποιότητας) του Πανεπιστημίου

Συμμετοχή σε χρηματοδοτούμενα ερευνητικά προγράμματα

- "Co-ordinated European Activity on Pillared Layered Structures (CEA-PLS)", BRITE-EURAM 1990 (BREU-CT91-0462),
- "The synthesis, Characterization and Application of Pillared Layered Clays (PILCs) Produced in Large Quantities" (BRITE-EURAM II, BRE2-CT94-0629),
- Production and characterization of small Fe particles (PENED 91)
- Study of magnetic materials for hard magnets (CEAM 3)
- Production and study of small magnetic particles (PENED 95)
- Οστεογένεση, προαγωγή και διάγνωση (ΕΡΕΤ ΙΙ),
- HCM in metallic clusters
- Μελέτη νέων φάσεων/μικροδομών για μόνιμους μαγνήτες (PENED 99)
- Μεταπτυχιακό πρόγραμμα σπουδών του Τμήματος Χημείας και Ιατρικής Σχολής του Πανεπιστημίου Ιωαννίνων "Διοανόργανη Χημεία" και "Ανόργανη "
- ΧημείαΣτερεοποίηση – Σταθεροποίηση αποβλήτων από μεταλλοτεχικές διεργασίες, ΕΡΕΤ ΙΙ, 2.3

- **C**omposites of **A**ugmented **S**trength: **S**tudy of **I**ntercalates of **U**niquely **S**tructured **CLAYS** RTN2-2001-00517
- Νέα νανοπορώση ημιαγώγιμα στερεά μεττέλλου- χαλκογενιδίων για οπτοηλεκτρονικές και καταλυτικές τεχνολογίες (ΠΕΝΕΔ- 03)
- "ΗΡΑΚΛΕΙΤΟΣ" Ηλεκτρονικές και Μαγνητικές ιδιότητες περοβσκιτών μαγγανίου, (HER-03)
- «Ανάπτυξη Καινοτόμων Νανο-Πορωδών Υλικών για Αποθήκευση Υδρογόνου, (HydroStore)» *Πρόγραμμα*: ΘΑΛΗΣ
- «Materials for Hydrogen Storage for Solar Energy Applications» Ερευνητικό Πρόγραμμα Χρηματοδοτούμενο από Ξένη Εταιρία (Ευρωπαϊκής Ένωσης) Innova-Technology Solutions S.R.L. (Dr. A. Sutti), Italy. (*Φορέας Υλοποίησης*: Π.Ι).
- «Novel Clay Nanosemiconductor Hybrids», Κοινά Ερευνητικά και Τεχνολογικά Προγράμματα Ελλάδος-Σλοβακίας, *Συνεργαζόμενοι φορείς*: University of Ioannina (M.A. Karakassides) and Slovak Academy of Sciences (P. Komadel). Χρηματοδότηση ΓΓΕΤ
- «Μελέτη Προσρόφησης Υδρογόνου σε Νανο-Υλικά για Χρήση σε Ενεργειακές Κυψελίδες» *Πρόγραμμα*: ΠΕΝΕΔ-2003
- «Ανάπτυξη τεχνολογίας πυρόλυσης χρησιμοποιημένων ελαστικών για την παραγωγή προσροφητικών και καταλυτικών υλικών προστιθέμενης αξίας με εφαρμογές στη βιομηχανία και σε τεχνολογίες αντιρρύπανσης», 'ΣΥΝΕΡΓΑΣΙΑ'

Ερευνητικό Έργο

Το ερευνητικό έργο συνίσταται απο μία διδακτορική διατριβή, 104 εργασίες δημοσιευμένες σε διεθνή περιοδικά με κριτές, μία εργασία σε βιβλίο (μετά απο πρόσκληση), 8 εργασίες σε τόμους διεθνών συνεδρίων με κριτές και περισσότερες από 100 ανακοινώσεις σε Ελληνικά και διεθνή συνέδρια.

Τα ερευνητικά μου ενδιαφέροντα εντοπίζονται στη μελέτη των ηλεκτρονικών και μαγνητικών ιδιοτήτων των στερεών, με ιδιαίτερο βάρος στα νανοδομικά υλικά. Για την καλή διασπορά, την σχετική απομάκρυνση για αποφυγή μαγνητικών αλληλεπιδράσεων και την προστασία από οξείδωση των νανοδομικών υλικών, επιλέγονται τρόποι ένθεσης μορίων και ενώσεων σε φυλλόμορφα υλικά, ή διασπορά τους σε αδρανές υπόβαθρο. Επίσης χρησιμοποιούνται φουλερένια και νανοσωλήνες άνθρακα ως μήτρες για την ένθεση και διασπορά νανοσωματιδίων. Σημαντικό ρόλο στην ερευνητική δραστηριότητα έχουν οι ενώσεις κασσιτέρου, μερικές απο τις οποίες έχουν σημαντική βιολογική δράση. Οι κυριότερες τεχνικές που χρησιμοποιούνται για την μελέτη των παραπάνω υλικών είναι: Φασματοσκοπία Mössbauer, μαγνητικές μετρήσεις, ηλεκτρικές μετρήσεις, περίθλαση ακτίνων-Χ, φασματοσκοπίες Raman και FT-IR, θερμικές μετρήσεις, ηλεκτρονική μικροσκοπία, κλπ..

Δημοσιεύσεις σε έγκριτα περιοδικά

1. Mössbauer study of Glozel tablet 198b1.
Bakas T., Gangas N.-H., Sigalas I.
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2. Mössbauer investigation of the layered compound $FeMo_2S_4$
Bakas T., Gangas N.-H.
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3. Mössbauer study of the Morin transition
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4. Magnetic ordering in Nontronite pillared with Al-polyoxo cations
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5. Electrical and magnetic properties of Cronstedtite
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6. Production and characterization of single crystal, superconducting $Bi_2Sr_2CaCu_2O_x$
Wang X.Z., Donnelly K., Bakas T., Coey J.M.D., Rosenman I., Simon C.
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7. Pillaring of Montmorillonite by organotin cationic complexes
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8. "Spin glass" properties of a planar antiferromagnet.
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10. Mössbauer spectra of Minnesotaite and Ferroan Talc
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11. Coordination Chemistry of Corrosion Inhibitors of the Benzotriazole Type: Preparation and Characterization of Cobalt(II) Complexes with 1 Methylbenzotriazole (Mebta) and the Crystal Structures of $[CoCl_2(Mebta)_2]$,Trans-$[Co(NCS)_2(Mebta)_4]$,Trans-$[Co(NCS)_2(MeOH)_2(Mebta)_2]$ and Cis-$[Co(NO_3)_2(Mebta)_2]$
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14. Coordination complexes of iron(III) with 3-hydroxy-2(1H)-pyridinone,2,3 dihydroxybenzoic acid and 3,4-dihydroxybenzoic acid: preparation and characterization in the solid state.
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International Conference on the Applications of Mössbauer Effect, ICAME 99, Germany

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36. Varied pore organization in mesostructured semiconductors based on the $[SnSe_4]^{4-}$ anion
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Αναφορές

Περισσότερες από 1700 αναφορές στο δημοσιευμένο έργο. Ο συντελεστής απήχησης είναι h=24

Εργασίες σε βιβλία

Mössbauer investigation of the Fabric
N.-H. Gangas, T. Bakas
University Museum Monograph 51 in "East Cretan White-on-dark Ware.
Studies on a Handmade Pottery of the Early to Middle Minoan Periods". ed. P. Betancourt, Temple University, Department of Art History, Philadelphia, U.S.A.