

SCOALA DOCTORALĂ DE ȘTIINȚE

Domeniul de doctorat	Conducător științific	Nr. crt	Denumire teme scoase la concurs	Bibliografie selectivă, recomandată
Chimie	Bogdan TUTUNARU	1	Cercetări privind degradarea electrochimică a poluanților organici utilizând electrozi eficienți electrofuncționalizați/ Research on electrochemical degradation of organic pollutants using efficient electrofunctionalized electrodes	Analytical and Physical Electrochemistry, Hubert H. Girault, Marcel Dekker Inc., 2004, First edition, EPFL Press, ISBN 2-940222-03-7 (EPFL Press), ISBN 0-8247-5357-7 (Marcel Dekker, Inc.) Modern Electrochemistry Second Edition - Fundamentals of Electrodeics, John O'M Bockris, Amulya K. N. Reddy and Maria Gamboa-Aldeco, 2002 Kluwer Academic Publishers, New York. Electrochemical Methods - Fundamentals and Applications, Allen J. Bard, Larry R. Faulkner, 2001, John Wiley & Sons, Inc. Modern Electrochemistry Second Edition - Electrodeics in Chemistry, Engineering, Biology, and Environmental Science, John O'M Bockris and Amulya K. N. Reddy, 2004 Kluwer Academic Publishers, New York. Physics of Electrochemical Processes, P.M. Biesheuvel and J.E. Dykstra, 2020, ISBN 978- 90-9033258-1.
Chimie	Paul CHIRIȚĂ	2	Natura produșilor de reacție și a intermediarilor de reacție ai oxidării sulfurilor de fier în soluții apoase/ Nature of the reaction products and reaction intermediates of iron sulfides oxidation in aqueous solutions	J.D. Rimstidt, Geochemical Rate Models: An Introduction to Geochemical Kinetics, Cambridge University Press, 2013 P. Chirita, M. Descostes, M.L. Schlegel, Journal of Colloid Interface Science, 321; 2008: 84-95. P. Chirita, M.L. Schlegel, Chemical Geology, 334; 2012: 131-138. M.I. Duinea, A. Costas, M. Balbarac, P. Chirita, Journal of Colloid and Interface Science, 467; 2016: 51-59 C.E. Cârstea, P. Chiriță, Minerals Engineering, 217; 2024: 108968
Fizică	Rodica CIMPOIAȘU	3	Metode analitice și computaționale pentru investigarea sistemelor dinamice neliniare/ Analytical and computational methods for investigating nonlinear dynamical systems	Arrowsmith D. K., Place C. M. An introduction to dynamical systems, CUP, 1994. Olver, P.J. Applications of Lie Groups to Differential Equations, GTM 107, 2nd ed.; Springer-Verlag: New York, USA, 1993 Bluman G.W., Cheviakov A.F., Anco S.C.: Applications of Symmetry Methods to Partial Differential Equations. Springer, New York, 2010 Polyanin, Andrei D., and Valentin F. Zaitsev. Handbook of nonlinear partial differential equations: exact solutions, methods, and problems. Chapman and Hall/CRC, 2003 Langtangen, Hans Petter, Solving nonlinear ODE and PDE problems, Center for Biomedical Computing, Simula Research Laboratory and Department of Informatics, University of Oslo, 2016
Fizică	Gabriela-Eugenia IACOBESCU	4	Nanoparticule magnetice pentru aplicații biomedicale/Magnetic nanoparticles for biomedical applications	I. Bica, G.-E. Iacobescu, Materials, 16(5), 1995, (2023) I Bica, GE Iacobescu, Materials, 16(8), 3222, (2023) G.-E. Iacobescu, M. Bunoiu, I. Bica, P. Sfirloaga, L.M.E. Chirigiu, Micromachines, 14, 1113 (2023) M Bunoiu, GE Iacobescu, G Pascu, L Chirigiu, I Bica, Rom Rep Phys, 75(3), 503, (2023) I Bica, EM Anitas, GE Iacobescu, Micromachines 15 (8), 953, (2024) Elsa M. Materon, Celina M. Miyazaki, Olivia Carr, Nirav Joshi, Paulo H.S. Picciani, Cleocir J. Dalmaschio, Frank Davis, Flavio M. Shimizu, Applied Surface Science Advances, 6, 2021 Mittal, A.; Roy, I.; Gandhi, S. Magnetochemistry, 8, 107, (2022) Rezaei, B., Yari, P., Sanders, S. M., Wang, H., Chugh, V. K., Liang, S., Mostufa, S., Xu, K., Wang, J.-P., Gómez-Pastora, J., & Wu, K. Small, 20 (5), (2024) Hong, J., Wang, L., Zheng, Q., Cai, C., Yang, X., & Liao, Z, Materials, 17(12), 2870 (2024)
Fizică	Gabriela-Eugenia IACOBESCU	5	Fenomene optice neliniare induse de radiația laser în materiale dielectrice/Laser-induced nonlinear optical phenomena in dielectric materials	1. Englert L., Rethfeld B., Haag L., Wollenhaupt M., Sarpe-Tudoran C., Baumert T, Optics Express, 2007, Vol. 15, Issue 26, 17855-17862. 2. Englert L., Wollenhaupt M., Sarpe C., Otto D., Baumert T, J. Laser Appl., 2012, 24, 042002 (5 pp) 3. Götte N., Winkler T., Meini T., Kusserow T., Zielinski B., Sarpe C., Senftleben A., Hillmer H., Baumert T, Optica, 2016, 3, 389-395. 4. Sarpe C., Köhler J., Winkler T., Wollenhaupt M., Baumert T, New. J. Phys., 2012, 14, 075021 (16 pp) 5. Camilo F., Xiaohan D., Craig B. A. Probing Light by Matter: Implications of Complex Illumination on Ultrafast Nanostructuring. Ultrafast Laser Nanostructuring The Pursuit of Extreme Scales. Springer Series in Optical Sciences, (SSOS, volume 239), 2023, Pages 321-353 6. W.M. Qu, W. Wlodarski., Sensor Actuat B-Chem 64 (1-3) (2000) 42-48 7. Lethy, K.J.; Beena, D.; Kumar, R.V.; Pillai, V.M.; Ganesan, V.; Sathe, V. , Appl. Surf. Sci. 2008, 254, 2369–2376
Geografie	Igor SÎRDOEV	6	Tendințele în organizarea spațiului geografic pe termen lung: Studiul de caz al unui județ / Long-term trends in organization of geographic space: The case study of a county	1. Ianoș I., Heller W. (2006). Spațiu, economie și sisteme de așezări. Editura Tehnică, București 2. Gregory I.N., Geddes A. (eds) (2014). Toward spatial humanities: Historical GIS and spatial history. Indiana University Press, Bloomington 3. Statuto, D., Cillis, G., & Picuno, P. (2016). Analysis of the effects of agricultural land use change on rural environment and landscape through historical cartography and GIS tools. Journal of Agricultural Engineering, 47(1), 28-39. https://doi.org/10.4081/jae.2016.468 4. Ovreiu A.-B., Bârsoianu I.-A., Nistor C., Nedelea A., Comănescu L. (2021). Long-term dynamics of land use in the Romanian Plain – The Central Baragan, Romania. Agriculture 11(5): 423. https://doi.org/10.3390/agriculture11050423 5. Urșanu E. A., Grigorescu I., Dumitrică C., Kucsicsa G., Mitrică B., Roznovietchi I., Dumitrașcu M., Ciubuc C. (2024). Long-term changes in agricultural land over the last century in Romania. The showcase of the Romanian plain. Anthropocene, 48: 100449. https://doi.org/10.1016/j.ancene.2024
Matematică	Cristian VLADIMIRESCU	7	Analiza calitativă și numerică a soluțiilor unor sisteme diferențiale asociate cu oscilatori neliniari/ Qualitative and numerical analysis of solutions of differential systems associated with nonlinear oscillators	T.A. Burton, Stability by Fixed Point Theory for Functional Differential Equations, Dover Publications, Inc., Mineola, New York, 2006 C. Corduneanu, Principles of Differential and Integral Equations, Allyn and Bacon, Boston, Mass., 1971 J.K. Hale, Ordinary Differential Equations [2nd edition], Krieger, Florida, 1980 G. Morosanu, Functional Analysis for the Applied Sciences, Springer, Switzerland, 2019 C. Vladimirescu, C. Avramescu, Applications of the Fixed Point Method to Ordinary Differential and Integral Equations on Noncompact Intervals, Centre for Nonlinear Analysis and its Applications, 8, 2006
Matematică	Sorin MICU	8	Probleme de controlabilitate a ecuațiilor cu derivate parțiale/ Controllability problems of partial differential equations	H. Brezis: Functional Analysis, Sobolev Spaces and Partial Differential Equations, Springer New York, 2010 S. Micu, E. Zuazua, An Introduction to the Controllability of Partial Differential Equations, in "Quelques questions de theorie du controle", 69-157, Cours Hermann, 2005
Matematica	Maria-Magdalena BOUREANU	9	Probleme eliptice neliniare cu aplicații/ Nonlinear elliptic problems with applications	H. Brezis, Functional Analysis, Sobolev Spaces and Partial Differential Equations, Springer, New York, 2011 L. Diening, P. Harjulehto, P. Hasto, and M. Ruzicka, Lebesgue and Sobolev spaces with variable exponents, Springer-Verlag, Berlin, 2011 V. Radulescu and D. Repovš, Partial Differential Equations with Variable Exponents: Variational Methods and Qualitative Analysis, Chapman and Hall/CRC, 2015. M. Sofonea and A. Matei, Mathematical Models in Contact Mechanics, Cambridge University Press, 2012