

СПИСЪК НА НАУЧНИ ТРУДОВЕ И УЧЕБНИ ПОМАГАЛА
на гл. ас. д-р инж. Ивайло Димитров Хинков

представен за участие в конкурс за доцент по научна специалност

5.10. Химични технологии (Процеси и апарати в химичната и биохимичната технология), обявен от ХТМУ в ДВ брой 106 от 23.12.2014г.

НАУЧНИ ТРУДОВЕ И УЧЕБНИ ПОМАГАЛА	ОБЩО
Публикации по дисертационния труд за образователна и научна степен „доктор“	3
Публикации, представени за участие в конкурса за доцент	32
Статии в списания с импакт фактор (сумарен импакт фактор: 14.535)	6
Статии в списания без импакт фактор	11
Доклади на международни конференции в чужбина в пълен текст	4
Доклади на конференции в България с международно участие в пълен текст	11
Учебни помагала	1

I. НАУЧНИ СТАТИИ И ДОКЛАДИ, ПРЕДСТАВЕНИ ЗА ПРИДОБИВАНЕ НА ОБРАЗОВАТЕЛНА И НАУЧНА СТЕПЕН „ДОКТОР“

НАУЧНИ СТАТИИ

- A1** I. Hinkov, J. Grand, M. Lamy de La Chapelle, S. Farhat, C.D. Scott, P. Nikolaev, V. Pichot, P. Launois, J.Y. Mevellec, S. Lefrant (2004). Effect of temperature on carbon nanotube diameter and bundle arrangement: Microscopic and macroscopic analysis. *Journal of Applied Physics* 95(4), 2029–2037.
(Impact Factor: **2.185**)
- A2** I. Hinkov, S. Farhat, M. Lamy de La Chapelle, S.S. Fan, H.X. Han, G.H. Li, C.D. Scott (2001). Optical plasma control during arc carbon nanotube growth. *Proceeding of the 6th Applied Diamond Conference/2nd Frontier Carbon Technology Joint Conference*, pp. 816–821, 6–10 August, 2001, Auburn, USA.
- A3** I. Hinkov, P. Desmarest, S. Farhat (2001). Boundary layer control during carbon nanotube growth by arc method. *Proceeding of the 15th International Symposium on Plasma Chemistry (ISPC-15)*, Vol. 6, pp. 2559–2564, 9–13 July, 2001, Orléans, France.

ДОКЛАДИ ОТ НАУЧНИ КОНФЕРЕНЦИИ С ПУБЛИКУВАНИ РЕЗЮМЕТА

- I. Hinkov, S. Farhat, C.D. Scott. Modeling heat transfer in the arc reactor. *6th National Conference "GDR-nanotubes"*, 6–9 October, 2003, Lyon, France.
- I. Hinkov, S. Farhat, M. Lamy de La Chapelle, C.D. Scott, P. Nikolaev. Diameter control of single-wall carbon nanotubes using argon-helium mixtures. Modeling nanotubes growth. *5th National Conference "GDR-nanotubes"*, 14–17 October, 2002, La Grande Motte, France.
- I. Hinkov, S. Farhat, M. Lamy de La Chapelle, C.D. Scott. Optimization of the arc-discharge production of single-wall carbon nanotubes. *4th National Conference "GDR-nanotubes"*, 1–4 October, 2001, Batz-sur-Mer, France.

II. НАУЧНИ ТРУДОВЕ И УЧЕБНИ ПОМАГАЛА, ПРЕДСТАВЕНИ ЗА ЗАЕМАНЕ НА АКАДЕМИЧНА ДЛЪЖНОСТ „ДОЦЕНТ“

УЧЕБНИЦИ И УЧЕБНИ ПОМАГАЛА

- B1** С. Дянков, И. Хинков, Механични процеси, *Academic Publications*, 2012 – София, ISBN: 978-954-2940-11-1.

НАУЧНИ СТАТИИ И ДОКЛАДИ

- C1** M. Hosni, S. Farhat, I. Hinkov, M. Ben Amar, A. Kanaev, N. Jouini (2015). Mixing strategies for zinc oxide nanoparticles synthesis via polyol process. *AICHE Journal*. Article first published online: 8 Feb 2015, DOI: 10.1002/aic.14737.
(Impact Factor: 2.581)
- C2** V. Popov, I. Hinkov, S. Diankov, M. Karsheva, Y. Handjiyski (2015). Ultrasound-assisted green synthesis of silver nanoparticles and their incorporation in antibacterial cellulose packaging. *Green Processing and Synthesis*, Published Online: 5 Feb 2015, DOI: 10.1515/gps-2014-0085.
- C3** N. Ouar, S. Farhat, I. Hinkov, G. Wang, C. Ricolleau, S. Mercone, Z. Fatih, F. Schoenstein, N. Jouini (2015). Magnetic nanowires synthesis: A chemical engineering approach. *AICHE Journal* 61(1), 304-316.
(Impact Factor: 2.581)
- C4** S. Farhat, N. Ouar, M. Hosni, I. Hinkov, S. Mercone, F. Schoenstein, N. Jouini (2014). Scale up of the polyol process for nanomaterial synthesis. *Journal of Materials Science and Chemical Engineering* 2(9), 1–11.
- C5** I. Hinkov, S. Farhat, C.P. Lungu, A. Gicquel, F. Silva, A. Mesbahi, O. Brinza, C. Porosnicu, A. Anghel (2014). Microwave plasma enhanced chemical vapor deposition of carbon nanotubes. *Journal of Surface Engineered Materials and Advanced Technology* 4(4), 196–209.
- C6** K. Petkova-Parlapanska, V. Nancheva, S. Diankov, I. Hinkov, M. Karsheva (2014). Rheological properties of cosmetic compositions containing rosemary and grapefruit pulp and seeds extracts. *Journal of Chemical Technology and Metallurgy* 49(5), 487–493.
- C7** V. Popov, I. Hinkov, S. Diankov, M. Karsheva, J. Handjiyski (2014). Ultrasound-assisted green synthesis of silver nanoparticles with highly efficient anti-bacterial properties. *Proceeding of the International Congress on Green Chemistry and Sustainable Engineering* (ISBN: 978-989-95089-3-4), July 29–31, 2014, Barcelona, Spain.
- C8** K. Petkova-Parlapanska, S. Diankov, I. Hinkov, M. Karsheva (2014). Phytocosmetic compositions prepared with an extract from golden root (*Rhodiola rosea*). Total polyphenol contents and antioxidant capacity. *Proceeding of the International Congress on Green Chemistry and Sustainable Engineering* (ISBN: 978-989-95089-3-4), July 29–31, 2014, Barcelona, Spain.
- C9** S. Diankov, K. Parlapanska, I. Hinkov, M. Karsheva (2013). Cinétique d'extraction de substances actives de chardon aux ânes (*Onopordum acanthium*). Capacité antioxydant des extraits. *Récents Progrès en Génie des Procédés*, № 104, Ed. SFGP, October 8–10, 2013, Paris, France.

- C10** С. Дечева, И. Хинков, М. Кършева, С. Дянков (2013). Моделиране на хидродинамиката в цилиндрични съдове с механично разбъркване. *Scientific Works "Food Science Engineering and Technologies"*, Vol. LX, pp. 1215–1218, October 18–19, 2013, Plovdiv, Bulgaria.
- C11** К. Петкова-Парлапанска, В. Нанчева, М. Кършева, И. Хинков, С. Дянков (2013). Екстракция на биоактивни компоненти от растителни сировини. Приложение на получените екстракти като заместители на метилпарабени в козметични композиции. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LX, pp. 488–492, October 18–19, 2013, Plovdiv, Bulgaria.
- C12** В. Попов, И. Хинков, М. Кършева, С. Дянков, В. Лашева, Й. Ханджийски (2013). Изработка на антибактериални целулозни хранителни опаковки, съдържащи сребърни наночастици. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LX, pp. 1010–1013, October 18–19, 2013, Plovdiv, Bulgaria.
- C13** C.P. Lungu, A. Marcu, C. Porosnicu, I. Jepu, A.M. Lungu, P. Chiru, C. Luculescu, R. Banici, D. Ursescu, R. Dabu, I.D. Feraru, C.E.A. Grigorescu, G. Iacobescu, M. Osiac, J. Kovač, V. Nemanić, I. Hinkov, S. Farhat, A. Gicquel, O. Brinza (2012). Terawatt laser system irradiation of carbon/tungsten bilayers. *Physica Status Solidi (A) Applications and Materials Science* 209(9), 1732–1737.
(Impact Factor: 1.525)
- C14** S. Diankov, P. Subra-Paternault, I. Hinkov, I. Pentchev (2012). Adsorption of o-hydroxybenzoic acid on polymers in supercritical carbon dioxide medium: experimental and modeling. *Bulgarian Chemical Communications* 44(4), 399–406.
(Impact Factor: 0.349)
- C15** В. Лашева, М. Кършева, И. Хинков (2012). Проучване на възможностите за използване на наноматериали и нанотехнологии в опаковки за хани. *Опаковки и Печат (Package Printing Converting Magazine)* 2, 27–32.
- C16** S. Diankov, M. Karsheva, I. Hinkov, E. Kirova, K. Parlapanska (2012). Ultrasound assisted extraction of active compounds from thuja cones. Study of the antioxidant capacity of extracts. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LIX, pp. 92–95, October 19–20, 2012, Plovdiv, Bulgaria.
- C17** И. Хинков, К. Ангелова (2012). Нанотехнология и здравен риск. *Proceeding of the IX National congress of nutrition with international participation "Nutrition science between discussions and evidences"*, pp. 17–20, May 19–22, 2011, Varna, Bulgaria.
- C18** S. Diankov, M. Karsheva, I. Hinkov (2011). Extraction of natural antioxidants from lemon peels. Kinetics and antioxidant capacity. *Journal of the University of Chemical Technology and Metallurgy* 46(3), 315–319.
- C19** I. Saykova, I. Hinkov, R. Blazhev, A. Maître (2011). Numerical evaluation of 2D electrostatic boundary-value problem within biphasic dielectrics. *Journal of the University of Chemical Technology and Metallurgy* 46(2), 155–160.
- C20** I. Hinkov, S. Diankov, M. Karsheva, V. Lasheva, I. Ivanov, Y. Handzhiyski (2011). Synthèse de nanoparticules d'argent par voie micro-onde et leur intégration dans des feuilles de cellulose pour des applications agroalimentaires. *Revue de Génie Industriel* 6, 16–22.
- C21** И. Хинков, С. Дянков, М. Кършева (2011). Изработка на порести мембрани за ултра- и нанофильтруване. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LVIII, Issue 3, pp. 279–284, October 14–15, 2011, Plovdiv, Bulgaria.

- C22 С. Дянков, М. Кършева, И. Хинков (2011). Екстракция на полифеноли от портокалови кори и определяне на антиоксидантна активност. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LVIII, Issue 2, pp. 123–128, October 14–15, 2011, Plovdiv, Bulgaria.
- C23 I. Hinkov, S. Diankov, S. Tchaoushev (2010). Evaluation des risques liés aux nanotubes de carbone. *Revue de Génie Industriel* 5, 20–24.
- C24 S. Diankov, P. Subra-Paternault, I. Hinkov, I. Pentchev (2010). Modeling of impregnation kinetics in supercritical CO₂ medium. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LVII, Issue 1, pp. 441–446, October 15–16, 2010, Plovdiv, Bulgaria.
- C25 S. Georgieva, M. Karsheva, I. Hinkov (2010). Flow properties and stability tests of cosmetic compositions containing natural plant extracts. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LVII, Issue 1, pp. 369–374, October 15–16, 2010, Plovdiv, Bulgaria.
- C26 A. Tomova, O. Popovski, I. Hinkov, I. Seikova, A.T. Dimitrov (2010). Application of nano-scaled silver in food packaging. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LVII, Issue 2, pp. 453–458, October 15–16, 2010, Plovdiv, Bulgaria.
- C27 S. Diankov, P. Subra-Paternault, I. Hinkov, I. Pentchev (2010). Cinétique d'imprégnation en milieu CO₂ supercritique. Etude expérimentale. *Revue de Génie Industriel* 5, 89–97.
- C28 I. Hinkov, K. Angelova (2009). Nanotechnology – potential health risk. *Bulgarian Journal of Public Health* 1(4), 61–67.
- C29 I. Hinkov, S. Diankov, M. Karsheva (2009). Nanocomposite coating process to improve food packaging. *Scientific Works "Food Science, Engineering and Technologies"*, Vol. LVI, Issue 2, pp. 325–330, October 23–24, 2009, Plovdiv, Bulgaria.
- C30 L. Guo, J.-L. Meunier, I. Hinkov (2007). The evolution of carbon precursors for carbon nanotube synthesis in a DC plasma torch reactor. *Proceeding of the 18th International Symposium on Plasma Chemistry (ISPC-18)*, August 26–31, 2007, Kyoto, Japan.
- C31 I. Hinkov, S. Farhat, C.D. Scott (2005). Influence of the gas pressure on single-wall carbon nanotubes formation. *Carbon* 43(12), 2453–2462.
(Impact Factor: 6.160)
- C32 S. Farhat, I. Hinkov, C.D. Scott (2004). Arc process parameters for single-walled carbon nanotube growth and production: experiments and modeling. *Journal of Nanoscience and Nanotechnology* 4(4), 377–389.
(Impact Factor: 1.339)

ДОКЛАДИ ОТ МЕЖДУНАРОДНИ И НАЦИОНАЛНИ КОНФЕРЕНЦИИ С ПУБЛИКУВАНИ РЕЗЮМЕТА

- S. Farhat, W. Bounour-Bouzarmouche, I. Hinkov, S. Mourad Chérif, Y. Roussigné, M. Guérioune, A. Tallaire, A. Gicquel. Chemical kinetics during microwave plasma growth of carbon nanotubes. *Workshop on Nucleation and Growth Mechanisms of Single Wall Carbon Nanotubes, Guadalupe Workshop VII*, April 10–15, 2015.
- V. Popov, M. Karsheva, S. Diankov, V. Lasheva, I. Hinkov. Green synthesis of silver nanoparticles incorporated in cellulose with highly efficient anti-bacterial properties. *16th International Workshop on Nanoscience and Nanotechnology NANO 2014*, November 7–8, 2014, Sofia, Bulgaria.

- V. Popov, B. Mladenova, H. Diulgerov, I. Hinkov, M. Karsheva, S. Diankov. Ultrasound-assisted synthesis of silver nanoparticles. *XI scientific poster session for young scientists, doctoral and full-time students*, May 22, 2014, Sofia, Bulgaria.
- E. Kirova, I. Hinkov, S. Diankov, M. Karsheva, J. Handjiyski. Ultrasound-assisted synthesis of silver nanoparticles. *Sixth Balkan Conference on Glass Science & Technology/18th Conference on Glass and Ceramics, October 01–04, 2014, Nessebar, Bulgaria*.
- K. Angelova, I. Hinkov, Bioactives. Functional Foods and Nano and Omics Technologies. *7th national conference of nutrition*, May 16–18, 2014, Varna, Bulgaria.
- S. Farhat, M. Hosni, N. Ouar, I. Hinkov, F. Schonstein, S. Mercone, M. Ben Amar, A. Kanaev, C. Ricoleau, N. Jouini. Scale-up of the polyol process. *1st International Conference of Polyol Mediated Synthesis*, June 22–25, 2014, Paris, France.
- S. Farhat, N. Ouar, M. Hosni, I. Hinkov, S. Mercone, F. Schonstein, N. Jouini. Nanomaterials Synthesis and Scale-up. *International Conference of Mechanics and Energy ICME'2014*, March 18–20, 2014, Monastir, Tunisia.
- S. Farhat, I. Hinkov, M. Hosni, N. Ouar, W. Bounour, A. Ben Belgacem, A. Mgaidi, F. Schoenstien, S. Mercone, N. Jouini. Nanotubes and Nanowires: Synthesis and Scale-up Strategies. *International Conference on Nano-Materials and Nanotechnology (Nano-M&T 2013)*, November 17–19, 2013, Annaba, Algeria.
- I. Hinkov, M. Karsheva, S. Diankov, V. Samichkov, J. Handjiyski, M. Simeonova. Silver nanoparticles incorporation into porous collagen. Изнесен устен доклад на юбилейна научна конференция „50 години катедра Инженерна Химия“, 8 ноември 2013.
- Б. Планска, В. Попов, С. Дянков, М. Кършева, И. Хинков, Получаване на сребърни наночастици чрез химическа редукция в микровълново поле, III-15, *X научна постерна сесия, XTMU* 2013.
- М. Уливерова, М. Недина, М. Кършева, С. Дянков, И. Хинков, Интегриране на сребърни наночастици в целулоза и колаген, IV-18, *X научна постерна сесия, XTMU* 2013.
- C.P. Lungu, C. Porosnicu, I. Jepu, A. M. Lungu, P. Chiru, A. Marcu, C. Luculescu, R. Banici, D. Ursescu, R. Dabu, I.D. Feraru, C.E.A. Grigorescu, G. Iacobescu, M. Osiac, J. Kovač, V. Nemanič, I. Cadez, I. Hinkov, S. Farhat, A. Gicquel, O. Brinza, C. Focsa. Pulsed laser beam interaction with carbon, tungsten and beryllium coatings. *14th Joint Vacuum Conference/12th European Vacuum Conference/11th Annual Meeting of the German Vacuum Society/Deutsche Vakuum Gesellschaft/19th Croatian-Slovenian Vacuum Meeting*, June 4–8, 2012, Dubrovnik, Croatia.
- C.P. Lungu, C. Porosnicu, I. Jepu, A. M. Lungu, P. Chiru, A. Marcu, C. Luculescu, R. Banici, D. Ursescu, R. Dabu, I.D. Feraru, C.E.A. Grigorescu, G. Iacobescu, M. Osiac, J. Kovač, V. Nemanič, I. Hinkov, S. Farhat, A. Gicquel, O. Brinza. Nanodiamond-carbon formation by terawatt laser system irradiation. *Hasselt Diamond Workshop 2012, SBDD XVII*, March 14–16, 2012, Hasselt, Belgium.
- P.Y. Tessier, J. Tranchant, I. Hinkov, A. El Mel, B. Angleraud. Élaboration de micro- et nano-objets par dépôts plasmas PVD sur surfaces complexes. *Journées du 10^{ème} Anniversaire du Réseau des Plasmas Froids*, May 24–27, 2011, Toulouse, France.

- I. Saykova, I. Hinkov, R. Blazhev. Numerical analysis of local field distribution in multi-phase composites. *7th National Conference on Chemistry/International Conference on Green Technologies and Environmental Protection*, May 26–29, 2011, Sofia, Bulgaria.
- R. Blazhev, I. Hinkov, I. Saikova. Approche des mécanismes de frittage « flash » (ou Spark Plasma Sintering) de matériaux céramiques. *2^{eme} Colloque Scientifique International des Chercheurs Francophones Sciences et Technologies SCITECH 2010*. April 15–17, 2010, Sofia, Bulgaria.
- I. Hinkov, J. Tranchant, B. Angleraud, A. Granier, P.Y. Tessier. Stress engineering of carbon thin films by plasma processing for synthesis of micro and nano-objects on patterned surface. *E-MRS 2009 Spring Meeting*, June 8–12, 2009, Strasbourg, France.
- P.Y. Tessier, B. Angleraud, I. Hinkov, J. Tranchant. Ionized Physical Vapor Deposition (IPVD) – Application to coatings for microtechnology. *21st Conference on Surface Modification Technologies*, September 24–26, 2007, Paris, France.
- I. Hinkov, A. Gohier, P.Y. Tessier, A. Granier, C. Cardinaud. Nanoporous membranes fabrication using plasma enhanced chemical vapor deposition method. *16th International Colloquium on Plasma Process*, June 4–8, 2007, Toulouse, France.
- I. Hinkov, J.-L. Meunier, L. Guo. Synthèse de nanotubes de carbone par plasma à couplage inductif. *74^e Congrès de l'ACFAS*, May 15–19, 2006, Montreal, Canada.
- I. Hinkov, L. Guo, D. Harbec, J.-L. Meunier. Carbon nanotubes from the dissociation of toluene using ICP plasma torch. *1st Canadian Workshop on NanoCarbon*, November 15, 2005, Montreal, Canada.
- M. Cau, N. Dorval, B. Attal-Trétout, J.-L. Cochon, D. Pigache, A. Loiseau, V. Krüger, M. Tsurikov, S. Farhat, I. Hinkov, C.D. Scott. Spatial distribution of soot and gaseous species during SWNT formation: measurements and modeling. Invited lecture in *NASA/Rice workshop on SWNT growth mechanisms*, April 8–12, 2005, Houston, USA.
- M. Cau, N. Dorval, B. Attal-Trétout, J.-L. Cochon, A. Loiseau, S. Farhat, I. Hinkov, C. Scott. Spatial distributions of metal atoms during carbon SWNTs formation: measurements and modeling. *5th International Conference on the Science and Application of Nanotubes (NT'04)*, July 19–24, 2004, San Luis Potosí, Mexico.