

### PERSONAL INFORMATION

Iliana Ionkova

### WORK EXPERIENCE

---

- September 2015- Present **Head of Department of Pharmacognosy**  
Faculty of Pharmacy, Medical University of Sofia (Bulgaria)
- September 2015- Present **Head of the Bulgarian State Examination Commission in Pharmacy**  
Ministry of Health (Bulgaria)  
Commission "Medicinal plants and herbal medicinal products"
- May 2010- Present **Professor on Pharmacognosy and Phytochemistry, DSci, PhD**  
Faculty of Pharmacy, Medical University-Sofia (Bulgaria)  
Scientific research in Phytochemistry, Pharmacognosy and Plant Biotechnology  
Pharmacognosy & Pharmaceutical Biotechnology (specializations, lecture/seminar/laboratory course)
- November 2009-December 2013 **Expert on phytochemistry in Group 13A**  
European Directorate for the Quality of Medicines (EDQM) (France)
- September 2000-May 2008 **Member of Bulgarian Specialized Scientific Council on Pharmacy**  
High Attestation Commission (Government) (Bulgaria)  
Scientific degree Awarding in Pharmaceutical science
- September 1999-May 2010 **Associate Professor**  
Faculty of Pharmacy, Medical University-Sofia (Bulgaria)  
Teaching (Lecture Courses, tutoring), scientific work and research: Pharmacognosy, Pharmaceutical Biotechnology; M.Sc. students conducting (biology/pharmacy); Guiding post graduated specialization of M.Sc. on Pharmacy; Guiding Ph. D. Students
- January 1999- Present **Head of Section and Laboratory of Pharmaceutical Biotechnology**  
Faculty of Pharmacy, Medical University-Sofia (Bulgaria)  
Molecular and biological approaches in the development of new immunostimulating, anticancer, anti-HIV plant therapeutics, Air-lift type fermentor for biosynthesis of biological active plant substances  
Development of gene-modified technology for Transgenic Plants, In vitro production and optimization biosynthesis of natural substances in plant cell cultures, Use of DNA for detection of biological active compounds, Bacterium-mediated genetic transformation, Bioconversion by recombinant human CYP450 3A4
- September 1983-August 1999 **Assistant Professor, PhD**  
Faculty of Pharmacy, Medical University-Sofia (Bulgaria)  
Phytochemical and biotechnological investigation of medicinal plants and herbal products

### EDUCATION AND TRAINING

---

- July 2008- Present **Doctor of Sciences DSci Pharmacy**  
High Attestation Commission (Bulgaria)  
Thesis title "Pharmaceutically significant biologically active compounds from sources with optimised phytochemical potential"
- September 1996-October 1999 **Specialization on Medicinal Plants and herbal medicinal products**  
Ministry of Health (Bulgaria)  
Postdoc degree - Pharmacognosy and Phytochemistry

September 1980-December 1983

### Doctor degree PhD Pharmacy

High Attestation Commission (Bulgaria)

Thesis title Investigations for saponins, sapogenins and flavonoids of representations of genus *Astragalus*, spread in Bulgaria

September 1975-June 1979

### Master of science Pharmacy

Faculty of Pharmacy, Medical University-Sofia (Bulgaria)

## ADDITIONAL INFORMATION

---

**Expertise** Phytochemical analysis: Isolation, identification techniques for plant natural products (HPLC, LC-MS, UV, GC-MS, IR, NMR, COSY, NOESY etc.)  
Development of technology for biosynthesis of biological active substances  
Development of analytical methods for control of herbal drugs and herbal drug preparations in a research environment (from 1980 up to now)  
Phytochemical methods development and verification in a laboratory (Member of National Pharmacopoeia Committee, Herbal Drugs)

**Publications** Scientific Papers: more than 190, Impact factor over 60, more than 2000 citations  
Books: 10 (monographies and books, 4 published by Springer Verlag )  
Reports and published contributions to international congresses: 70  
Textbooks and teaching materials - 8

### SELECTED PUBLICATIONS

- Nikolov St., I. Ionkova, D. Panova, H. Budzikiewicz, E. Schroder (1985) Soyasapogenol B from *Astragalus angustifolius* lam. *Comptes rendus de l'Academie Bulgare des Science*, 38(7), 875-879
- Ionkova I., L. Witte, A. W. Alfermann (1989) Production of alkaloids in transformed root cultures of *Datura innoxia*, *Planta Medica*, 55:229
- Doerk K., I. Ionkova, L. Witte, A. W. Alfermann (1989) Synthesis of tropane alkaloids in hairy root cultures of *Datura* and *Hyoscyamus* species, *Planta Medica*, 55:688
- Ionkova I. (1990), Isolation and HPLC/TLC analyses of major flavonoids from *Astragalus aitosensis* MB (Fabaceae), *Planta Medica*, 56: 581
- Ionkova I., A. W. Alfermann (1990), Transformation of *Astragalus* species by *Agrobacterium rhizogenes* and their saponin production, *Planta Medica*, 56: 634
- Ionkova I., St. Ninov, D. Kolev, A. W. Alfermann (1991) Secondary constituents of in vitro cell and transformed root cultures of *Althaea officinalis* L., var *Russalka*, Malvaceae, *Planta Medica*, 57(8): A41-42
- Ionkova I. (1992) Potential of transformed root cultures from *Hyoscyamus aureus*, for biosynthesis of tropane alkaloids, *Biotechnology and Bioeng.*, Sofia, Vol 6(3), 41-43
- Ionkova I. (1992) Alkaloid production of *Hyoscyamus reticulatus* plant and transformed root cultures, *Biotechnology and bioeng.*, Sofia, vol.6(2), 50-53
- Ninov St., I. Ionkova, D. Kolev, (1992) Constituents from roots of *Althaea officinalis*, var. *Russalka*, Malvaceae, *Fitoterapia*, Ital LXIII, N5: 474
- Ionkova I., L. Witte, A. W. Alfermann (1994) Spectrum of tropane alkaloids in transformed roots of *Datura innoxia* and *Hyoscyamus gyoerffy*, cultivated in vitro, *Planta Medica*, 60 (4): 382-384
- Ionkova I. (1992) Alternative sources of biological active substances from *Althaea officinalis*, var. *Russalka*, *Comptes rendus de l'Academie Bulgare des Science*, vol. 45, N:9, 137-140
- Ionkova I., Z. Hu, A. W. Alfermann, (1993) Polysaccharide Production by Hairy Root Cultures of Some Higher Medicinal Plants, *Planta Medica*, 59(7): A 658
- Ionkova I., H. Budzikiewicz, A. W. Alfermann, (1993) Cycloartane-Derived Saponin from Transformed Root Cultures of *Astragalus mongholicus*, *Planta Medica*, 59(7): A66
- Tape R., H. Budzikiewicz, Ionkova I., A. W. Alfermann (1994) Triterpene glycosides from transformed root cultures of *Astragalus mongholicus* Bge, *Spectroscopy* (IOS Press, USA), 12 (1):1-8
- Ionkova I., T. Kartnig (1997) Densitometric determination of cycloartane triterpene saponins from the transformed root cultures of *Astragalus mongholicus* Bge., *Die Pharmazie*, vol. 52 (3): 218-220
- Ionkova I., T. Kartnig, A. W. Alfermann (1997), Cycloartane saponin production in hairy root cultures of *Astragalus mongholicus* Bge., *Phytochemistry*, vol. 45, N 8, 1597-1600

Bucar, S. Ninov, I. Ionkova, T. Kartnig, M. Schubert-Zsilavec, I. Asenov, B. Konuklugil (1998), Flavonoids from *Phlomis nissolii*, *Phytochemistry*, vol. 48 (3): 573-575

Ionkova I., A.W.Alfermann (2000), Use of DNA for detection and isolation of Potential Anticancer Agents From Plants, *Pharmacy*, Sofia, 1-2:10-16

Vasilev N., P. Nedialkov, I. Ionkova and S. Ninov (2004) HPTLC densitometric determination of justicidin B in *Linum* cultures in vitro, *Die Pharmazie*, Vol.59(7), p. 528-529

Vasilev N. and I. Ionkova (2004) Lignan accumulation in cell cultures of *Linum strictum* ssp. *strictum* L. *Acta Pharmaceutica* 54 , 347-351 N.

Vasilev and I. Ionkova (2005) Cytotoxic activity of extracts from *Linum* cell cultures. *Fitoterapia* 76, 50-53

Vasilev N., G. Momekov, M. Zaharieva, S. Konstantinov, P. Bremner, M. Heinrich, I. Ionkova, (2005), Cytotoxic activity of a podophyllotoxin-like lignan from *Linum tauricum* Willd, *Neoplasma*, 5, 425-429

Vasilev N. and I. Ionkova (2005) Lignan production by cell cultures of *Linum setaceum* and *Linum campanulatum*. *Pharmaceutical Biology*, Vol.43, No.6, 1-3

Vasilev N., Elfahmi, R. Boss, O. Kaiser, G. Momekov, S. Konstantinov, Iliana Ionkova (2006), Production of Justicidine B, a Cytotoxic Arylnaphthalene Lignan from Genetically Transformed Root Cultures of *Linum leonii*, *JNP*, vol.69 Iss.7, pp 1014-1017

Nikolay P. Vasilev, Iliana I. Ionkova, (2006), Isolation and Structure Elucidation of Aryltetralin Lignans from *Linum tauricum* ssp. *bulgaricum*, *Pharmacognosy Magazine*, vol. 2., Iss. 7, pp.172-177

Konuklugil B., I. Ionkova, N. Vasilev, T. Schmidt, J. Windhovec, E. Fuss, and A. Alfermann, (2007), Lignans from *Linum* species of sections *Syllinum* and *Linum*, *Nat. Prod. Research* 21, 1-6

Vasilev N., M. Julsing, A. Koulman, C. Clarkson, H. Woenderbag, I. Ionkova, R. Boss, J. Jaroszewski, O. Kaiser, (2006) Bioconversion of deoxypodophyllotoxin into epipodophyllotoxin in *E. coli* using human cytochrome P450 3A4, *J. of Biotechnology*, 126, 383-393

Ionkova, I. Antonova, G. Momekov, E. Fuss (2007) Cytotoxic activity of extracts from Bulgarian *Linum* species, *Pharmacognosy Magazine*, vol.3, Issue 1:192-195

Ionkova (2007), Biotechnological Approaches for the Production of lignans, *Pharmacognosy Reviews*, Vol.1, Issue 1, 57-68

Nikolov St., G. Momekov, G. Kitanov, I. Ionkova, I. Krasteva, R. Toshkova, S. Konstantinov, P. Nedialkov, M. Karaivanova, (2007), Exploitation of the Bulgarian flora's biodiversity as a source of antineoplastic agents: current challenges and perspectives, *Biotechnology&Biotechnol. Equipment*, vol. 21, 4:471-477

Vasilev Nikolay, Rainer Ebel, RuAngelie Edrada, A. Wilhelm Alfermann, Elisabeth Fuss, Iliana Ionkova, Ana Petrova, and Thomas J. Schmidt, (2008), Lignan variability in *Linum* species of section *Syllinum* occurring in Bulgaria, *Planta Medica*, 74: 273-280

Kaiser O., M. Julsing, N. Vasilev, Schneidman-Duhovny, A. Koulman, C. Clarkson, H. Woenderbag, I. Ionkova, H. Wolfson, R. Bos, R. Muntendam, J. Jaroszewski, W. Quax, (2008), Bioconversion of deoxypodophyllotoxin into epipodophyllotoxin in *E. coli* using human cytochrome P450 3A4, *Planta Medica*, SL74: 31

Mattijs Julsing, Nikolay Vasilev, Dina Schneidmann-Duhovny, Remco Muntendam, Herman Woerdenbag, Wim Quax, Haim Wolfson, Iliana Ionkova, Oliver Kayser (2008) Metabolic Stereoselectivity of Cytochrome P450 3A4 towards Deoxypodophyllotoxin: in Silico Predictions and Experimental Validation, *Eur J Med Chem.*, 43(6):1171-1179

Vasilev Nikolay, Rainer Ebel, RuAngelie Edrada, A. Wilhelm Alfermann, Elisabeth Fuss, Iliana Ionkova, Ana Petrova, and Thomas J. Schmidt, (2008), "Metabolic Profiling of Lignan Variability in *Linum* species of Section *Syllinum* native to Bulgaria", *Planta Medica*, 74: 273-280

Ionkova I., I. Antonova, G. Momekov, (2008), Aritetralin lignan from in vitro cultures of *Linum elegans* and their cytotoxic activity, *Pharmacy*, Sofia, 1-4, vol. LV: 18-21

Ionkova I., St. Ninov, I. Antonova, D. Moyankova, T. Georgieva, D. Djilianov (2008), DPPH radical scavenging activity of in vitro regenerated *Haberlea rhodopensis* Friv. *Plants*, *Pharmacy*, Sofia, 1-4, vol. LV: 22-25

Ionkova I., E. Fuss, (2009), Influence of different strains of *Agrobacterium rhizogenes* on induction of hairy roots and lignan production in *Linum tauricum* ssp. *tauricum*, *Pharmacognosy Magazine*, vol. 4, 17: 14-18

Ionkova I., (2009), Optimization of flavonoid production in cell cultures of *Astragalus missouriensis* Nutt. (Fabaceae) *Pharmacognosy Magazine*, vol.4, Issue 18: 92-97

lonkova I., (2009), Anticancer compounds from in vitro cultures of rare medicinal plants, *Pharmacognosy Reviews*, Vol. 2, Issue 4: 206-218

lonkova I., (2009), Effect of methyl jasmonate on production of ariltetralin lignans in hairy root cultures of *Linum tauricum*, *Pharmacognosy Research*, vol. 2, Issue 2: 102-105

Djiljanov D., S. Ivanov, T. Georgiev, D. Moyankova, Berkov S., G. Petrova, P. Mladenov, N. Christov, N. Hristosova, D. Peshev, M. Tchorbadjieva, V. Aleksieva, A. Tosheva, M. Nikolova, I. lonkova, W. Van den Ende, (2009) A holistic approach to resurrection plants. *Haberlea rhodopensis* - a case study, *Biotechnol. & Biotechnol. Eq.* 23(4): 1414-1416

lonkova, P. Proksch, (2009), From planta to pharmaca: anticancer agents, *Farmacia*, vol. LIV, (1-4): 45-56

lonkova I., I. Antonova, G. Momekov, (2010), Effect of methyl jasmonate on production of ariltetralin lignans in hairy root cultures of *Linum thracicum* ssp. *thracicum*, *Proceedings of 6th Conference on Aromatic and Medicinal Plants - CMAPSEEC*, Antalya April 18-22, Turkey, 536-543

lonkova I., I. Antonova, G. Momekov, E. Fuss (2010), Production of Podophyllotoxin in *Linum linearifolium* in vitro cultures, *Pharmacognosy Magazine*, vol.6 (23): 178-183

lonkova, G. Momekov, P. Proksch, (2010), Effects of cycloartane saponins from hairy roots of *Astragalus membranaceus* Bge., cultivated in bioreactor with respect to human tumor cell targets, *Fitoterapia (Ital)*, 81: 447-451

Schmidt T., S. Hemmati, M. Klaes, B. Konuklugil, A. Mohagheghzadeh, I. lonkova, E. Fuss, A.W. Alfermann, (2010), Lignans in *Linum* species - Chemodiversity in the light of systematics and phylogeny, *Phytochemistry*, 71(14-15): 1714-1728

Berkov S., S. Romanic, M. Herrerad, F. Viladomata, C. Codina, G. Momekov, I. lonkova, J. Bastida, (2010), Antiproliferative and apoptotic alkaloids from *Crinum zeylanicum*, *Phytotherapy Research*, vol.25 (11): 1686-1692

Berkov S., M. Nikolova, N. Hristosova, G. Momekov, I. lonkova, and D. Djiljanov, (2010), GC-MS Profiling of Bioactive Extracts from *Haberlea rhodopensis*: An Endemic Resurrection Plant, *J. of Serbian Chemical Society*, Vol. 76, No. 2, p. 211-220 (2011).

lonkova I., I. Antonova, G. Momekov, (2010), Cytotoxic effects of lignans from in vitro cultures of *Linum serbicum* on human tumor cell lines, *IJCuch on Cancer*, 1.Vol. 1, No. 4: 211-216

Karamalakova Y., I. lonkova, G. Nikolova, P. Hadjibojeva, A. Tolekova, V. Gadjeva, R. Arora, R. K. Sharma and A. Zheleva, (2010), Comparative in vitro and ex vitro spectroscopy study of the levels of lipid peroxidation processes in livers and kidneys of mice after treatment by naturally isolated antioxidants, *Trakia J. of science*, vol. 8, suppl.2: 137-143

lonkova (2010), Biotechnology and modern production of plant made pharmaceuticals: anticancer compounds, *IJCuch on Cancer*, vol. 1 (4): 237-247

Momekov G., S. Konstantinov, I. Dineva, I. lonkova, (2011), Justicidin B - a potent aryl naphthalene lignan on human breast cancer derived cell lines, *Neoplasma*, 58, 4: 320-325

lonkova (2010), Biotechnological production of valuable plant pharmaceuticals: anticancer agents, "Advances in Bulgarian Science", vol.1 p5

lonkova, F. Bucar, E. Knauder, D. Milanova, I. Antonova, (2010), C-glycosylflavones from *Linum thracicum* and their DPPH radical-scavenging activity, *Proceeding of 25 International Conference on Polyphenols*, Montpellier, France.

lonkova I., (2011) Anticancer lignans - from discovery to biotechnology, *Mini-Reviews in Medicinal Chemistry*, vol 11, 10: 1-14, IF2011 2.622

lonkov T., I. lonkova, G. Momekov, P. Sasheva, (2012) Improvement bioreactor production of cytotoxic saponins in *Astragalus membranaceus* by combined control of the bioprocesses, *Comptes rendus de l'Academie bulgare des Science*, 65 (10): 1447-1454

lonkov T., I. lonkova, P. Sasheva (2012), Strategy to control the production of rare anticancer substances in the endangered plant *Linum linearifolium* in bioreactor, *Indian Journal of Fundamental and Applied Life Sciences (JLS)*, ISSN: 2231-6345, vol. 2(1): 170-176

lonkov T., lonkova I., Sasheva P., (2012), Lignan production by cell suspension of *Linum tauricum*, *Proceeding of the 7th CMAPSEEC*, 27-31 May 2012, Subotica, R.Serbia, 338-344

lonkova I., P. Sasheva, T. lonkov, G. Momekov, (2013), *Linum narbonense*: a new valuable tool for biotechnological production of a potent anticancer lignan Justicidin B, *Pharmacog. mag.* Vol.9 (33), 39-44,

lonkov Todor, Sasheva Pavlina, lonkova Iliana, F. Bucar, D. Milanova, (2013) Model based Combined control of the bioprocess for production of C-glycosylflavones from *Linum thracicum* in bioreactor, *Comptes rendus de l'Academie bulgare des Science*, vol. 66, No 1, 139-146,

Momekov G., I. Ionkova, P. Nedialkov, D. Zheleva-Dimitrova, I. Krasteva, G. Kitanov, St. Nikolov, S. Konstantinov, (2013), Overview of the oncopharmacological studies of plant-derived natural products conducted at the Faculty of Pharmacy (MU-Sofia), *Pharmacia*, vol 60, 1: 60-70

Sasheva Pavlina, Gergana Letkarska, Iliana Ionkova, (2013) Biotechnological production of podophyllotoxin and podophyllotoxin-related lignans in cultures of *Linum thracicum* Degen, *Compt. Rendus de l'Academie bulgare des Sciences*, vol.66, 10: 1445-1450,

Ilieva Y, Sasheva P, Zhelezova I, Dineva I, Atanasova T, Zaharieva M, Momekov G, Ionkova I, Konstantinov S., (2013) Justicidin B - a potential antineoplastic drug of plant biotechnological origin, *Proceeding of AvH, Resources of Danubian region & The possibility of cooperation and utilization*, Belgrade, June 12-15, 2013, 154-1162

Ionkova Iliana, Aleksandar Shkondrov, Krasteva Iliana, Todor Ionkov, (2013), Recent progress in phytochemistry, *Pharmacology and biotechnology of Astragalus saponins*, *Phytochemistry Reviews* (Springer), 13:343-374, *Phytochem Rev* (2014) 13:343-374

Zdraveva P., I. Pencheva, I. Krasteva, I. Ionkova (2014) Development and Validation of HPLC Method for Quantitative Estimation of Saponarin in Endangered Species *Gypsophila trichotoma*, *Int. J. of Pharm. Analysis*, vol.39 (1):1181-1184

Ilieva Y, Zhelezova I, Atanasova T, Zaharieva M, Sasheva P, Ionkova I, Konstantinov S., (2015) Cytotoxic effect of the biotechnologically derived justicidin B on human lymphoma cells, *Biotechnology Letters* (Elsevier), 36, 2177-2183

Momekov G., D. Yossifov, M.L. Guenova, A. Michova, N. Stoyanov, S. Konstantinov, T. Ionkov, P. Sasheva, I. Ionkova, (2014), Apoptotic mechanisms of the biotechnologically produced aryl naphthalene lignan justicidin B in the acute myeloid leukemia-derived cell line HL-60, *Pharmacological Reports* (Elsevier), 66: 1073-1076

Sasheva P, Ionkova I, Stoilova N. (2015), Methyl jasmonate induces enhanced podophyllotoxin production in cell cultures of thracian flax (*Linum thracicum* ssp. *thracicum* Degen). *Natural Product Communications* 10(7): 1225-1228.

Iliana Krasteva, Viktor Bratkov, Franz Bucar, Olaf Kunert, Manfred Kollroser, Magdalena Kondeva-Burdina, Iliana Ionkova, (2015), Flavoalkaloids and Flavonoids in *Astragalus monspessulanus*, *Journal of Natural Products*, 78, 2565-2571

Krasteva I., A. Shkondrov, I. Ionkova, P. Zdraveva (2016), "Advances in phytochemistry, pharmacology and biotechnology of Bulgarian *Astragalus* species" *Phytochemistry Reviews*, 15(4), 567-5906.

Simeonova Rumyana, Vessela Vitcheva, Iliana Krasteva, Petranka Zdraveva, Spiro Konstantinov, Iliana Ionkova, (2016), Antidiabetic and antioxidant effects of saponarin from *Gypsophila trichotoma* on streptozotocin-induced diabetic normotensive and hypertensive rats, *Phytomedicine*, 23, 483-490.

Yancho Zarev, Kenn Foubert, Vera Lucia de Almeida, Roel Anthonissen, Esameldin Elgorashi, Sandra Apers, Iliana Ionkova, Luc Verschaeve and Luc Pieters, 2017, Antigenotoxic prenylated flavonoids from stem bark of *Erythrina latissima*, *Phytochemistry* 141, 140-146 Zdraveva, P., P. Popova, A. Shkondrov, I. Krasteva, I. Ionkova. Investigation of in vitro cultures of *Astragalus monspessulanus* L. *Comptes rendus de l'Academie bulgare des Sciences*, 2017, 79(8), 1181-1136.

Shkondrov A., I. Krasteva, F. Bucar, O. Kunert, M. Kondeva-Burdina, I. Ionkova. A new tetracyclic saponin from *Astragalus glycyphyllos* L. and its neuroprotective and hMAO-B inhibiting activity. *Natural Product Research*, 2018

Shkondrov A., I. Krasteva, F. Bucar, O. Kunert, M. Kondeva-Burdina, I. Ionkova. Flavonoids and saponins from two Bulgarian *Astragalus* species and their neuroprotective activity. *Phytochemistry letters*, 2018 26: 44-49

Krasteva I, Shkondrov A, Ionkova I, Zdraveva P. *Advances in phytochemistry, pharmacology and biotechnology of Bulgarian Astragalus species*. *Phytochemistry Reviews*. 2016; 15(4): 567-590.

Yancho Zarev, Kenn Foubert, Iliana Ionkova, Sandra Apers, and Luc Pieters, 2017, Isolation and structure elucidation of glycosylated colchicinoids from the seeds of *Gloriosa superba* by LC-DAD-SPE-NMR, *JNat.Prod.*, 80: 1187-1191

Zdraveva P, Popova P, Shkondrov A, Krasteva I, Ionkova I. Production of 7-sterols from in vitro root cultures of endangered *Gypsophila trichotoma*. *Natural Products Communications*. 2017; 12(2): 155-156.

Zdraveva P, Popova P, Shkondrov A, Krasteva I, Ionkova I. Investigation of in vitro cultures of *Astragalus monspessulanus* L. *Comptes Rendus de l'Academie Bulgare des Sciences*. 2017; 70(8): 1131-1136.

Shkondrov A., I. Krasteva, F. Bucar, O. Kunert, M. Kondeva-Burdina, I. Ionkova, A new tetracyclic saponin from *Astragalus glycyphyllos* L. and its neuroprotective and hMAO-B inhibiting activity. *Natural Product Research*, 2020; 34(4): 511-517

Kondeva-Burdina, M., Shkondrov, A., Simeonova, R., Vitcheva, V., Krasteva, I., & Ionkova, I. (2018). In vitro/in vivo antioxidant and hepatoprotective potential of defatted extract and flavonoids isolated from *Astragalus spruneri* Boiss. (Fabaceae). *Food and Chemical Toxicology*, 111, 631-640.

Yancho Zarev, Kenn Foubert, Paul Cos, Louis Maes, Esameldin Elgorashi, Sandra Apers, Iliana Ionkova, Luc Pieters, 2019, HPLC-DAD-SPE-NMR isolation of tetracyclic spiro-alkaloids with antiplasmodial activity from the seeds of *Erythrina latissima*. *Nat. Prod. Res.*, pp. 1-4.

Mincheva I. M. Zaharieva, D. Batovska, H. Najdenski, I. Ionkova, E. Kozuharova, 2019, Antibacterial activity of extracts from *Potentilla reptans* L., *Pharmazie* 66(1): 7-11.

Yancho Zarev, Pavlinka Popovaa, Kenn Foubert, Sandra Apers, Arnold Vlietinck, Luc Pieters and Iliana Ionkova, 2019, Biotransformation to Produce the Anticancer Compound Colchicoside using cell suspension cultures of *Astragalus vesicarius* plant species, *Natural Product Communications*, Vol. 14, No. 1, 27-29

Kozuharova E., Ionkova I. & Raimondo F. M. (2019). Invasive alien species: potential cheap resources of plant substances for medicinal use. *Flora Mediterranea* 29: 13-25

Kozuharova E., Ionkova I. & Spadaro V. (2019). *Xanthium strumarium* L. - a potential cheap resource of plant substances for medicinal use. *Flora Mediterranea* 29: 93-102.

Shkondrov, A., Krasteva, I., Ionkova, I., Popova, P., Zarev, Y., Mihaylova, R., & Konstantinov, S. Production of saponins from in vitro cultures of *Astragalus glycyphyllos* and their antineoplastic activity. *Biotechnology & Biotechnological Equipment*, 2019; 33(1): 1413-1418.

Kondeva-Burdina M, Doytchinova I, Krasteva I, Manov V, Ionkova I. Hepato-, neuroprotective effects and QSAR studies on flavoalkaloids and flavonoids from *Astragalus monspessulanus*. *Biotechnology & Biotechnological Equipment*, 2019; 33(1): 1434-1443.

Popov G, Shkondrov A, Kondeva-Burdina M, Manov V, Krasteva I. Effect of a purified saponins' mixture from *stragalus glycyphylloides* on rat hepatocytes", *Comptes rendus de l'Academie bulgare des Sciences*, 2020 - in press

Yancho Zarev, Pavlinka Popova, Kenn Foubert, Iliana Ionkova, Luc Pieters, (2020), Comparative LC-MS analysis of tropolone alkaloids from in vitro cultures and native sources of *Gloriosa superba* by Kendrick mass defect plots *Phytochemical Analysis*, 1-11.

Georgieva, A., Popov G, Shkondrov A, Toshkova R, Krasteva I, Kondeva-Burdina M, Manov V (2020). Antiproliferative and antitumour activity of saponins from *Astragalus glycyphyllos* on myeloid Graffi tumour. *Journal of Ethnopharmacology*, 267, 113519.

Vasilev Hristo, Karel Smejkal, Christian Schulze Gronover, Young Hae Choi, Dirk Prufer, Dagmar Jankovska, Iliana Ionkova, (2021), Flavonol glycosides from aerial parts of *Astragalus thracicus* Griseb., *Phytocmistry Letters*, 41:119-122

Pavlinka Popova, Yancho Zarev, Iliana Ionkova, (2021) Biotransformation of quercetin, kaempferol and apigenin to monoglycosylated derivatives by in vitro suspension cultures of *Astragalus vesicarius* ssp. *Carniolicus*, *Pharmacia* 68(2): 307-311

Shkondrov A, Krasteva I, Kozuharova E, Ionkova I (2021 - in press) Chemical composition of essential oil in fruits of *Xanthium strumarium* L. *Biotechnology and Biotechnological Equipment*. <http://dx.doi.org/10.1080/13102818.2021.1986426>

#### BOOKS/CHAPTERS

Budzikiewicz H., P.Kormali, I.Ionkova (1992) The stereochemistry of *Astragalus* saponins (A new sapogenine from *Astragalus aitiosensis* Ivanisch.), In: *Essays on Science*, H.Said (ed.), Hamdard Foundation Pakistan, Karachi, 75-83

Ionkova I. and A.W.Alfermann (1994) *Althaea officinalis* L. (Marsh mallow): In vitro cultures and production of biological active compounds, In: *Biotechnology in Agriculture and Forestry, Medicinal and Aromatic plants*, VII, (ed. Y.P.S.Bajaj), Springer Verlag, Berlin, Heidelberg, 13-42

Ionkova I. (1995) In vitro cultures and formation of secondary metabolites in *Astragalus*, In: *Biotechnology in Agriculture and Forestry, Medicinal and Aromatic Plants*, VIII, (ed. Y.P.S.Bajaj), Springer Verlag, Berlin, Heidelberg, 97-138

Ionkova I. (1999) Genetic transformation in *Astragalus* spp., In: *Biotechnology in Agriculture and Forestry* vol. 45, *Transgenic Medicinal Plants* (ed. YPS Bajaj), Springer Verlag, Berlin, Heidelberg, 55-72

lonkova I. and R.Krumov (2000) Medicinal Plants (ed. I.lonkova), Calendola Plovdiv, Bulgaria, pp.264

lonkova I. (2002) In vitro culture and the production of secondary metabolites in Hyoscyamus reticulatus L, In: Biotechnology in Agriculture and Forestry, Medicinal and Aromatic Plants, (ed. T. Nagata & Y.P.S.Bajaj), vol. 49, Springer Verlag, Berlin, Heidelberg, 75-94

lonkova (2006) In: G.Kitanov, I.Asenov, I. lonkova, S.Nikolov, S.Ninov Practicum in pharmacognosy, (ed.S.Nikolov), Medicine, Sofia, 11-198

lonkova (2006) In: Encyclopedia of Medicinal Plants (ed. St. Nikolov), "Trud" Sofia, pp.556

lonkova I. (2009), Hyoscyamus Reticulatus L., In: Recent Progress in Medicinal Plants, (J.N. Govil and V. K. Singh - ed., Publisher: Houston, Tex., ISBN: 1933699094), Studium Press LLC, USA, 381-397

lonkova (2010) Pharmaceutical biotechnology, ISBN 978-954-92310-2-1, "Es Print" -Sofia, pp.298

lonkova (2010) Pharmacognosy (for foreign students) pharmacognosy/lectures-eng.html

lonkova I. (2010), Podophyllotpxin and related lignans: Biotechnological Production by in vitro plant cell cultuers, In: "Medicinal plant biotechnology", (Editor: Rajesh Arora), CABI Publishing, Wallingford, Oxon, United Kingdom, Chapter 9, 1-18

lonkova (2016) Pharmaceutical biotechnology , In: "Biotechnological medicines - from laboratory to patient" (A. Stoimenova, Ch. Zachev) Cl. Ohridski-Sofia, Chapter 1: 25-72

Sasheva P. and I. lonkova (2017), Small Cells for Big Ideas& The Cytotoxic Podophyllotoxin and the Long Journey in Discovering Its Biosynthetic Pathway In:Biotechnology and Production of Anticancer Compopunds (ed. Sonia Malik), Springer, 177-200

#### Projects

Work research experience abroad (DAAD, UNESCO, NATO, OAD, etc): Germany - University of Dusseldorf, Belgium - Free University of Brussels, Austria - University of Graz - 1987-1989, 1992,1995, 1996, 1999, 2003, 2006, 2009.

Project management - director of International and national research projects:

1991 - 1993 "Natural products of medicinal importance from plant cell and organ cultures of families Solanaceae and Fabaceae", financed by Kernforschungszentrum, Karlsruhe, Project N: X214.2, Germany

1996 - Research Project "Use of DNA as affinity probe for detection and isolation of biological substances", financed by Konferenz der Deutschen Akademien der Wissenschaften, Mainz, Aktenzeichen: 960.4-129 Universitat Dusseldorf, Germany

1996 - Project N: HTECH.CRG 960358/1232(96)JARC-411 "Extraction of toxic metals from contaminated soils by tolerant Datura stramonium plants", financed by Scientific and Environmental Affairs Division of NATO, Belgium

1995 - 1996 Project BG/1 "Modern Teaching and training in pharmacognosy and chemotherapeutic pharmacology for under and postgraduate students" (contemporary teaching methodologies), financed by CEEPUS, Wien, Austria

1993 - Project N: MU 11/Med "Molecular-biologic approach for discovery of plant immunostimulatig and anticancer drugs", financed by Ministry of Education Technology and Science, Bulgaria

1999 - Project No VRP-L-8 "Model systems for ecotoxicological evaluation of heavy metals in plants" financed by Ministry of Education Technology and Science, Bulgaria

1994 - 1996 Project N: L 409 "Use of DNA as affinity probe for detection and isolation of biological substances", financed by Ministry of Education Technology and Science, Bulgaria

2007-2009 Project No: TK-L-1607/06 "Production of anticancer lignans in in vitro cultures of bulgarien Linum species" financed by Ministry of Education Technology and Science, Bulgaria

#### Memberships

Membership of international professional societies: American Society of Pharmacognosy; International Society for Medicinal Plant Research; AMAPSEEC; Bulgarian Union of Pharmacy

Member of Editorial Board of International scientific journals: Pharmacognosy Magazine (Shivananda B. G. ed); Pharmacognosy Review (Shivananda B. G. ed); Pharmacy (Sofia)

Member of Expert commission within the Sixth Framework Program of the European Union - SEE-ERA.NET - Invited reviewer of the projects in the field of Biotechnology and Phytochemistry

Invited reviewer of scientific projects at international level (EU)

Invited reviewer in international and national scientific journals: J. of Botany (Belgium); J. of

Ethnopharmacology-Elsevier, (Verpoorte Ed.); J. of Biochemistry and Molecular Biology (Z. Dong Ed.); Pharmacognosy Magazine (Shivananda B. G. ed); J. of Biotech&Bioeng.; J. Pharmacy etc.

Member of National Pharmacopoeia Committee, Herbal Drugs

Member of Commission Herbal Drugs, Bulgarian Drug Agency

**Other Relevant Information**

**HONOURS AND AWARDS**

2006 - Badge of Honour "Signum Laudis pro scientiae meritis" for the best research work in the field of Pharmacy

2011 - "Panacea-gold" for special contributions to the realization of teaching, research and expert work in medical and biological field