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Research interest:

Studies of biologically active proteins and secondary metabolites participating in plant-pathogen interaction or in protection of plants against abiotic stresses. The major areas of studies within the last few years comprised glucosinolates in *Brassica* species, flavonoids and phytochelatins of legumes (*Lupinus spp.*, *Medicago truncatula*, *Pisum sativum*) and *Arabidopsis thaliana* as well as secondary metabolites of phytopathogenic fungi *Leptosphaeria spp.*, *Fusarium spp.*, *Cercospora spp.*, *Pyrenophora spp.*

Foreign partners and exchange:

Chemistry Department; Royal Veterinary and Agricultural University, Kopenhaga, Dania, (1984, 1987, 1990 r.)

Rothamsted Experimental Station, Harpenden, Wielka Brytania, (1998 r.)

Current research cooperation:

Institute of Bioorganic Chemistry, PAS: analyses of plant secondary metabolites using GC/MS and HPLC/MS methods, profiling of flavonoids and other compounds

University of Life Sciences in Warsaw, Plant Pathology Department: studies on secondary metabolites of plant pathogenic fungi

A. Mickiewicz University of Poznań, Laboratory of Spectral Analysis of Elements and Biochemistry Department: analysis of phytochelatins in plants

University of Life Sciences in Poznań, Chemistry Department: analysis of toxic metabolites of plant pathogenic fungi using HPLC/MS methods.

Recent papers in English:

STOBIECKI M., STASZKÓW A., PIASECKA A., GARCIA-LOPEZ P.M., ZAMORA-NATERA F., **KACHLICKI P.** (2010) LC-MSMS Profiling of Flavonoid Conjugates in Wild Mexican Lupine *Lupinus reflexus*. J. Nat. Prod. 73: 1254-1260.

MARCAK Ł., STOBIECKI M., JASIŃSKI M., OLESZEK W., **KACHLICKI P.** (2010). Fragmentation pathways of acylated flavonoid diglucuronides from leaves of *Medicago truncatula*. Phytochemical Analysis 21: 224-233.

KACHLICKI P. (2009). Metabolites of fungal pathogens of oilseed rape // "Phytosanitary problems of oilseed rape cultivation", Suppl. to Plant Protection News, St/ Petersburg, 46-53.

JASIŃSKI M., **KACHLICKI P.**, RODZIEWICZ P., FIGLEROWICZ M., STOBIECKI M. (2009). Changes in the profile of flavonoid accumulation in *Medicago truncatula* leaves during infection with fungal pathogen *Phoma medicaginis*. Plant Physiol. Biochem. 47: 847-853.

MARCINIEC B., STAWNY M., **KACHLICKI P.**, JAROSZKIEWICZ E., NEEDHAM M. (2009). Radiostability of florfenicol in the solid state. Analyt. Sci 25: 1255-1260.

MUTH D., **KACHLICKI P.**, KRAJEWSKI P., PRZYSTAŁSKI M., STOBIECKI M. (2009) Differential metabolic response of narrow leafed lupine (*Lupinus angustifolius*) leaves to infection with *Colletotrichum lupini*. Metabolomics 5: 354-362.

FERNANDES H., BUJACZ A., BUJACZ G., JELEN F., JASINSKI M., **KACHLICKI P.**, OTLEWSKI J., SIKORSKI M.M., JASKOLSKI M. (2009) Cytokinin-induced structural adaptability of a *Lupinus luteus* PR-10 protein. FEBS J. 276: 1596-1609.

- GROMADZKA K., CHELKOWSKI J., POPIEL D., **KACHLICKI P.**, KOSTECKI M., GOLINSKI P. (2009). Solid substrate bioassay to evaluate the effect of *Trichoderma* and *Clonostachys* on the production of zearalenone by *Fusarium* species. *World Mycotoxin J.* 2: 45-52.
- BARALKIEWICZ D., KOZKA M., **KACHLICKI P.**, PIECHALAK A., TOMASZEWSKA B. (2008). Analysis of oxidized and reduced phytochelatin in pea and lupin plants using HPLC/MSⁿ. *Int. J. Environ. An. Chem.* 88: 979-988.
- KACHLICKI P.**, EINHORN J., MUTH D., KERHOAS L., STOBIECKI M. (2008). Evaluation of glycosylation and malonylation patterns in flavonoid glycosides during LC/MS/MS metabolite profiling. *J. Mass Spectrom.* 43: 572-586.
- MARCZAK Ł., **KACHLICKI P.**, KOŹNIEWSKI P., SKIRYCH A., KRAJEWSKI P., STOBIECKI M. (2008) Matrix-assisted laser desorption/ionization time-of-flight mass spectrometry monitoring of anthocyanins in extracts from *Arabidopsis thaliana* leaves. *Rapid Comm. Mass Spectrom.* 22: 3949-3956.
- MUTH D., MARSDEN-EDWARDS E., **KACHLICKI P.**, STOBIECKI M. (2008). Differentiation of isomeric malonylated flavonoid glyconjugates in plant extracts with UPLC-ESI/MS/MS. *Phytochem. Analysis* 19: 444-452.
- BELLOSTAS N., **KACHLICKI P.**, SØRENSEN J.C., SØRENSEN H. (2007) Glucosinolate profiling of seeds and sprouts of *B. oleracea* varieties used for food. *Scientia Horticulturae* 114: 234-242.
- GARCÍA-LÓPEZ P.M., **KACHLICKI P.**, ZAMORA-NATERA, F., RUIZ-MORENO, J., STOBIECKI M. (2006). Profiling isoflavone conjugates in different organs of *Lupinus exaltatus* Zucc. *Phytochem. Anal.* 17: 184-191.
- STOBIECKI M., **KACHLICKI P.** (2006). Isolation and identification of flavonoids. In: *The Science of Flavonoids.* (Grotewold E. ed.), Springer Science and Business Media, New York: 47-69. (Second edition: 2008)
- STOBIECKI M., SKIRYCH A., KERHOAS L., **KACHLICKI P.**, MUTH D., EINHORN J., MUELLER-ROEBER B. (2006). Profiling of phenolic glycosidic conjugates in leaves of *Arabidopsis thaliana* using LC/MS. *Metabolomics* 2: 197-219.
- KACHLICKI P.**, MARCZAK Ł., KERHOAS L., EINHORN J., STOBIECKI M. (2005) Profiling isoflavone conjugates in root extracts of lupine species with LC/ESI/MSⁿ systems. *J. Mass Spectrom.* 40: 1088-1103.
- STOBIECKI M., **KACHLICKI P.** (2005). Metabolomics and metabolite profiling – can we achieve the goal? *Acta Physiol. Plant.* 27: 109-116.
- WAKULIŃSKI W., ZAMORSKI CZ., SCHOLLENBERGER M., NOWICKI B., **KACHLICKI P.** (2005) Tan spot epiphytosis in winter wheat and triticale crop – comparative studies. *Acta Agrobotanica* 58: 85-89.
- SZULC P.M., DROZDOWSKA L., **KACHLICKI P.** (2003). Effect of sulphur on the yield and content of glucosinolates in spring oilseed rape seeds. *Electronic Journal of Polish Agricultural Universities, Agronomy*, 6: <http://www.ejpau.media.pl/series/volume6/issue2/agronomy/art-01.html>
- WAKULIŃSKI W., **KACHLICKI P.**, SOBICZEWSKI P., SCHOLLENBERGER M., ZAMORSKI CZ., ŁOTOCKA B., ŠAROVA J. (2003). Catenarin production by isolates of *Pyrenophora tritici-repentis* (Died.) Drechsler and its antimicrobial activity, *J. Phytopathology* 151: 74-79.

Recent papers in Polish:

- KACHLICKI P. (2009) Spektrometry mas sprzężone z wysoko sprawnymi chromatografami ciekczowymi (HPLC/MS). W: *Specjacja chemiczna – Problemy i możliwości.* Wydawnictwo Malamut, Warszawa, ISBN: 978-83-925269-5-7 str. 218-224.
- MUTH D., **KACHLICKI P.** (2009). Metody analizy flawonoidów w materiale roślinnym. [Methods of flavonoid analysis in plant material] *Biotechnologia* 2: 65-80.
- KACHLICKI P. (2004) Rola metabolitów wtórnych w interakcji grzyba *Phoma lingam* (Tode ex Fr.) Desm. i roślin rzepaku (*Brassica napus* L.). *Rozprawy i Monografie IGR PAN Nr 12* [Role of secondary metabolites in the interaction of *Phoma lingam* (Tode ex Fr.) Desm. fungus and oilseed rape plants (*Brassica napus* L.). *Treaties and Monographs IPG PAS No 12*]
- KACHLICKI P., WAKULIŃSKI W. (2002). Analiza pigmentów antrachinonowych *Pyrenophora tritici-repentis* (Died.) Drechs. [Analysis of anthraquinone pigments from *Pyrenophora tritici-repentis* (Died.) Drechs.] *Acta Agrobotanica* 55: 97-105.

MUTH D., KACHLICKI P., STOBIECKI M. (2007). Spektrometria mas – możliwości wykorzystania w badaniach metabolomu roślinnego. [Mass spectrometry – possibilities of application in plant metabolome studies] *Biotechnologia* 1(76): 156-175.

SOBCZAK P., BARAŁKIEWICZ D., **KACHLICKI P.** (2008). Zastosowanie HPLC ESI MS z pułapką jonową. [Applications of HPLC ESI MS with ion trap] *Analityka* 3: 14-17.

STARZYCKA, E., KACHLICKI, P., STARZYCKI, M. (2002). Zróżnicowanie polskich i chińskich izolatów *Sclerotinia sclerotiorum* (Lib.) de Bary pod względem zdolności do wytwarzania kwasu szczawiowego. [Differentiation in ability of oxalic acid synthesis among Polish and Chinese isolates of *Sclerotinia sclerotiorum* (Lib.) de Bary] *Rośliny Oleiste – Oilseed Crops* 23: 385-390

WAKULIŃSKI W., ZAMORSKI Cz. NOWICKI B., SCHOLLENBERGER M., KACHLICKI P. (2002). Wybrane zagadnienia z epidemiologii brunatnej plamistości liści pszenicy i pszenżyta – charakterystyka i znaczenie źródeł infekcji pierwotnej. *Acta Agrobotanica* 55: 347-357.