

日本マイコトキシン学会 50 周年記念第 91 回学術講演会プログラム
Program of the 50th Anniversary International Symposium and
the 91st Regular Meeting of Japanese Society of Mycotoxicology

日 時 : 2024 年 8 月 26 日 (月) 15:00 – 18:00、27 日 (火) 9:30 – 16:30
Date: August 26th – 27th, 2024

場 所 : ライトキューブ宇都宮 (宇都宮駅東口交流拠点施設) (<https://light-cube.jp/>) 3 階中ホール
〒321-0965 栃木県宇都宮市宮みらい 1-20
JR 宇都宮駅直結、徒歩 2 分 (東口)
Place: Light Cube Utsunomiya, Middle Hall, Utsunomiya, Japan

8 月 26 日 (月) August 26th

15:00 受付開始 Registration
15:30–15:35 開会の辞 Opening remarks
作田庄平 (世話人)
Shohei SAKUDA (Chair, Teikyo Univ.)
荒井正之 (帝京大学理工学部長)
Masayuki ARAI (Director, Dean of Faculty of Science and Engineering, Teikyo Univ.)

15:35–17:50 50th Anniversary International Symposium Part 1 (S1–S5)
(16:40–17:00 Break)

Chair (S1, S2, S3): Endang S. RAHAYU, Savitree LIMTONG, Shohei SAKUDA

S1 (15:35–15:50) Fifty years of the Japanese Society of Mycotoxicology
Shohei SAKUDA
(Teikyo Univ., Japan)

S2 (15:50–16:15) Mycotoxins in Indonesian foods : Occurrence, prevention and control
Endang S. RAHAYU
(Univ. Gadjah Mada, Indonesia)

S3 (16:15–16:40) Green control of aflatoxigenic *Aspergillus flavus* by antagonistic yeasts
Savitree LIMTONG¹, Sopin JAIBANGYANG², Rujikan NASANIT²
(¹ Kasetsart Univ., Thailand, ² Silpakorn Univ., Thailand)

16:40–17:00 Break

Chair (S4, S5): Makoto KIMURA, Antonio F. LOGRIECO

S4 (17:00–17:25) Aflatoxin degradation by *Pleurotus eryngii* and laccase enzyme : in vitro and in matrix effectiveness
Antonio F. LOGRIECO^{1,2}, Martina LOI², Giuseppina MULE²
(¹ Biomanufacturing Inst., China, ² Inst. Sci. of Food Prod., Res. Natl. Council, Italy)

S5 (17:25–17:50) Trichothecene biosynthesis studies: A brief summary and perspective
Makoto KIMURA
(Nagoya Univ., Japan)

18:10–20:30 50周年記念パーティー 50th Anniversary party
中ホール Middle Hall

8月27日 (火) August 27th

09:00 受付開始 Registration

09:30-10:30 一般講演 (O1-O5) Oral presentation (O1-O5)

座長：福山朋季、谷口 賢

Chair: Tomoki FUKUYAMA, Satoru TANIGUCHI

- O1 (09:30-09:42) 国内市販コーヒーとココア製品のオクラトキシン類の汚染調査
谷口若奈、大西 杏、白井彩恵、○川村 理
(香川大・農)
Survey of ochratoxins contamination in domestic commercial coffee and cocoa products
Wakana TANIGUCHI, Kyoka ONISHI, Sae SHIRAI, Osamu KAWAMURA
(Fac. Agric., Kagawa Univ.)
- O2 (09:42-09:54) 小麦中のデオキシニバレノールとオクラトキシンAの同時分析法の開発
第2報 多機能カラムによる精製法の検討
○吉成知也¹、下山 晃²、原 有紀³、谷口 賢⁴、徳本 脩⁵、廣川有里加⁶、
佐藤英子⁷、福光 徹⁸、朝倉敬行⁹、立石晶浩¹⁰、中村 歩¹¹、大西貴弘¹
(¹国立衛研、²(一財)日本食品検査、³三重県保環研、⁴名古屋市衛研、
⁵(一財)日本穀物検定協会、⁶(一財)食品分析開発センター SUNATEC、
⁷川崎市健安研、⁸神奈川県衛研、⁹(一財)東京顕微鏡院、
¹⁰(一財)マイコトキシン検査協会、¹¹(一財)日本食品分析センター)
Development of an analytical method for simultaneous determination of deoxynivalenol and
ochratoxin A in wheat Part II Multifunctional column purification
Tomoya YOSHINARI *et al.*
(NIHS)
- O3 (09:54-10:06) Evaluation of the susceptibility of artificially inoculated *Ziziphus jujuba* var. *spinosa* seeds to
aflatoxin contamination
Abdelrahman ELAMIN, Shohei SAKUDA
(Dept. Biosciences, Teikyo Univ.)
- O4 (10:06-10:18) 培地によるムギ類赤かび病菌分離のための麦試料の適切な保管条件
○須賀晴久¹、勝 友美¹、川上 拓²、久城真代³、日恵野綾香⁴、清水将文⁵
(¹岐大iGCORE、²三重県農業研究所、³農研機構、⁴岐大CENSS、⁵岐大応生)
Appropriate storage conditions of wheat samples for medium isolation of *Fusarium* head blight
pathogens
Haruhisa SUGA¹, Tomomi KATSU¹, Taku KAWAKAMI², Masayo KUSHIRO³, Ayaka HIENO⁴,
Masafumi SHIMIZU⁵
(¹iGCORE, Gifu Univ., ²Mie Pref. Agr. Res. Ins., ³Inst. of Food Research, NARO, ⁴CENSS,
Gifu Univ., ⁵Fac. Appl. Biol. Sci., Gifu Univ.)
- O5 (10:18-10:30) 生体試料分析によるマイコトキシン曝露評価の試み
○田島稔基¹、斎藤 勲¹、近藤高明¹、鈴木康司²、藤井亮輔²、坪井良樹²、
磯部友彦³、小西良子⁴、上山 純¹
(¹名大・医・総合保健、²藤田医科大・医療・予防医科、
³国環研・環境リスク・健康領域、⁴東農大・応生科・栄養科学)
Mycotoxin exposure assessment with human biomonitoring
Toshiki TAJIMA¹, Isao SAITO¹, Takaaki KONDO¹, Koji SUZUKI², Ryouyuke FUJII²,

Yoshiki TSUBOI², Tomohiko ISOBE³, Yoshiko KONISHI⁴, Jun UHEYAMA¹
(¹ Dept. of Integrated Health Sciences, Nagoya Univ, ² Dept. Prevent. Med. Sci., Fujita Health Univ., ³ Health and Environ. Risk Div., NIES, ⁴ Dept. of Nutri. Sci. and Food Safety, Tokyo Univ. of Agriculture)

10:30–10:45 休憩 Break

10:45–11:45 一般講演 (O6–O10) Oral presentation (O6–O10)

座長：吉成知也、安藤直子

Chair: Tomoya YOSHINARI, Naoko TAKAHASHI-ANDO

- O6 (10:45–10:57) Studies on the metabolic fate of trichothecene mycotoxin via the mercapturic acid pathway in *Fusarium graminearum*
Misaki NAGASAKA¹, Masaya SHIBATA¹, Ryota HIRAYAMA¹, Yoshiaki KOIZUMI², Kazuyuki MAEDA¹, Yuichi NAKAJIMA¹, Naoko TAKAHASHI-ANDO², Makoto KIMURA¹
(¹ Grad. Bioagric. Sci., Nagoya Univ., ² Toyo Univ.)
- O7 (10:57–11:09) Transcriptional regulation of *Tri6* and *Tri10* trichothecene biosynthesis regulatory genes by genetic and nutritional factors
Tatsuki KOBAYASHI, Kanta ADACHI, Naotsugu KITAMURA, Maydelene Xiao Xuan LIEW, Kazuyuki MAEDA, Yuichi NAKAJIMA, Makoto KIMURA
(Grad. Bioagric. Sci., Nagoya Univ.)
- O8 (11:09–11:21) *Aspergillus nidulans* ステリグマトシスチン遺伝子クラスター転写因子AflRの細胞内局在
○松島大陸¹、ニュエン・フン・タオ¹、清水公徳^{1,2}
(¹東理大生シ工、²千葉大真菌セ)
Subcellular localization of *Aspergillus nidulans* sterigmatocystin gene cluster transcription factor AflR
Riku MATSUSHIMA¹, Phuong-Thao NGUYEN¹, Kiminori SHIMIZU^{1,2}
(¹ Tokyo Univ. Sci., ² Chiba Univ.)
- O9 (11:21–11:33) *Aspergillus nidulans* ステリグマトシスチンクラスター遺伝子*stcH*、*stcT*、*stcX*の機能解析
○山田康生¹、ニュエン・フン・タオ¹、清水公徳^{1,2}
(¹東理大生シ工、²千葉大真菌セ)
Functional analysis of *Aspergillus nidulans* sterigmatocystin cluster genes *stcH*, *stcT*, and *stcX*
Kosei YAMADA¹, Phuong-Thao NGUYEN¹, Kiminori SHIMIZU^{1,2}
(¹ Tokyo Univ. Sci., ² Chiba Univ.)
- O10 (11:33–11:45) 日本土壌におけるアフラトキシン生産菌の検出とその由来の検討
○阪口真央¹、山下航平¹、尾寄春菜¹、山本由香¹、久城真代²、松木 篤³、牧 輝弥⁴、矢部希見子¹
(¹福井工大・環食応化、²農研機構・食研、³金沢大学・環日セ、⁴近畿大学・生命科)
Detection of aflatoxigenic fungi in Japanese soil samples and investigation of their origin
Mao SAKAGUCHI¹, Kohei YAMASITA¹, Haruna OZAKI¹, Yuka YAMAMOTO¹, Masayo KUSHIRO², Tsuyoshi MATUGI³, Teruya MAKI⁴, Kimiko YABE¹
(¹ Dep. Appl. Chem. Food Sci. FUT, ² Inst. of Food Res., NARO., ³ KINET, Kanazawa Univ., ⁴ Dept. of Biosci., Kindai Univ.)

11:45-13:00 昼食 Lunch

ランチョンセミナー Luncheon seminar

中ホール Middle Hall

L-1 堀場製作所 HORIBA, Ltd.

L-2 アジレント・テクノロジー Agilent Technologies

L-3 MDPI TOXINS

13:00-13:45 ポスター発表 (P1-P14) Poster presentation (P1-P14)

P1 世界の飼料におけるマイコトキシンサーベイ

○Shu GUAN, Masashi ENOKIDA

(DSM)

Occurrence of mycotoxins in Asian feed ingredients during 2023

Shu GUAN¹, Masashi ENOKIDA²

(¹ dsm-firmenich Animal Nutri. Health, Singapore, ² dsm-firmenich Animal Nutri. Health, Japan.)

P2 日本に流通する飼料中のトリコテセン系かび毒の汚染実態調査

○山上陽平^{1,2}, 野村昌代¹, 青山幸二¹

(¹FAMIC・肥飼検、²農研機構・食品研)

Survey of trichothecene mycotoxin contamination in animal feed in Japan

Yohei YAMAGAMI^{1,2}, Masayo NOMURA¹, Koji AOYAMA¹

(¹ Dept. of Fertilizer and Feed Insp., FAMIC, ² Inst. of Food Res., NARO)

P3 タイ国市販唐辛子のアフラトキシンとオクラトキシンの汚染調査

○Traipak TOPOUNG、川村 理

(香川大・農)

Occurrence of aflatoxins and ochratoxins in commercially available chili peppers in Thailand

Traipak TOPOUNG, Osamu KAWAMURA

(Fac. Agric., Kagawa Univ.)

P4 ニバレノールの低濃度経口曝露は抗原提示細胞におけるMAPKシグナルを直接活性化し、マウスのアトピー性皮膚炎を悪化させる

○松坂怜央¹、山口広貴¹、大平智春¹、栗田智衣¹、西野友美²、野田響子³、杉田和俊⁴、久城真代⁵、三宅司郎²、福山朋季¹

(¹麻布大・獣医薬理、²麻布大・食品衛生、³お茶の水大・食品貯蔵、⁴麻布大学・公衆第一、⁵農研機構・食品研)

Sub-acute oral exposure to lowest observed adverse effect level of nivalenol exacerbates atopic dermatitis in mice via direct activation of mitogen-activated protein kinase signal in antigen-presenting cells

Reo MATSUZAKA¹, Hiroki YAMAGUCHI¹, Chiharu OHIRA¹, Tomoe KURITA¹, Tomomi NISHINO²,

Kyoko NODA³, Kazutoshi SUGITA⁴, Masayo KUSHIRO⁵, Shiro MIYAKE², Tomoki FUKUYAMA¹

(¹ Pharmacology lab, Vet Med, Azabu Univ., ² Food and Hygiene lab, Azabu Univ., ³ Chemistry of preservation and processing lab, Ochanomizu Univ., ⁴ Public Health lab, Azabu Univ., ⁵ Inst. of Food Res., NARO)

P5 日本におけるアフラトキシン産生菌の分布及び環境応答に関する系統的レビュー

○塚田祐子¹、久城真代¹、若月ひとみ²、長谷川利拡²、西森基貴²

(¹農研機構・食品研、²農研機構・農環研)

Systematic reviews of the distribution of aflatoxin-producing fungi in Japan and their responses to environmental factors

Yuko TSUKADA¹, Masayo KUSHIRO¹, Hitomi WAKATSUKI², Toshihiro HASEGAWA²,

Motoki NISHIMORI²

(¹ Inst. of Food Research, NARO, ² Inst. for Agro-environmental Sciences, NARO)

- P6 Nivalenol系トリコテセンに対するtrichothecene glycosyl transferase (TGT1)の基質特異性の検証
 ○栗田一輝¹、小泉慶明¹、磯間 蓮²、長橋秀次²、柴田真也³、中嶋佑一³、前田一行³、木村 真³、
 安藤直子^{1,2}
 (¹東洋大院・理工、²東洋大・理工、³名大院・生命農)
 Substrate specificity of trichothecene glycosyltransferase (TGT1) for nivalenol-type trichothecenes
Kazuki KURITA¹, Yoshiaki KOIZUMI¹, Ren ISOMA², Syuji NAGAHASHI², Masaya SHIBATA³,
 Yuichi NAKAJIMA³, Kazuyuki MAEDA³, Makoto KIMURA³, Naoko TAKAHASHI-ANDO^{1,2}
 (¹ Grad. Sch. Sci. Eng., Toyo Univ, ² Fac. Sci. Eng., Toyo Univ, ³ Grad. Sch. Bioagric. Sci., Nagoya Univ)
- P7 パイナップルの冠芽を用いた*Fusarium venenatum*の培養
 ○今朝丸歩生¹、齊藤颯汰¹、若尾蒼大¹、山口希代夏¹、佐々木克葉²、松嶋瑞季²、安藤直子^{1,2}
 (¹東洋大院・理工、²東洋大・理工)
 Cultivating *Fusarium venenatum* using leaf bud of pineapple
Ayuki KESAMARU¹, Sota SAITO¹, Sodai WAKAO¹, Kiyoka YAMAGUCHI¹, Katsuha SASAKI²,
 Mizuki MATSUSIMA², Naoko TAKAHASHI-ANDO^{1,2}
 (¹ Grad. Sch. Sci. Eng., Toyo Univ, ² Fac. Sci. Eng., Toyo Univ,)
- P8 食用糸状菌*Fusarium venenatum*の植物性非消化多糖類を用いた培養の試み
 ○齊藤颯汰¹、若尾蒼大¹、今朝丸歩生¹、佐々木克葉²、松嶋瑞希²、木村 真³、安藤直子^{1,2} (
 (¹東洋大院・理工、²東洋大・理工、³名大院・生命農)
 Cultivation of edible filamentous fungus *Fusarium venenatum* using plant-based non-digestible polysaccharides
Sota SAITO¹, Sodai WAKAO¹, Ayuki KESAMARU¹, Katsuha SASAKI², Mizuki MATSUSHIMA²,
 Makoto KIMURA³, Naoko TAKAHASHI-ANDO^{1,2}
 (¹ Grad. Sch. Sci. Eng., Toyo Univ, ² Fac. Sci. Eng., Toyo Univ, ³ Grad. Sch. Bioagric. Sci., Nagoya Univ)
- P9 各種*Fusarium*属菌が有するトリコテセン配糖体形成能の検証
 ○篠崎康一郎¹、小泉慶明¹、佐野広空¹、磯間 蓮²、木村 真³、安藤直子^{1,2}
 (¹東洋大院・理工、²東洋大・理工、³名大院・生命農)
 Evaluation of trichothecene glycosylation by various *Fusarium* sp.
Koichiro SHINOZAKI¹, Yoshiaki KOIZUMI¹, Hiroaki SANNO¹, Ren ISOMA², Makoto KIMURA³,
 Naoko TAKAHASHI-ANDO^{1,2}
 (¹ Grad. Sch. Sci. Eng., ² Fac. Sci. Eng., Toyo University, ³ Grad. Sch. Bioagric. Sci., Nagoya University)
- P10 稲からの微生物の単離とアフラトキシン生産菌への影響
 ○山下航平¹、阪口真央¹、桑島史欣²、久城真代³、矢部希見子¹
 (¹福井工大・環食応化、²福井工大・電電情工、³農研機構・食研)
 Isolation of microorganisms from rice in the field and their influences on aflatoxin-producing fungi
Kohei YAMASHITA¹, Mao SAKAGUCHI¹, Fumiyoshi KUWASHIMA², Masayo KUSHIRO³, Kimiko YABE¹
 (¹ Dept. Appl. Chem. Food Sci., FUT, ² Dept. Elect. Eng., FUT, ³ Inst. of Food Res., NARO)
- P11 米ヌカからのアフラトキシン生産菌のスクリーニングと性状検討
 ○矢部希見子¹、山口真実¹、久城真代²
 (¹福井工大・環食応化、²農研機構・食研)
 Screening and characterization of aflatoxin-producing bacteria from rice bran
Kimiko YABE¹, Mami YAMAGUCHI¹, Masayo KUSHIRO²
 (¹ Dep. Appl. Chem. Food Sci. FUT, ² Inst. of Food Res., NARO)
- P12 Biphenylカラム特性を用いた*Alternaria*毒素および麦角アルカロイドを含むマイコトキシン網羅的スクリーニング法の開発
 ○海老原卓也¹、Shun-Hsin LIANG²、Jamie YORK²、Joe KONSCHNIK²、Justin STEIMLING²

(¹ Restek, ² Restek Corp.)

Development of a comprehensive screening method of *Alternaria* toxins, ergot alkaloid epimers, and other major mycotoxins by biphenyl column.

Takuya EBIHARA¹, Shun-Hsin LIANG², Jamie YORK², Joe KONSCHNIK²,

(¹ Restek, ² Restek Corp.)

P13 *Fusarium*型トリコテセン生合成における15-deacetylcalonecitrinのアセチル化の役割と第二環化反応における重要性

○小泉慶明¹、中嶋佑一²、田中佑弥²、松井宏介²、坂部将仁³、前田一行²、佐藤真之⁴、越野広雪⁵、佐藤総一^{1,3}、木村 真^{2,4}、安藤直子^{1,3}

(¹東洋大院・理工、²名大院・生命農、³東洋大・理工、⁴理研・DRI、⁵理研・CSRS)

A role in 15-deacetylcalonecitrin acetylation in *Fusarium* trichothecene biosynthesis and its importance for the second cyclization

Yoshiaki KOIZUMI¹, Yuichi NAKAJIMA², Yuya TANAKA², Kosuke MATSUI², Masato SAKABE³,

Kazuyuki MAEDA², Masayuki SATO⁴, Hiroyuki KOSHINO⁵, Soichi SATO^{1,3}, Makoto KIMURA^{2,4},

Naoko TAKAHASHI-ANDO^{1,3},

(¹ Grad. Sch. Sci. Eng., Toyo Univ., ² Grad. Sch. Bioagric. Sci., Nagoya Univ., ³ Fac. Sch. Sci. Eng., Toyo Univ.,

⁴ DRI., RIKEN, ⁵ CSRS., RIKEN)

P14 Accurate and non-destructive monitoring of mold contamination in foodstuffs based on whole-cell biosensor array coupling with machine-learning prediction models

Junning MA, Fuguo XING

(Inst. Food Sci. Technol., CAAS, China)

13:45–14:00 休憩 Break

14:00–16:05 50th Anniversary International Symposium Part 2 (S6–S10)

Chair: Jens Laurids SØRENSEN, Kraiwut NUALKAW, Tomohiro FURUKAWA, Dimitrios I. TSITSIGIANNIS, Kiminori SHIMIZU

S6 (14:00–14:25) Towards elucidating and understanding the polyketideome in *Fusarium*

Jens Laurids SØRENSEN

(Aalborg Univ., Denmark)

S7 (14:25–14:50) The situation of aflatoxins contamination in feedstuffs in Thailand

Kraiwut NUALKAW

(Ministry of Agriculture and Cooperatives, Thailand)

S8 (14:50–15:15) Exploring the regulatory mechanisms of aflatoxin production : Chemical biology studies on the mode of action of inhibitors and stimulators

Tomohiro FURUKAWA¹, Masayo KUSHIRO¹, Hiroyuki NAKAGAWA¹, Shohei SAKUDA²

(¹ NARO, Japan, ² Teikyo Univ., Japan)

S9 (15:15–15:40) Smart digital technologies to prognose, diagnose and control mycotoxigenic fungi and mycotoxins

Dimitrios I. TSITSIGIANNIS

(Agric. Univ. of Athens Univ., Greece)

S10 (15:40–16:05) Molecular mechanisms regulating sterigmatocystin biosynthesis in *Aspergillus nidulans*

Kiminori SHIMIZU^{1,2}, Ryo NONAKA¹, Aoi HIGASHIMURA¹

(¹ Tokyo Univ. of Sci., Japan, ² Chiba Univ., Japan)

- 16:05－16:10 次回第92回学術講演会世話人挨拶 Information of the next meeting
安藤直子（東洋大学） Naoko TAKAHASHI-ANDO (Toyo Univ.)
- 16:10－16:15 ベストプレゼンテーション賞表彰 Award ceremony
- 16:15－16:20 閉会挨拶 Closing remark
作田庄平（世話人） Shohei SAKUDA (Chair, Teikyo Univ.)