Fiber Innovation Incubator (FII)

2024 Special Lecture Series

Patricia Dolez, PhD, PEng.
Associate Professor, Faculty of Agricultural, Life and Environmental Science, Department of Human Ecology
University of Alberta, Canada

Developing the next generation of PPE

Shinshu Univ. Ueda Campus

Time: 5:30 PM
Date: November 19th, 2024
Venue: Lecture room #10

Please register using the following link or QR-code..
https://forms.gle/a9KgcKiq8c8AaD4S7

Shinshu Univ.

Kyoto University of Education

Time: 5:00 PM
Date: December 2nd, 2024
Venue: Lecture room F11 in Lecture room building F.

Please register using the following link or QR-code. https://forms.gle/j5tonHy9dhhBqYPTA

Kyoto Univ. Education

Contact: Kaoru Wakatsuki, PhD (kaoruw@Shinshu-u.ac.jp)

Dr. Patricia Dolez is an Associate Professor in the Department of Human Ecology at the University of Alberta. She holds an engineering degree in Materials Science and a Ph.D. in Physics. She is particularly interested in the application of nanotechnologies, smart textiles, natural fibres, and recycled materials in personal protective equipment (PPE) as well as in the aging behavior of protective materials. She chairs the Canadian mirror committee on ISO/TC 94 SC13 on protective clothing and is a member of the Board of Directors of the Institute of Textile Science. She has a track record of successful industry collaborations and more than 250 publications. Her research program aimed to develop new knowledge, test methods relevant to service conditions, and improved materials in the field of protective clothing, PPE, and other textile-based products.

This seminar will give an overview of her research program aimed to develop new knowledge, test methods relevant to service conditions, and improved materials in the field of protective clothing, PPE, and other textile-based products. She will share examples of her most recent findings in the four themes of her research program: a) Enhance protection, with the elucidation of the root cause of the premature degradation of para-aramid/polybenzimidazole fire-protective firefighter outer shell fabrics when exposed to water; b) provide comfort, with new/improved test protocols for the assessment of fabric thermophysiological comfort; c) Sense/react/adapt to changing conditions, with the development of graphene-based end-of-life sensors for fire-protective fabrics; and d) Improve sustainability, with the lyocell regenerated cellulose fibres from hemp.

Prof. Dolez's profile

➢ Education

- 1998, Ph.D. in Solid-State Physics, Université de Sherbrooke, Sherbrooke, Canada
- 1993, DEA in Materials Science (eq. MSc), Université Joseph Fourier, Grenoble, France
- 1993, Engineer Degree, Electrochemistry/Electrometallurgy, conc. in Surface Science Institut National Polytechnique de Grenoble, Grenoble, France
- 1991, Master's Degree in Physics, Université de Lille 1 (Science & Technology), France

➢ Employment

- 2022- Current, Associate Professor, Textile Science, Department of Human Ecology, University of Alberta, Edmonton, AB, Canada
- 2017-2022, Assistant Professor, Textile Science Department of Human Ecology, University of Alberta, Edmonton, AB, Canada
- 2012-2017, Researcher, CTT Group, St-Hyacinthe, QC, Canada
- 2005-2012, Research Associate / Researcher, Department of Mechanical Engineering, École de technologie supérieure, Montréal, QC, Canada

➢ Expertise

- Protective clothing; Smart textiles; Nanotechnologies; Materials aging; Mechanical performance; Chemical hazards

This lecture is supported by Japan Society for the Promotion of Science (Fellowship ID S24150)

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信州大学繊維学部

Time: 5:30 PM
Date: November 19th, 2024
Venue: 講義棟 10講義室
長野県上田市常田3丁目15-1

Shinshu Univ.

聴講は，以下のフォーム・QRコードから登録ください.
https://forms.gle/a9KgcKiq8c8AaD4S7

京都教育大学

Time: 5:00 PM
Date: December 2nd, 2024
Venue:共通講義棟（F棟）
講義室F11
京都市伏見区深草藤森町1番地
https://www.kyokyo-u.ac.jp/campusmap/campus01.html

Kyoto Univ. Education

聴講は，以下のフォーム・QRコードから登録ください.
https://forms.gle/j5tonHy9dhhBqYPTA

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Contact: Kaoru Wakatsuki, PhD (kaoruw@Shinshu-u.ac.jp)

パトリシア・ドーレス先生はアルバータ大学人間生態学部の准教授であり，材料科学の工学修士と物理学の博士号をお持ちです．特に，ナノテクノロジー，スマートテキスタイル，天然繊維，リサイクル素材の個人用保護具（PPE）への応用，および防護服素材の劣化挙動に関心を持っている。防護服に関する国際標準化ISO/TC 94 SC13のカナダ国内委員会の委員長を務め，カナダ繊維学会理事も務めておられます．先生は，産業界との共同研究を成功させた実績を多くお持ちで，今までに250以上の出版物があるます．ドーレス先生は，防護服，その他の繊維製品の分野において，新しい知識，使用条件に関連した試験方法と防護服材料の改良を目的とした研究に携わっておられます．

本セミナーでは，ドーレス先生から防護服，その他の繊維関連製品の分野から，新しい知見，使用条件に関連した新たな試験方法，改良された材料を開発することを目的とした研究プログラムの概要を紹介いただきます．具体的には，先生が進めている4つの研究テーマa) パラ系アラミド／ポリベンゾイミダゾール混紡の防火服生地が水にさらされた際，早期に劣化する根本原因の解明と保護性能の向上に対策手法， b)新しい/改良された試験プロトコルを用いた生地試験による温熱快適性評価手法の提供，c) グラフェンをベースとした防火用繊維の経年劣化評価用センサーの開発，d) 麻から再生されたリヨセル再生セルロース繊維で，持続可能性を向上させる機能などをお話いただきます．

セミナーの言語は英語で実施しますが，クローズドキャプションなどを用いて文字化により理解を深めていただけるようにいたします．

Prof. Dolez's profile

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