

Plant Pathology Seminar Series

“Insights into Patulin Contamination and threat to Washington State Processing Apple Industry”



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Abstract:

Patulin contamination in apples, usually associated with the blue mold rot causing *Penicillium expansum*, is challenging for apple processors globally because of its potential toxicity in foods. In Washington state, about 18 to 25% of apples, equivalent of \$70M of the farm gate value, are processed each year. In 2018 and 2019, fruit processors in the state reported unusual high levels of patulin in apples with no apparent decay symptoms. This study was, therefore, conducted to understand the diversity of patulin-causing fungi recovered from apples in the processing industry to understand sources and nature of the reported patulin contamination. In my talk, I hope to provide a general background to help understand patulin and genetics as well as progress made thus far in our studies here in Amiri Lab at WSU Tree Fruit Research and Extension Center.

4:10 pm | Date January 30th, 2023 | Plant Pathology 515, Spring 2023

Zoom Link: <https://wsu.zoom.us/j/95501196325?pwd=aGdCeTZGM0pQaXZoY05qT3M0SFVHQT09>

Meeting ID: 955 0119 6325 **Passcode:** 5498

Call in number: 1 253 215 8782



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References:

Li B, Zong Y, Du Z, Chen Y, Zhang Z, Qin G, Zhao W, Tian S. Genomic characterization reveals insights into patulin biosynthesis and pathogenicity in *Penicillium* species. *Mol Plant-Microbe Interact*. 2015;28(6):635–47.

Nielsen, J., Grijseels, S., Prigent, S. *et al*. Global analysis of biosynthetic gene clusters reveals vast potential of secondary metabolite production in *Penicillium* species. *Nat Microbiol* **2**, 17044 (2017). <https://doi.org/10.1038/nmicrobiol.2017.44>

Snini, S.P., Tannous, J., Heuillard, P., Bailly, S., Lippi, Y., Zehraoui, E., Barreau, C., Oswald, I.P. and Puel, O. (2016), Patulin is a cultivar-dependent aggressiveness factor favouring the colonization of apples by *Penicillium expansum*. *Molecular Plant Pathology*, 17: 920-930. <https://doi.org/10.1111/mpp.12338>