

**SEMINAR SERIES**  
**Department of Quantitative Analysis and Operations Management**  
**University of Cincinnati**

**The Organ-Acceptance Prerogative in Liver Transplantation**

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and  
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**Case Western Reserve University**

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**12:30 PM**

**214 Lindner Hall**

We address the question faced by a patient and his/her physician when a liver is offered for transplantation, namely whether or not to accept the organ. This decision depends on the current health of the patient and the characteristics of the available organ(s), as well as the rank of the patient on the waiting list. We model this problem as a Markov decision process with the objective of maximizing quality-adjusted life expectancy. We consider the case in which the patient is entertaining an offer from a living donor only, the case in which the patient is entertaining cadaveric offers only, and the case in which the patient is entertaining both a living donor offer and cadaveric offers. We establish intuitive, sufficient conditions for the existence of structured policies and numerically confirm these results using clinical data.

Lisa Maillart is an Assistant Professor in the Department of Operations at Case Western Reserve University, and a Senior Scholar in the Case-MetroHealth System's Center for Health Care Research & Policy. Prior to joining the faculty at Case, she received her M.S. and B.S. in industrial and systems engineering from Virginia Tech, and her Ph.D. in industrial and operations engineering from the University of Michigan. Her primary research interest is in sequential decision making under uncertainty, with applications in medical decision making and maintenance optimization. She is a member of INFORMS, SMDM and DSI. Her recent awards include the Weatherhead School of Management's "Most Outstanding Junior Faculty Paper" and Case's "Spotlight Series Prize for Women's Scholarship."

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