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Theme: Modelling  
Session: FrC2 - Modelling discarding

Title: **Can efficient bycatch reduction be achieved through information provision? The case of the commercial flatfish fishery in the Bering Sea.**

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Abstract: Fisheries managers around the world have identified bycatch as a key management challenge in fisheries today. However, like the classic common property open-access problem in fisheries, a limit on fleet-wide bycatch may have similar consequences for fishing practices since bycatch is a common property open-access resource. If avoiding bycatch is costly, then it is not in any one fisherman's interest to avoid bycatch when others in the fleet are certain not to do so. Collectively, individual efforts to exploit lucrative bycatch areas lead to shortened season lengths and a loss in fleet-wide profitability. This occurs even before quotas on the target species become binding. Some have argued that information can partly overcome this race to exploit high bycatch areas since avoiding bycatch requires a coordinated fleet effort that in many cases is not possible because of limited information on spatial bycatch rates.

The Alaskan flatfish fishery provides an interesting natural experiment in which to examine how information provision on bycatch has impacted every day choices by commercial fishermen. Since bycatch is known to occur in predictable spatial patterns and since gear in the flatfish fishery is not selective, the spatial choice reveals a great deal about fishermen's intentions concerning bycatch avoidance. Because season lengths were being restricted due to bycatch quotas, SEASTATE was initiated in 1995 to coordinate the sharing of bycatch information in order to facilitate the avoidance of bycatch species. Using haul-level data from on-board observers on catch and bycatch rates, we test a number of hypotheses on the role of information in addressing the incentive problems associated with bycatch using spatial site-choice models. These hypotheses include whether fishermen avoid high bycatch areas more following the SEASTATE program, and whether the program eliminates the open access problem completely.