

## Seminar Invitation

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*“Habitat selection at settlement and post-settlement dynamics in coral reef fish assemblages of New Caledonia lagoon”*

**Presented by:** Camille Mellin, PhD Student, Institut de Recherche pour le Developpement (IRD), New Caledonia.

Camille Mellin is a PhD student at the Institut de Recherche pour le Developpement (IRD), of Noumea, New Caledonia. Camille works on the ecology of coral reef fish juveniles and investigating the scales and factors that influence distribution patterns and growth during ontogeny.

**Where:** ARC Centre of Excellence for Coral Reef Studies Conference Room, JCU. Video linked to Centre for Marine Studies Conference Room, UQ.

**When:** Thursday 17<sup>th</sup> May, 4.00pm

### **Abstract**

The replenishment of adult fish populations strongly depends on growth and survival during early life stages. After the settlement, habitat characteristics can have a lasting impact on the growth and survival of juvenile fish. The relationships between juvenile fish and their habitat were investigated in the SW lagoon of New Caledonia both at species and assemblage levels, from settlement to post-settlement stages, and at different spatial and temporal scales. (1) At the species level, the settlement patterns of three coral reef fish were influenced by larval growth and induced species-specific consequences on juvenile growth in different habitats. (2) At the assemblage level, biotope characteristics explained 45% of variations among juvenile fish assemblages at settlement, and 55% among post-settlement assemblages. (3) Within post-settlement assemblages, both seasonal and ontogenetic differences were highlighted in juvenile habitat use, respectively for 53% and 39% of the studied species. (4) Generalized Linear Models (GLMs) allowed to predict juvenile fish species richness and abundance within post-settlement assemblages in function of multi-scale environmental characteristics. The statistical model was further spatially generalized using a high-resolution, remotely-sensed, habitat map.

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