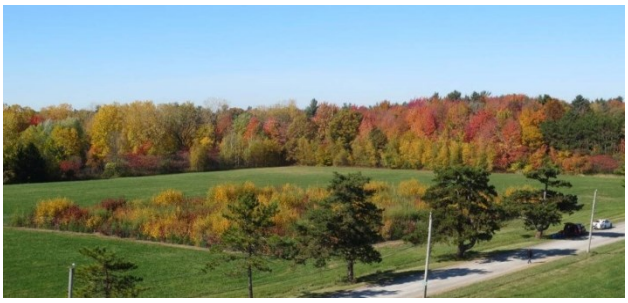
RÉSEAU
REBOISEMENT
LIGNICULTURE
QUÉBEC

WEBINAIRE 2RLQ- Mardi 19 Janvier 2021 (10h-11h)

Jon Urgoiti Otazua. Étudiant au Doctorat, UQAM

Titre: New evidence shows strong diversity effects on productivity during the early stages of stand development being increasingly driven by complementarity

Résumé:



While there is growing evidence that, on average, diverse forests are more productive than species-poor ones, the strength of these diversity effects often varies substantially among studies. Previous work has shown how differences in environmental factors among forest types account for much of the spatial variation in the strength and direction of the diversity effects. However, considerably less is known about how and why diversity effects on productivity change through time during stand development. By analyzing the effects of trait-based aspects of tree communities on 11 years of inventory records from a tree diversity experiment, we show that diversity effects on productivity strengthen progressively through time – only becoming significantly positive after 9 years after experiment establishment. Moreover, we demonstrate that the strengthening of diversity effects throughout the early stages of stand development is driven by gradual increases of complementarity. We highlight that mixing species with contrasting resource-acquisition strategies, and the dominance of deciduous, fast-developing, shade-intolerant species promote positive diversity effects on productivity in the long term. Our results mirror those from grassland ecosystems and suggest that canopy closure and the self-thinning phase are key phases for promoting niche complementarity in diverse tree communities.

Hugo Ouellet. Étudiant à la maitrise, UQAM

Titre: Effet d'aménagements diversifiés dans les systèmes autoroutiers dans le cadre d'un plan d'action contre les îlots de chaleur

Résumé:

Le projet consiste à étudier la dynamique des variations de température près de différents aménagements verts le long des systèmes autoroutiers et principalement dans les bretelles d'autoroute. Le but est de mieux comprendre le potentiel de rafraichissement de la végétation en modélisant la variation des températures autour des massifs de végétation et ce selon la taille, l'âge, la disposition, la structure et la composition en espèces de ces massifs. Ultimement, ce projet a pour but d'aider les villes à faire des plans d'aménagement plus efficaces qui pourront répondre davantage au réel besoin de lutte contre les îlots de chaleur urbains.

Johanna Andrea Martinez Villa. Étudiante au Doctorat, UQAM

Titre: Functional diversity along an elevational and temporal gradient in the north of the Colombian Andes

Résumé:

The Andean forest is one of the most important and underrepresented hotspots, the reason why we know still so few about how tree populations change with space and time. The shift of tree´s morphologic expressions provides information about the optimal phenotype according to the environment along elevational gradients. Additionally to the spatial change, we wonder how the phenotype can be changing in time due to climate change. This study used nine 1-ha permanent plots with functional characterization to quantify how the leaf economic spectrum changes along the Andean forest's elevational gradient. To quantify changes in time, we used forest inventories with a time window of eight years, and functional changes were analyzed in terms of species composition changes. Our results show that when elevation increases, species have stronger conservative strategies. However, temporarily forests are moving to more acquisitive strategies. This result is one of the first steps to quantify the possible tree responses in a highly diverse forest.