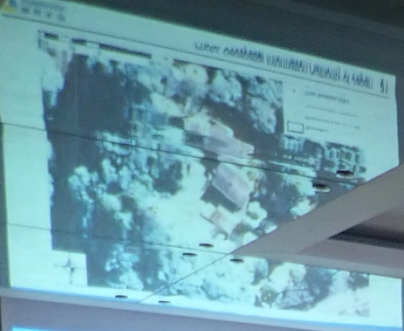


Summary of Research Group Session 3: Management (RG3)



Toshiaki OWARI (UTF)

Reconstructing long-term growth of *Cryptomeria japonica* plantations from archival aerial photography: A primary trial

- Summary
- Introduction of new joint research found by JSPS
- Historical record (document), past aerial photos and measurement records on experimental plot are to be collected from UTokyo, NTU and SNU
- As a trial, current aerial photos and UAV image were compared
- Aerial photos may be available for grabbing rough image on canopy attribute, detecting tree location.
- Tree height is underestimated from aerial photo data

Takuya HIROSHIMA (UTF)

Survival analysis of tree population in natural forest

- Summary
- Survival status is determined in a natural forest in UTCBF.
- Semi-destructive method is applied to measure age (annual ring) after 'in-growth age'
- Data set gained between 1999 and 2009 were used.
- Mortality rate of younger trees are much higher, because of suppression from upper dominant trees
- Mean age can be calculated as 23 years old
- Survival analysis of natural forest is applicable, if tree age can be determined

Hieh-Yin CHEN (NTU)

Rehabilitation of *Cryptomeria japonica* plantation as mixed hardwood-softwood forests

- Summary
- Introduction of research project started in Xitou forest
- Sugi plantation have been suffered from squirrel damage
- Because of change of reforestation policy, native trees species are expected to replace planted tree species
- So far, stem analysis comparing healthy trees and damaged trees are carried out

Tzeng Yih LAM (NTU)

A Stereodendrometer: binocular vision with spherical panoramas for extracting tree attributes

- Summary
- Published recently (Forestry 2018, 91(5):662-673)
- Panorama photos synthesized from from on point ($5 \times 12 = 60$).
- Using vector data, height & diameter can be calculated mathematically
- Accuracy; height; <10m distance, diameter; <5m distance, <20cm diameter

Haruo SAITO (UTF)

Challenges of opening university forests to public and its solutions: A case of Duke University and Warren Wilson College in USA

- Summary
- Opening university forests is meaningful for citizens to have opportunities to be familiar with nature
- However, university forests should overcome some difficulties; overuse, inappropriate use and liability problems
- Two cases in NC, USA were reported
- The cases show that designating opened area and setting rules for visitors are used to control overuse and inappropriate use
- Different measures are applied in each case, and those effectiveness should be investigated further

Research group discussion

Summary of RG3 by Dr. Owari

Opportunity to study applying method of spherical panoramas or Registgraph are expected

Summer programs to train students' research skill are conducted in UMS