

# Schedule and Plan for Second NIMBioS Working Group Meeting, June 15-19, 2015

## *A Mechanistic Dynamic Energy Budget Model of Tree Performance to Predict Functional Trait Drivers, Species Distributions, and Responses to Global Change*

### Broad Aims of WG (from first meeting agenda)

- A. Develop a mechanistic DEB model that simulates growth (net photosynthetic C-gain) and survival of individual tropical trees in response to light, soil moisture, soil nutrients, temperature, and relative humidity.
- B. Use model to identify optimal trait values that maximize growth and survival of whole tree.
- C. Test model by comparing predicted trends in functional traits, growth, and survival along resource availability gradients with data for Bornean and Bolivian tree species.
- D. Predict: (i) species distributions based on differences in performance of trees in response to variation in resources, such as along natural environmental gradients and (ii) responses of trees to environmental shifts caused by global change.
- E. Examine: (i) trade-offs in function along resource gradients and (ii) whether alternative trait combinations can yield similar demographic outcomes.
- F. Products: Manuscript writing and proposal submission.

### Schedule for second meeting

#### Monday June 15

#### Progress Reports

---

<i>Goals</i>	Review progress to date on modeling tasks. This modeling overview will be a platform for thinking about and agreeing upon (1) the subgroup tasks to be accomplished during this meeting, (2) potential manuscripts emanating from the working group submodels, and (3) potential grant proposals; the latter two will be discussed synthetically more towards the end of the day. Presenters should plan for an approximately 30-minute long presentation. If more or less time is needed for presentation and discussion, then we will adjust the schedule accordingly, with the three goals above in mind.
8:00	Breakfast
9:00-12:00	Quick review of agenda <i>Sabrina Russo</i> –Overview of progress on tasks from first meeting in relation to goals Coffee break (15 minutes) <i>Glenn Ledder</i> –Minimal model overview and manuscript preparation <i>Erik Muller</i> –DEB super-structure
12:00-1:00	Lunch – informal discussions
1:00-3:00	<i>Caroline Farrior</i> –Crown allometry/leaf display submodel Coffee break (15 minutes) <i>Valentin Couvreur</i> –Root uptake submodel
3:00-5:00	<i>Group Discussion</i> – Prioritization of subgroup tasks and manuscript opportunities, with task leaders, participants, and short-term goals identified
5:00	Reception with NIMBioS staff and researchers

## **Tuesday June 16 Subgroup Tasks**

---

- 8:00 Breakfast – informal discussions
- 9:00-9:15 Group Photo
- 9:15-10:00 *Group Discussion* – Prioritization of subgroup tasks and manuscript opportunities, with task leaders, participants, and short-term goals identified (if there is any remaining discussion to be had) OR immediately start on *subgroup work*
- Coffee break (15 minutes)
- 10:15-12:00 *Subgroup work*
- 12:00-1:15 Lunch – informal discussions
- 1:15-5:00 *Subgroup work*

## **Wednesday June 17 Subgroup work**

---

- 8:00 Breakfast – informal discussions
- 9:00-12:00 *Subgroup Work*
- 12:00-1:15 Lunch – informal discussions
- 1:15 – 5:00 Mid-afternoon subgroup reports to entertain reconsider directions of the subgroups, followed by pre-dinner plenary large-group discussion, as needed, or subgroups may continue working

## **Thursday June 18 Subgroup work**

---

- 8:00 Breakfast – informal discussions
- 9:00-12:00 *Subgroup Work*
- 12:00-1:15 Lunch – informal discussions
- 1:15 – 5:00 Mid-afternoon subgroup reports, followed by pre-dinner plenary large-group discussion and planning for final day.

## **Friday June 19**

---

- Outcome:* Identification of work to be done following WG
- 8:00 Breakfast
- 9:00-12:00 *Summary and critical review* of current model components (Leaders will have been identified previous day)
- 12:00-1:00 Lunch
- 1:00-5:00 Plan for future work/assigned tasks to WG members