

PROPOSED PROGRAM

Gordon Research Conference on: Metabolic Basis of Ecology and Evolution

Chair: Pablo A. Marquet (Pontificia Universidad Católica de Chile)

Co-Chair: Val H. Smith (University of Kansas)

Vice-Chair: Robert W. Sterner (University of Minnesota)

SUNDAY

2:00 pm - 9:00 pm Arrival and check-in

6:00 pm Dinner

7:30 pm - 9:30 pm THE METABOLIC BASIS OF ECOLOGY AND EVOLUTION

7:30 pm - 7:50 pm Discussion Leaders: **Pablo A. Marquet** (Pontificia Universidad Católica de Chile) and **Val Smith** (University of Kansas)

7:50 pm - 8:15 pm **James H. Brown** (University of New Mexico)
"Towards a metabolic theory of ecology and evolution"

8:15 pm - 8:35 pm Discussion

8:35 pm - 9:00 pm **Eörs Szathmáry** (Eötvös Loránd University)
"Energy, information, and life"

9:00 pm - 9:30 pm Discussion

MONDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm THE BIG PICTURE: FLOWS OF ENERGY AND MATERIALS ACROSS TIME, SPACE AND LEVELS OF ORGANIZATION

9:00 am - 9:15 am Discussion Leader: **Sarah Hobbie** (University of Minnesota)

9:15 am - 9:40 am **Jim Elser** (Arizona State University)
"Ecological stoichiometry from genes to ecosystems"

9:40 am - 9:55 am Discussion

9:55 am - 10:20 am **Carlos Duarte** (Instituto Mediterráneo de Estudios Avanzados)
"Flows of energy and materials across time, space and levels of organization in marine ecosystems"

10:20 am - 10:35 am Discussion

10:35 am - 11:05 am Coffee Break / Photo

11:05 am - 11:30 am **Peter Vitousek** (Stanford University)
"Flows of energy and materials across time, space and levels of organization in terrestrial ecosystems"

11:30 am - 11:45 am Discussion

11:45 am - 12:10 pm **Simon Levin** (Princeton University)
Metabolism and Stoichiometry: The challenge of integrating across scales and levels of organization.

12:10 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm **Poster Session 1**

6:00 pm Dinner

7:30 pm - 9:30 pm **METABOLISM, ENERGY BUDGETS, AND ELEMENTAL DYNAMICS**

Discussion Leader: **Susan Kilham** (Drexel University)

7:30 pm - 7:55 pm **RJP Williams** (University of Oxford)
"Metabolism, information, and chemistry"

7:55 am - 8:10 pm Discussion

8:10 pm - 8:35 pm **Carlos Martínez del Río** (University of Wyoming)
"Unifying the many faces of metabolism in ecology"

8:35 am - 8:50 pm Discussion

8:50 pm - 9:15 pm **S.A.L.M. Kooijman** (Vrije University, Amsterdam)
"Dynamic energy budget theory and the metabolic theory of ecology"

9:15 am - 9:30 pm Discussion

TUESDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **ENERGY AND MATERIALS IN CELLULAR SYSTEMS**

9:00 am - 9:15 am Discussion Leader: **George Somero** (Stanford University)

9:15 am - 9:40 am **Thomas B.L. Kirkwood** (University of Newcastle)
"Cell aging: Metabolic controls, evolution, and scaling"

9:40 am - 9:55 am Discussion

9:55 am - 10:20 pm **Roberto Chignola** (Verona University, Italy)
"Metabolism and cell population dynamics"

10:20 am - 10:35 am Discussion

10:35 am - 11:05 am Coffee Break

11:05 am - 11:30 am **Sallie W. Chisholm** (Massachusetts Institute of Technology)
"Cells in the ocean: patterns and dynamics"

11:30 am - 11:45 am Discussion

11:45 am - 12:10 pm **John Raven** (University of Dundee)
"The scaling and stoichiometry of Photosynthesis"

12:10 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm **Poster Session 1**

6:00 pm Dinner

7:30 pm - 9:30 pm **ENERGY AND MATERIALS IN ORGANISMS**

Discussion Leader: **Ken Dial** (University of Montana)

7:30 pm - 7:55 pm **Robert Ricklefs** (University of Missouri St. Louis)
"Energy, size, and ontogeny"

7:55 pm - 8:10 pm	Discussion
8:10 pm - 8:35 pm	Mimi Koehl (University of California Berkeley) "Energetic and material constraints on biomechanics"
8:35 pm - 8:50 pm	Discussion
8:50 pm - 9:15 pm	Adam D. Kay. (University of St. Thomas) Individual stoichiometry: Ecological and evolutionary implications.
9:15 pm - 9:30 pm	Discussion

WEDNESDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	ENERGY AND MATERIALS IN FOOD WEBS
9:00 am - 9:15 am	Discussion Leader: David Breshears (Los Alamos National Laboratory)
9:15 am - 9:40 am	Joel Cohen (Rockefeller University) "Size, metabolism, and food webs"
9:40 am - 9:55 am	Discussion
9:55 am - 10:20 am	Michel Loreau (Ecole Normale Supérieure, UMR) "Material cycling in food webs"
10:20 am - 10:35 am	Discussion
10:35 am - 11:05 am	Coffee Break
11:05 am - 11:30 am	RJ Williams (Rocky Mt. Biol. Labs, Pacific Ecoinformatics & Computational Ecol. Lab.) "The energetic basis of populations and food web dynamics"
11:30 am - 11:45 am	Discussion
11:45 am - 12:10 pm	Robert Poulin (University of Otago) "Parasites and the metabolic theory of ecology"
12:10 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Poster Session 2
6:00 pm	Dinner
7:30 pm - 9:30 pm	METABOLIC PERSPECTIVES IN COMMUNITY STRUCTURE AND DYNAMICS
	Discussion Leader: David Tilman (University of Minnesota)
7:30 pm - 7:55 pm	David Currie (University of Ottawa) "Energy and diversity"
7:55 pm - 8:10 pm	Discussion
8:10 pm - 8:35 pm	Brian Enquist (University of Arizona) "The structure and dynamics of plant communities: A metabolic perspective"
8:35 pm - 8:50 pm	Discussion
8:50 pm - 9:15 pm	Ken Smith (University of California San Diego, Scripps Institute Oceanography) "Energy and materials in deep sea communities"

9:15 pm - 9:30 pm Discussion

THURSDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm METABOLISM AND STOICHIOMETRY IN EVOLUTION

9:00 am - 9:15 am Discussion Leader: **Ray Huey** (University of Washington)

9:15 am - 9:40 am **William Martin** (Heinrich-Heine Universitaet Duesseldorf)
"Metabolic diversity over evolutionary time"

9:40 am - 9:55 am Discussion

9:55 am - 10:20 am **Richard Lenski** (Michigan State University)
"Evolution of microbial metabolism"

10:20 am - 10:35 am Discussion

10:35 am - 11:05 am Coffee Break

11:05 am - 11:30 am **Kaustuv Roy** (University of California San Diego)
"Size, energy, and stoichiometry in the evolution "

11:30 am - 11:45 am Discussion

11:45 am - 12:10 pm **Ted Garland** (University of California Riverside)
"Design, performance, and evolution of metabolic systems in vertebrates"

12:10 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm **Poster Session 2**

6:00 pm Dinner

7:30 pm - 9:30 pm FUTURE DIRECTIONS

7:30 pm - 8:10 pm Discussion Leader: **Jamie Gillooly** (University of Florida)

8:10 pm - 8:35 pm **Robert Holt** (University of Florida)
"Metabolism, stoichiometry and complexity in ecology"

8:35 pm - 8:50 pm Discussion

8:50 pm - 9:15 pm **Mark Ritchie** (Syracuse University)
Towards a synthesis of metabolism and stoichiometry

9:15 pm - 9:30 pm Discussion

FRIDAY

7:30 am - 8:30 am Breakfast

9:00 am Departure