

Disequilibrium model for atmosphere simulations

Overview of Master Thesis project by Nanna Bach-Møller

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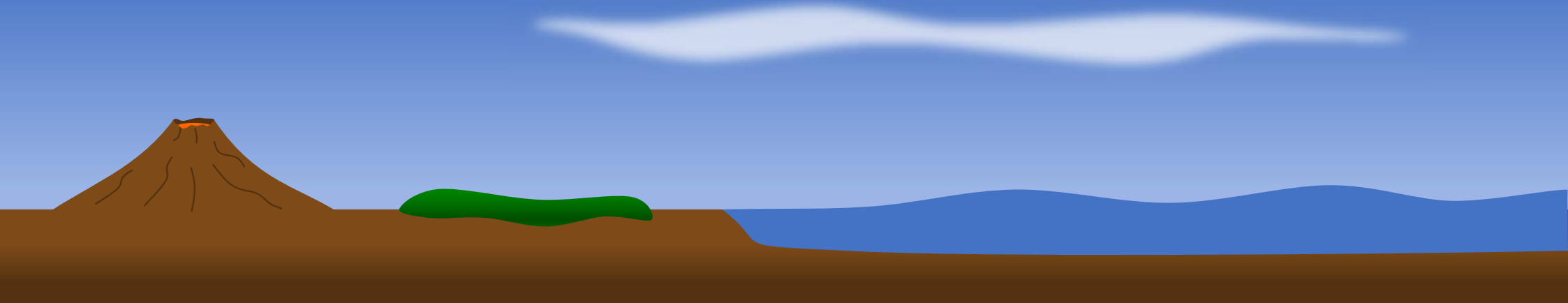
Disequilibrium model for atmosphere simulations

Aim:

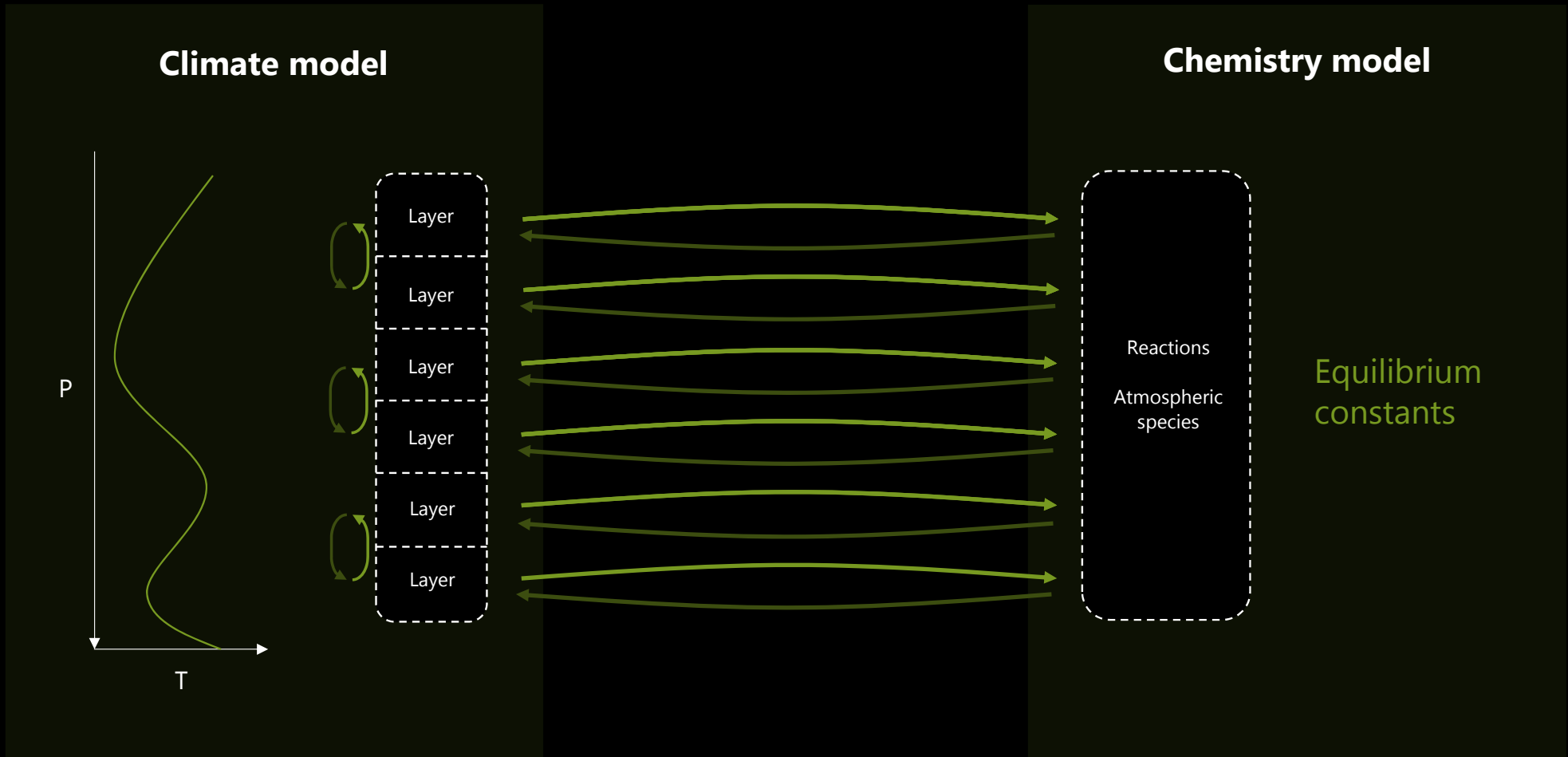
*Developing an atmosphere model that allows the
atmosphere to be in chemical disequilibrium,
in order to account for metabolism*



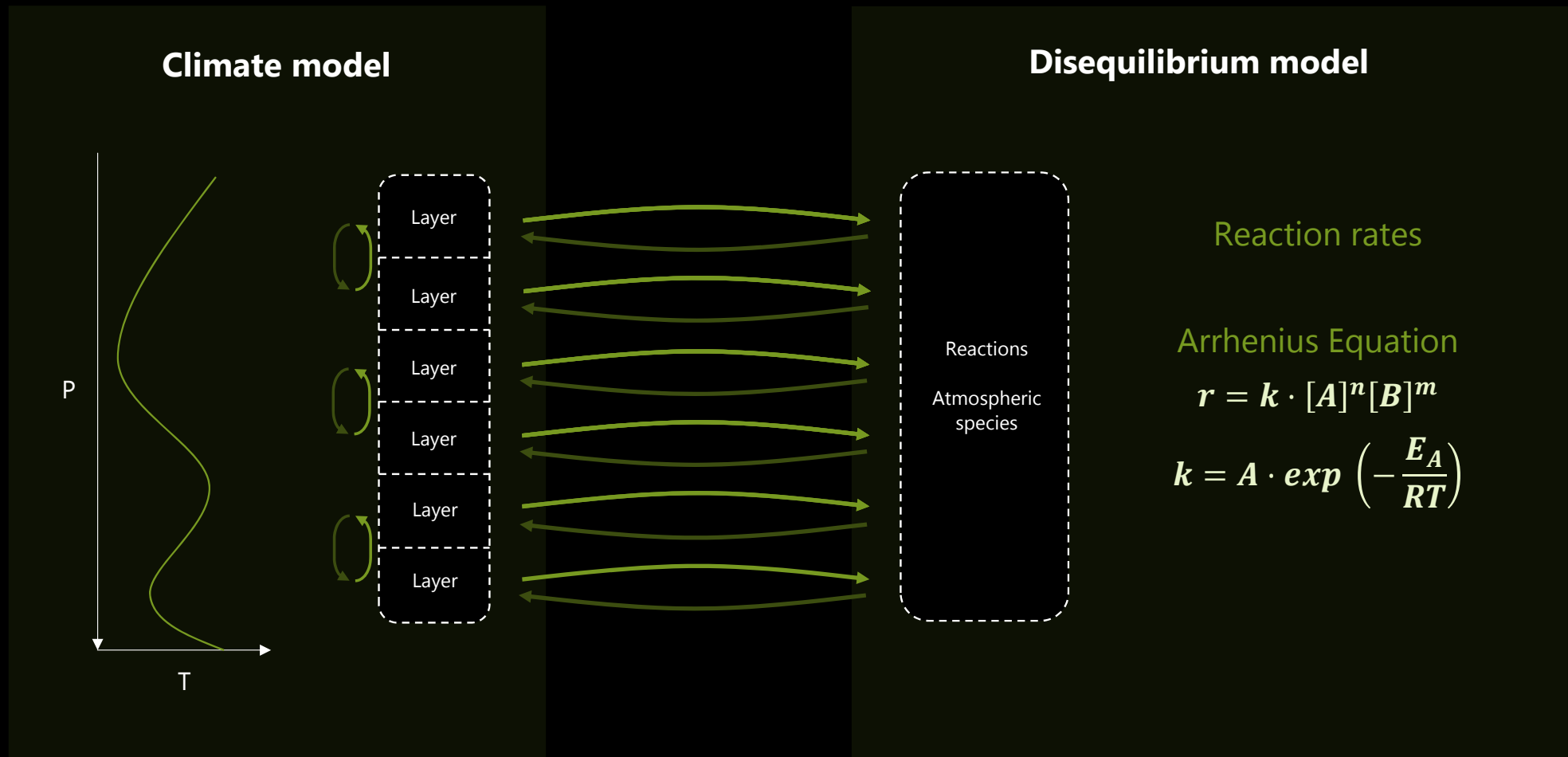
Atmosphere in disequilibrium



Current models



New disequilibrium model



Where am I right now?

Done so far

Mock model

- A few random reactions
- Read concentrations and temperature
- Calculate reaction rates
- Calculate new concentrations
- Can loop over time steps

Next steps

- Choose relevant atmospheric species
 - Choose relevant reactions
 - Find input values for Arrhenius Equation
 - Find way to invert reactions
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- Run model to equilibrium
 - Read Climate output as input