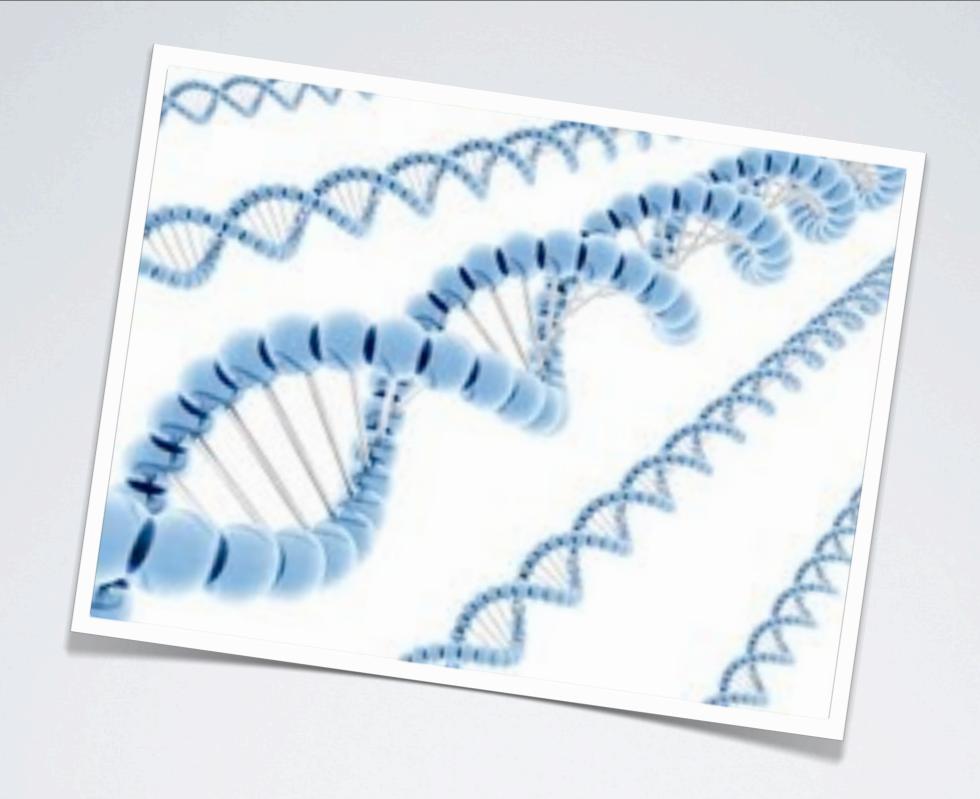
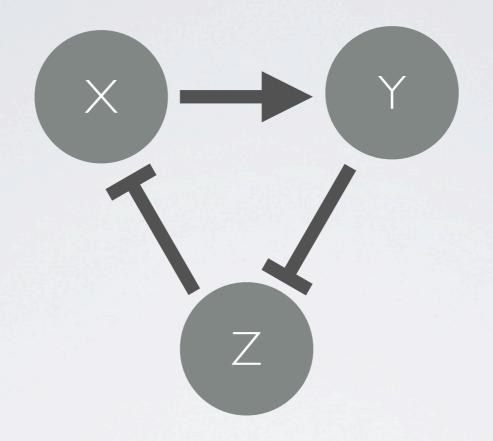
# GReg: a domain specific language for the modeling of genetic regulatory mechanisms

Nicolas Sedlmajer, Didier Buchs, Steve Hostettler, Alban Linard, Edmundo Lopez, and Alexis Marechal





## Genetic Regulatory Mechanisms

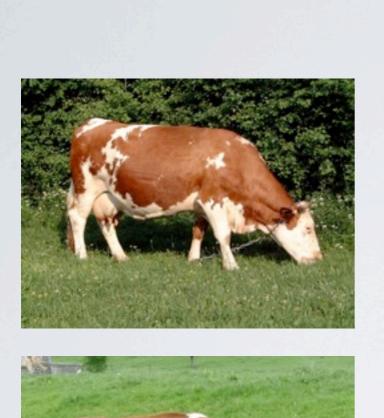


## Genetic Regulatory Mechanisms

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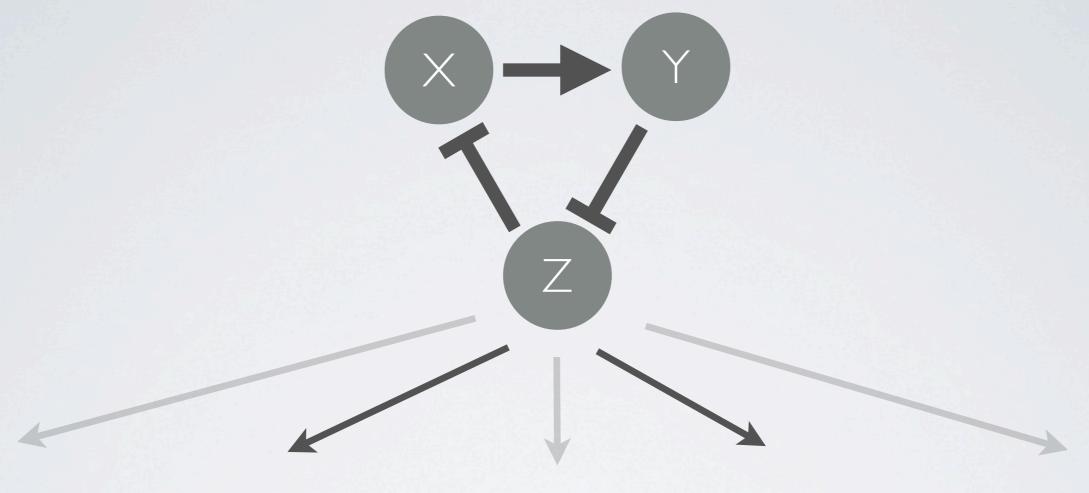








## Simulation







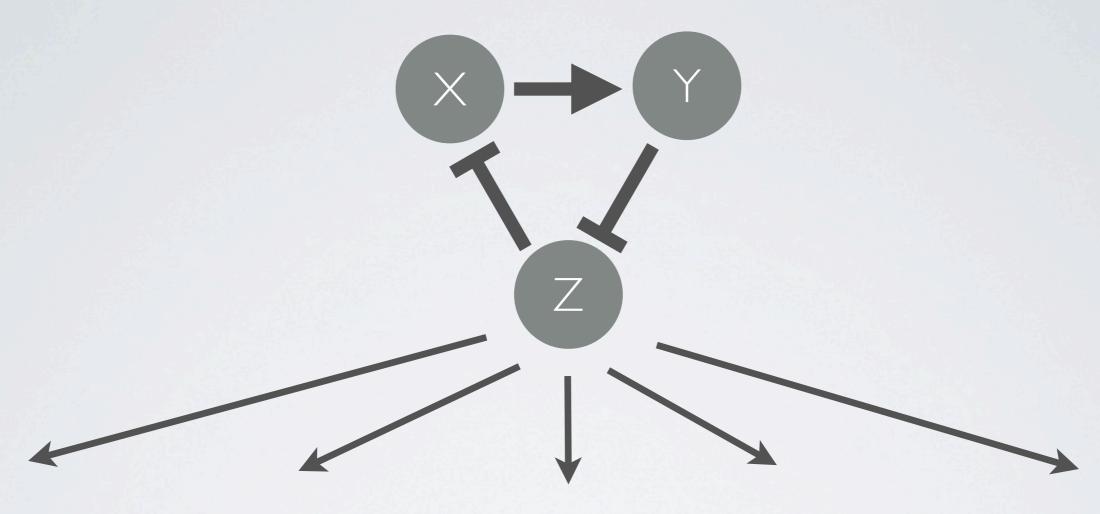






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# Model Checking







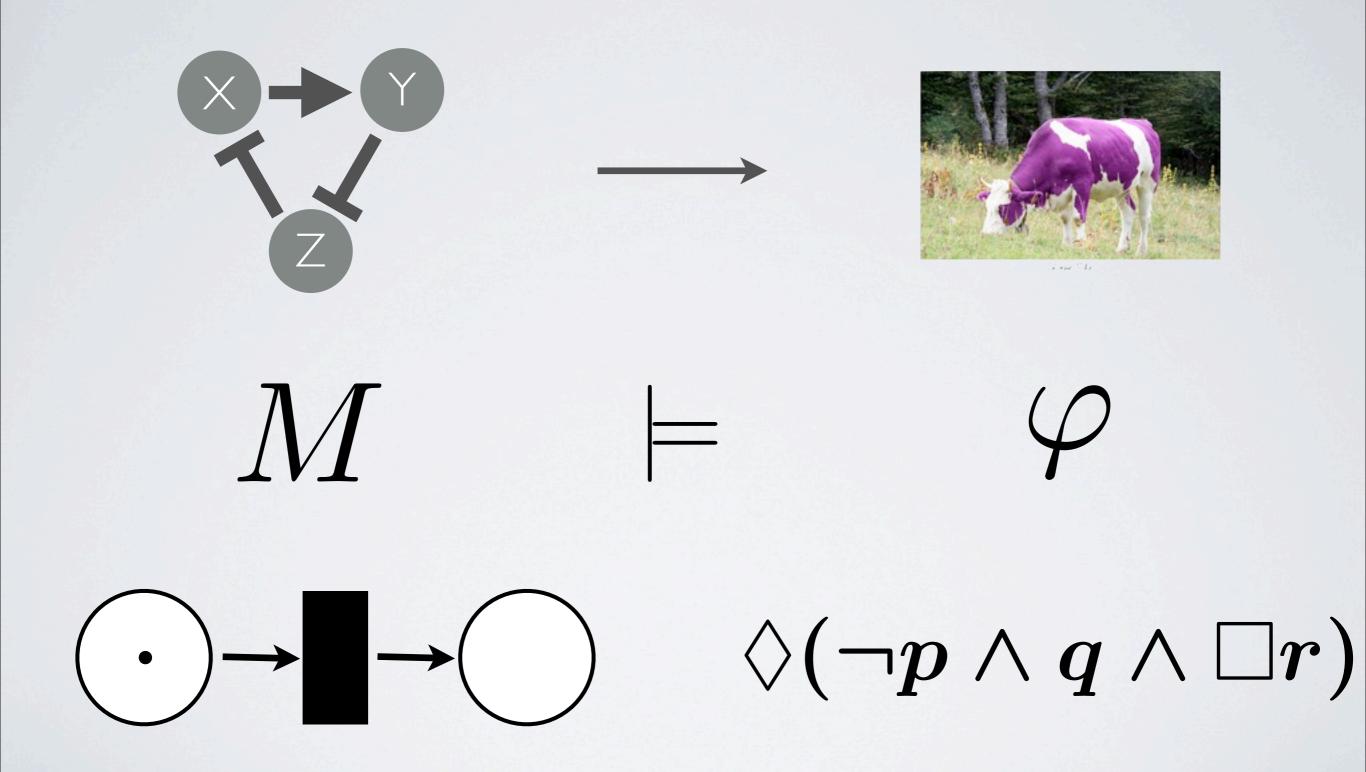




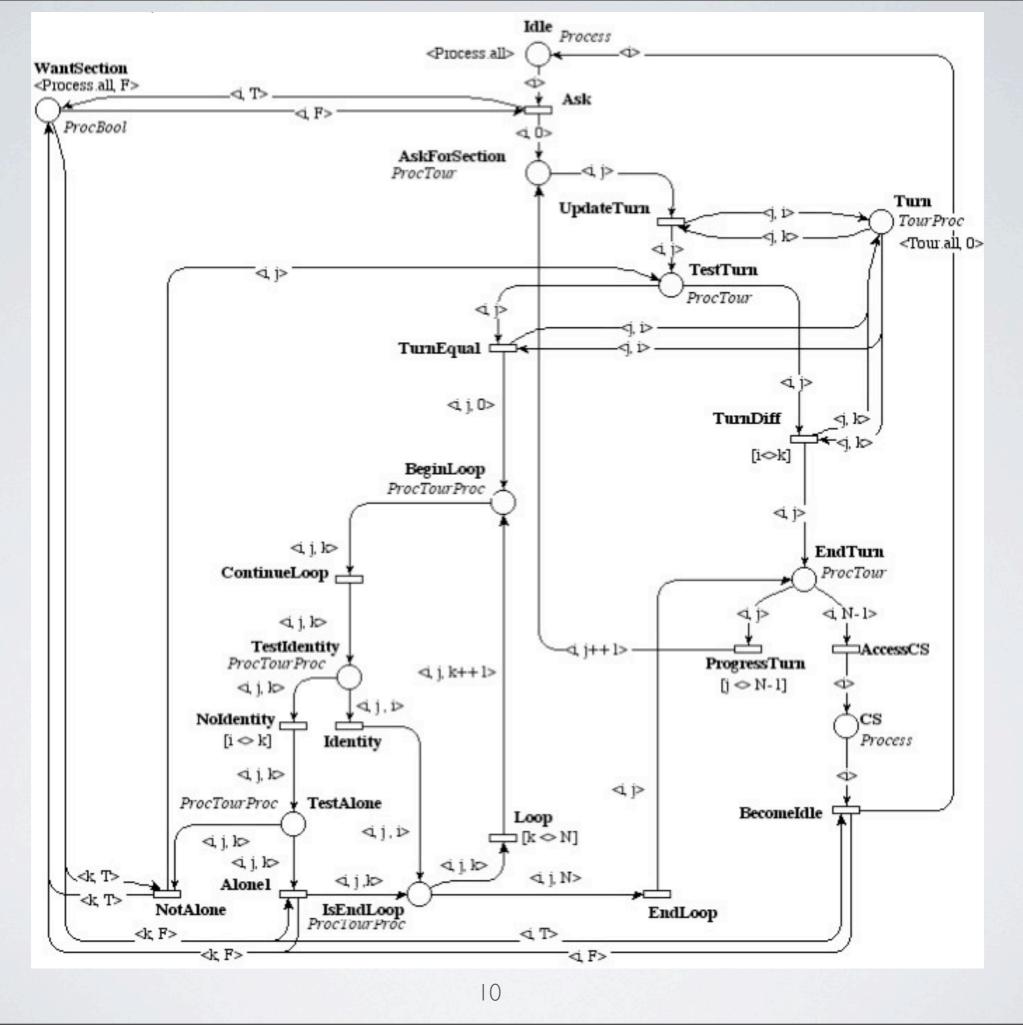


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## Model checking



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## Domain Specific Language

## DSL



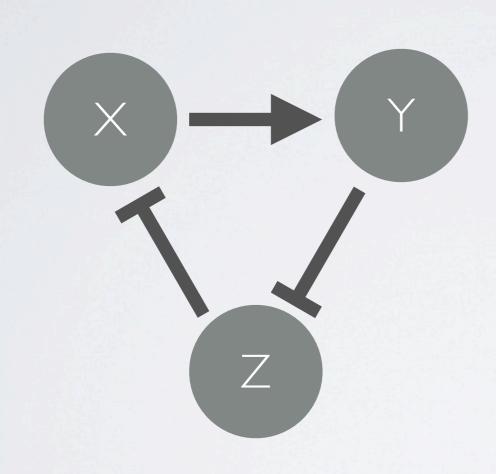


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# GReg

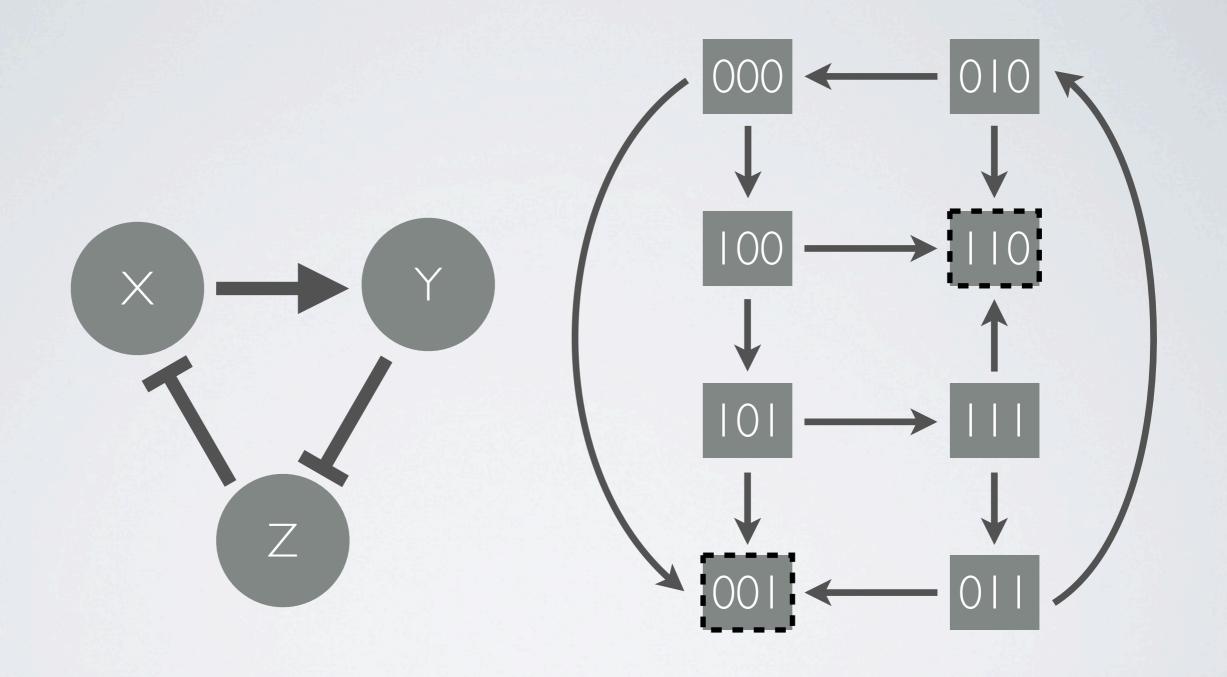


#### GReg model

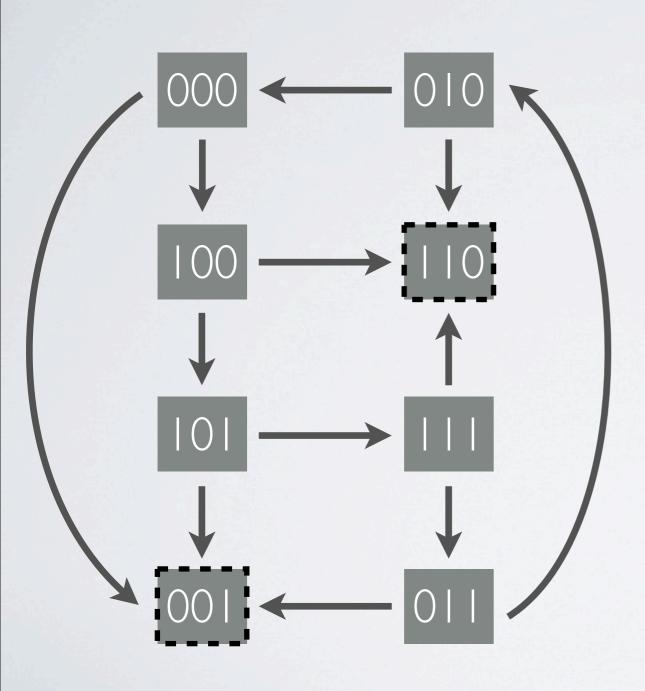


```
mechanism meca is
  molecules
    x, y, z
  gene X codes x
    sites 0 : z
  end X
  gene Y codes y
    sites I : x
  end Y
  gene Z codes z
    sites O : y
  end Z
end meca
```

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#### GReg properties



```
level 11 : x=0, y=0, z=0
```

level 12 : x=1, y=1

```
paths p : cycle 11 .. 12
```

int x : length shortest p

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### GReg properties





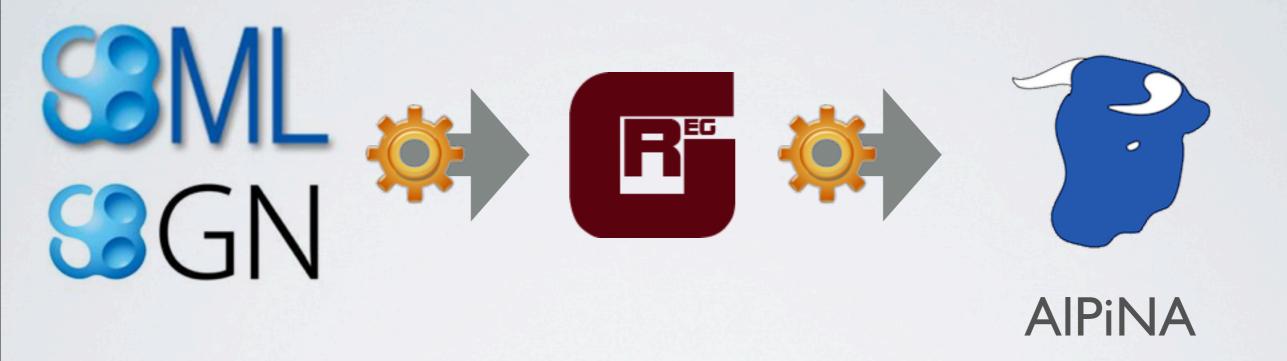
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Reachability





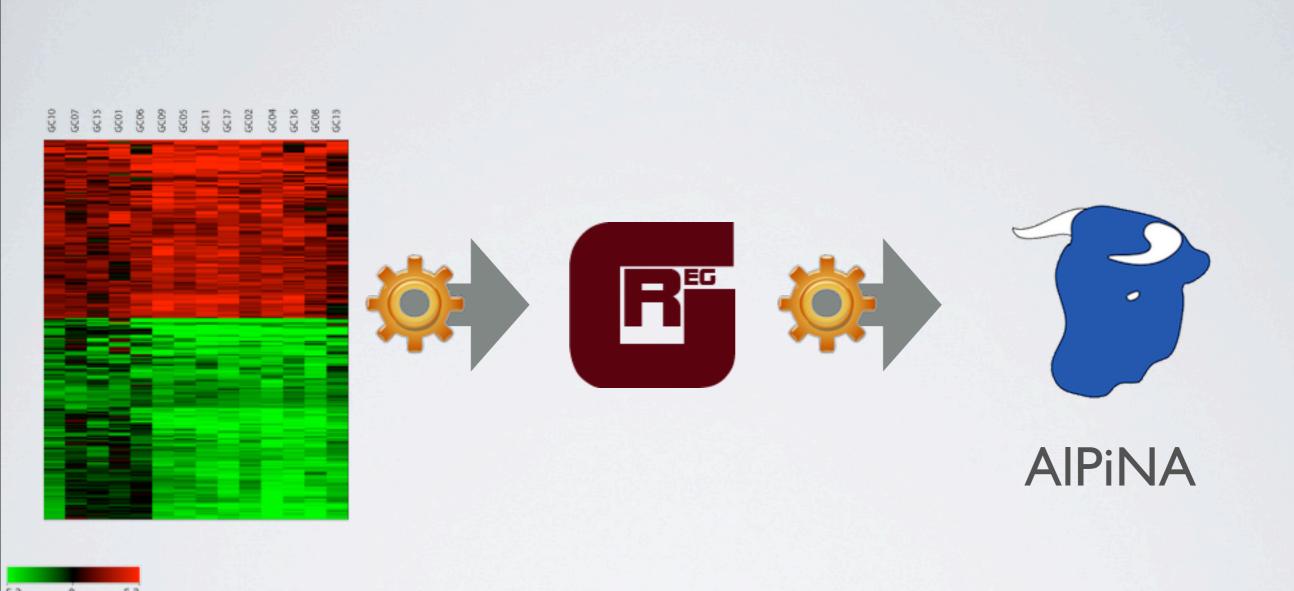
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lundi, 20 juin 2011



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