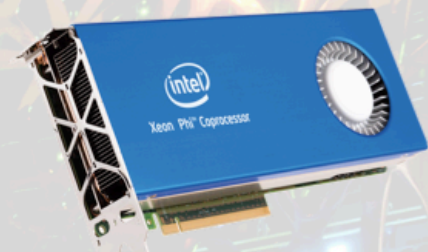


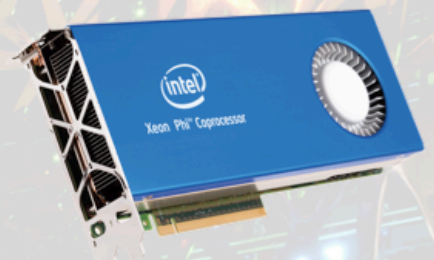
```
USE const
USE hydro_parameters
!! compute the 1D MHD fluxes from the conservative variables
!! the structure of qvar is : rho, Pressure, Vnormal, Bnormal,
!! Vtransverse1, Btransverse1, Vtransverse2, Btransverse2
IMPORT NONE
INQUIRE (cvar, cvar, lb)
REAL(dp) :: ecin, emag, etot, d, u, v, w, A, B, C, P, Ptot, entho
call trace_mpi('find_mhd_flux(qvar, cvar, ff)', 'enter', 2)
! Local variables
entho = one/(gamma-one)
```

Xeon-Phi days @ StarPlan



Welcome

```
USE const
USE hydro_parameters
!! compute the 1D MHD fluxes from the conservative variables
!! the structure of qvar is : rho, Pressure, Vnormal, Bnormal,
!! Vtransverse1, Btransverse1, Vtransverse2, Btransverse2
IMP ...
IN ...
REAL(dp) :: ecin, emag, etot, d, u, v, w, A, B, C, P, Ptot, entho
call trace_mpi('find_mhd_flux(qvar, cvar, ff)', 'enter', 2)
! Local variables
entho = one/(gamma-one)
```



Xeon-Phi days @ StarPlan

Tuesday

Morning

- Overview of Xeon-Phi
- Vectorization and threading

Afternoon

- Local talks from comp astro
- Offloading

Coffee

Will be available in the room

Wednesday

Morning

- Local talks from eScience
- Tools and performance profiling

Lunch

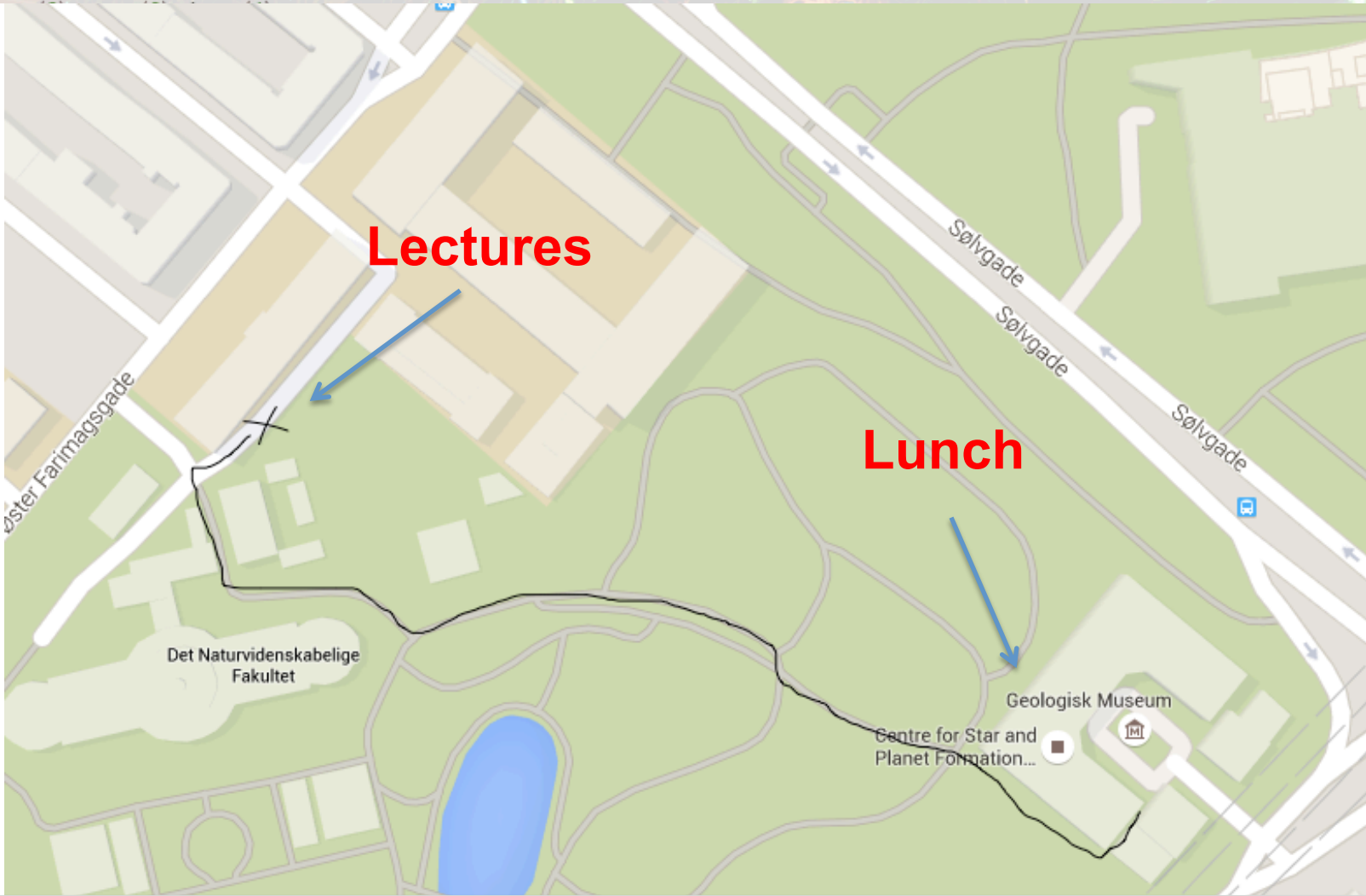
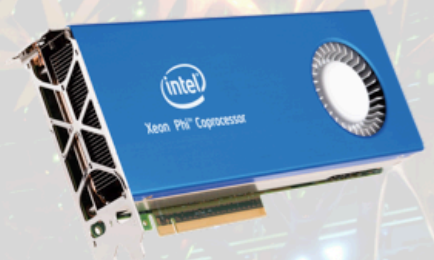
You show your badge in the canteen at StarPlan

```
USE const
USE hydro_parameters
!! compute the 1D MHD fluxes from the conservative variables
!! the structure of qvar is : rho, Pressure, Vnormal, Bnormal,
!! Vtransverse1, Btransverse1, Vtransverse2, Btransverse2
IMP NONE
REAL(dp) :: ecin, emag, etot, d, u, v, w, A, B, C, P, Ptot, entho
```

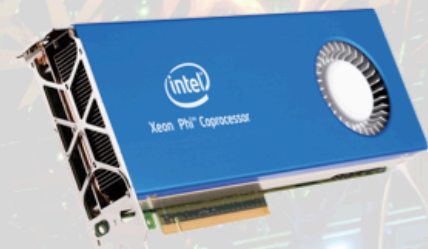
```
call trace_mpi('find_mhd_flux(qvar, cvar, ff)', 'enter', 2)
```

```
! Local variables
entho = one/(gamma-one)
```

Xeon-Phi days @ StarPlan



```
USE const
USE hydro_parameters
!! compute the 1D MHD fluxes from the conservative variables
!! the structure of qvar is : rho, Pressure, Vnormal, Bnormal,
!! Vtransverse1, Btransverse1, Vtransverse2, Btransverse2
IMPORT NONE
INTEGRAL :: qvar, cvar, ff
REAL(dp) :: ecin, emag, etot, d, u, v, w, A, B, C, P, Ptot, entho
call trace_mpi('find_mhd_flux(qvar,cvar,ff)', 'enter', 2)
! Local variables
entho = one/(gamma-one)
```



Xeon-Phi days @ StarPlan

Practicalities

Cabled ethernet is available in room; good for tool exercises Wednesday

Everybody should have access to the local HPC cluster

HPC Janitor: Rune is here and can help if you crash nodes

Frontends: fend0X.hpc.ku.dk (astro0[6-9].hpc.ku.dk for astro people).

Docs: <http://starformation.hpc.ku.dk/index.php/local-hpc-resources>

Compilation and access to Xeon-Phi cards (with or without HT):

```
srun -N 1 -p astro_phi --gres mic:2 -c 20 --pty bash
```

```
srun -N 1 -p astro_phi --gres mic:2 -c 40 --ntasks-per-core=2 --pty bash
```