

# Fortran 95/2003 Course

**Fortran Exercises by Hartmut Häfner**  
**March 26, 2015**

STEINBUCH CENTRE FOR COMPUTING - SCC



# Fortran Exercises

- Implement the dot product as internal function. Initialize the arrays `a` and `b` with the constant values `1.000004` and `2.000009` and print the dot product to „stdout“. Then use the module `ieee_arithmetic` and try different rounding modes.

# Fortran Exercises

- Implement the dot product as internal function. Initialize the arrays `a` and `b` with the constant values `1.000004` and `2.000009` and print the dot product to „stdout“. Then use the module `ieee_arithmetic` and try different rounding modes.
- Run the benchmark that measures a linked triad for different values.  
Fetch it from the INDICO-website (including the benchmark code) and untar it into a local directory on bwUniCluster. Implement the c-interoperability for the routine `seconds.c!` (You can also run the benchmark with IEEE-Arithmetic switched on!)

# Fortran Exercises

- Compilation and linking of the benchmark:

```
icc -c -DFTNLINKSUFFIX seconds.c      ! or  
gcc -c (-DFTNLINKSUFFIX) seconds.c
```

```
ifort -c types_modul.f90 dummy.f90    !or  
gfortran -c types_modul.f90 dummy.f90
```

```
ifort -fast -o bm114 ex3b_2_bm114.f90 \  
      types_modul.o dummy.o seconds.o    ! or  
gfortran -O3 -o bm114 ex3b_2_bm114.f90 \  
      types_modul.o dummy.o seconds.o
```