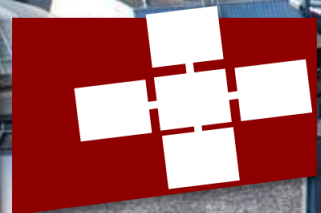
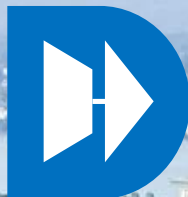


Alexandru Calotoiu

DaFIEx



C2DaCe challenges

- **Classes**
 - Inheritance
 - Contexts
- **Recursions**
 - Tail recursion
 - Indirect recursion
- **Pointers**
 - Unrestricted arithmetic
- **Stateful library calls**
 - Automatic assessment
- **Template programming**
- **Library nodes**
- **Encapsulation**

F2DaCe challenges

- **Generalized views**
- **Vector operations**
- **Labels & GoTo's**
- **Intrinsic function coverage**
- **Modern Fortran**

DaCe challenges

- **Application-level ToGPU transform**
 - + Associated transforms

Engineering efforts

Research efforts

Collaboration?

Application-level ToGPU transform

- **Schedule tree representation**
 - New IR
 - Allows for different transformation to happen efficiently
 - Work in Progress

```
map i in [0:N]: __tmp2[0:5, 0:5] = library MatMul[alpha=1, beta=0](A[i, 0:5, 0:5], B[i, 0:5, 0:5]) map __i0, __i1 in [0:5, 0:5]:  
__return[i, __i0, __i1] = tasklet(cst[0], __tmp2[__i0, __i1])
```

Other topics

- **Merging Fortran frontend**
 - (almost finished)
- **Snitch backend**
 - Development in progress
 - Basic C works
 - Snitch extensions not finished