# $1^{st}$ NASA LRC Fortran Tutorial

## Introduction and Setup

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# Who we are?

- Carlos Cruz (Computational Scientist)
- Jules Kouatchou (Computational Scientist)
- Bruce Van Aartsen (Senior Software Engineer)

We are members of the Advanced Software Technology Group (ASTG) Code 606, NASA GSFC.


# Agenda

**Day 1**

- Introduction to Fortran
- Variables and data types
- Conditionals and loops
- Array concepts
- Subroutines and functions
- Modules and interfaces
- File IO

**Day 2**

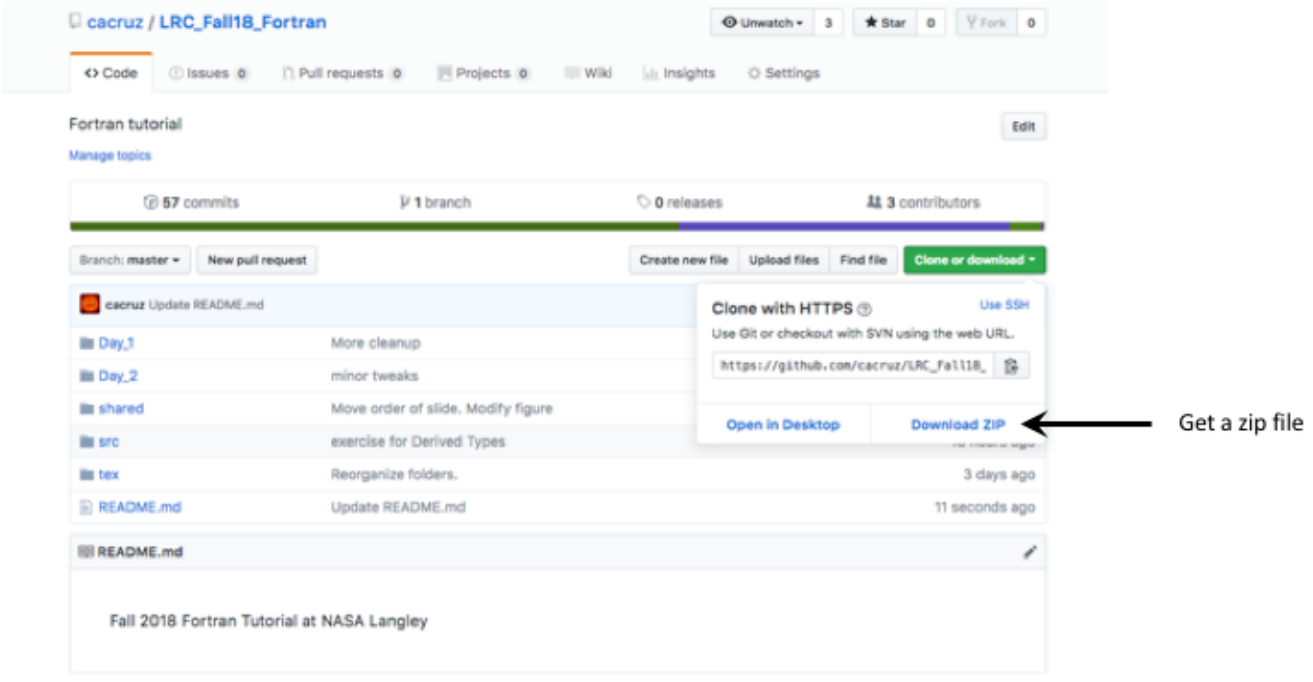
- Derived types and pointers
- Introduction to OOP
- IO Enhancements
- Inheritance
- Polymorphism
- Miscellaneous items
- Interoperability with C

Introduction to Fortran 90-95
Introduction to Fortran 2003


# Get Lecture Materials from Github

Open a terminal (Linux/Mac) or command prompt (Windows) and use Git:
git clone `https://github.com/cacruz/LRC_Fall18_Fortran.git`

If Git is not available or Git is not working then, in your browser open `https://github.com/cacruz/LRC_Fall18_Fortran.git`, and download the zip file.



# Log in to Amazon EC2

Open a terminal (Linux/Mac) or command prompt (Windows) and go into the LRC_Fall18_Fortran directory/amazon (what you just downloaded):

```
cd LRC_Fall18_Fortran/amazon
ssh -i "fortranlrc.pem" <student>@ec2-18-217-60-67.us-east-2.compute.amazonaws.com

substitute <student> for your assigned userid
```

If your ssh command is successful then get the Fortran code in your Amazon account:

```
$ git clone https://github.com/cacruz/LRC_Fall18_Fortran.git
$ cd LRC_Fall18_Fortran/src
$ ls
01_Introduction
02_Data_types
03_Control_constructs
04_Array_concepts
etc...
```


**If possible, leave terminal -with ssh connection- open for the rest of the day.**