

# Modellierung @IfM-FUB

## Klimavariabilität und -modelle

EBM > PUMA > PLASIM > ICON

## Modelle für Wetter und Umwelt

CCLM > ICON-CLM > LAGRANTO

## Visualisierung

Paraview, Modelloutput Analyse

## FORTRAN und CM1

## Datenverarbeitung in der Meteorologie

UNIX, Bash, Python

# Training mit Studierenden

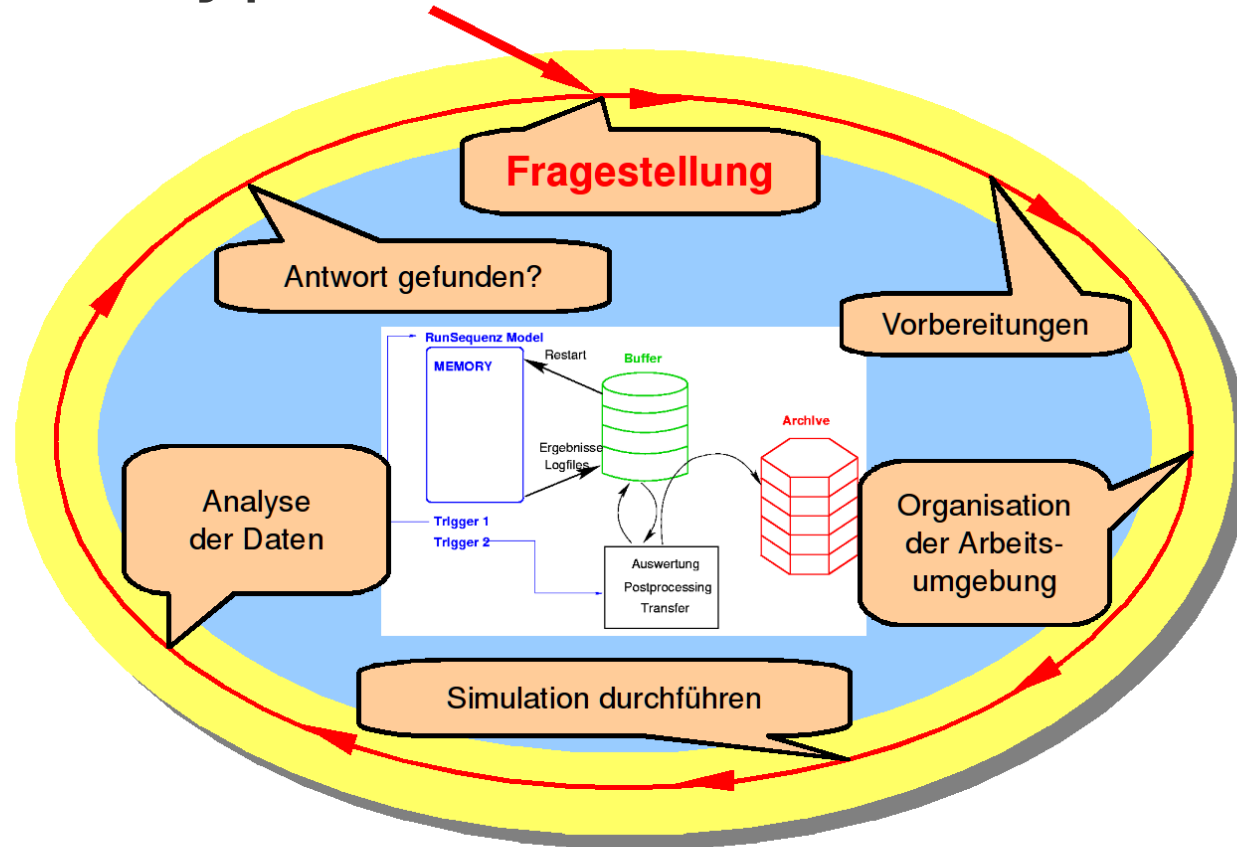
- **Programmierkenntnisse**
  - wenig bis keine Erfahrungen
- **Grundlagen des Systems Erde**
  - abhängig von den abgeschlossenen Semestern
  - Theorie, Beobachtungen

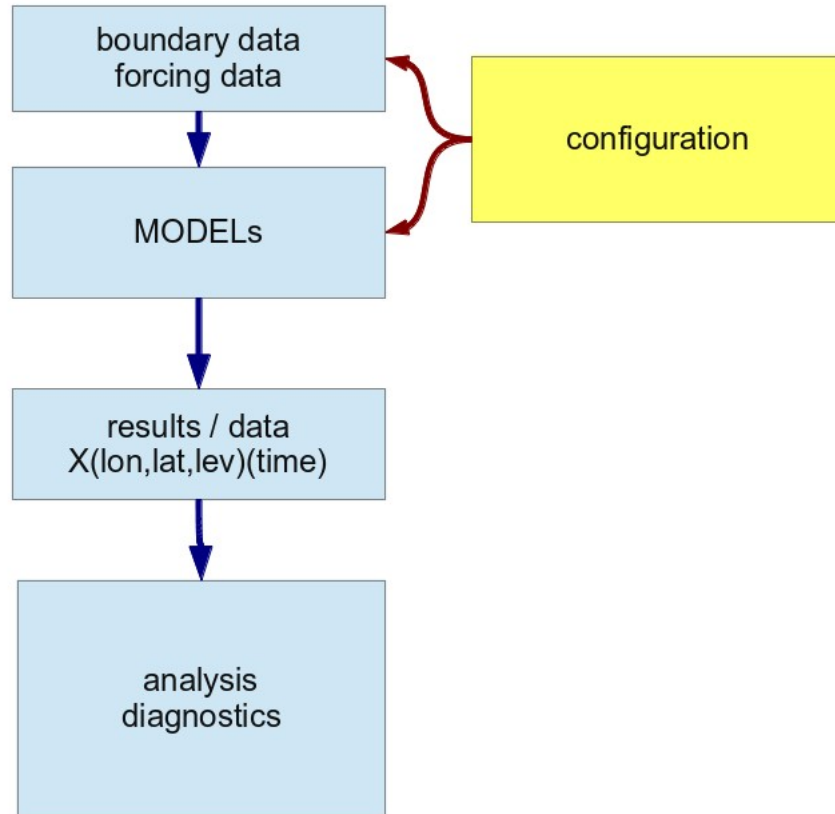
**Wie benutzt man Modelle in diesem Rahmen?**

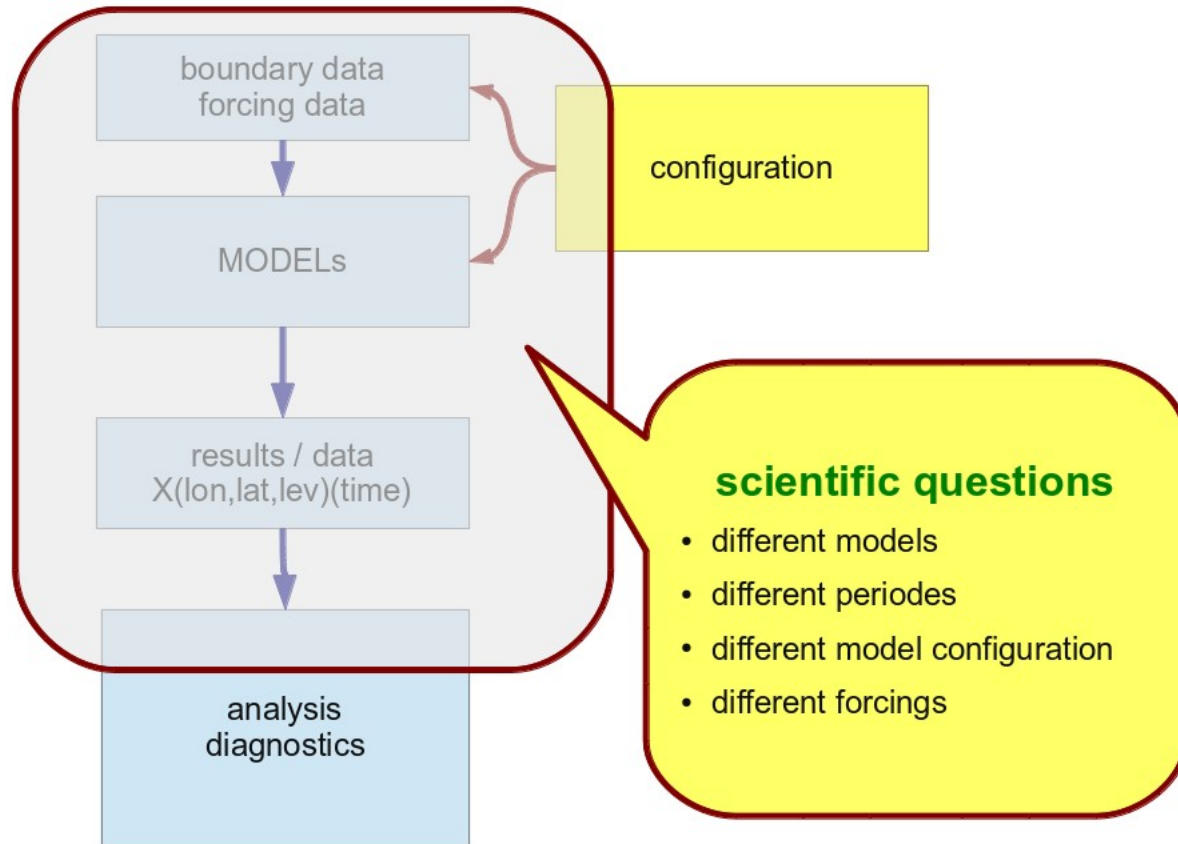
# Framework

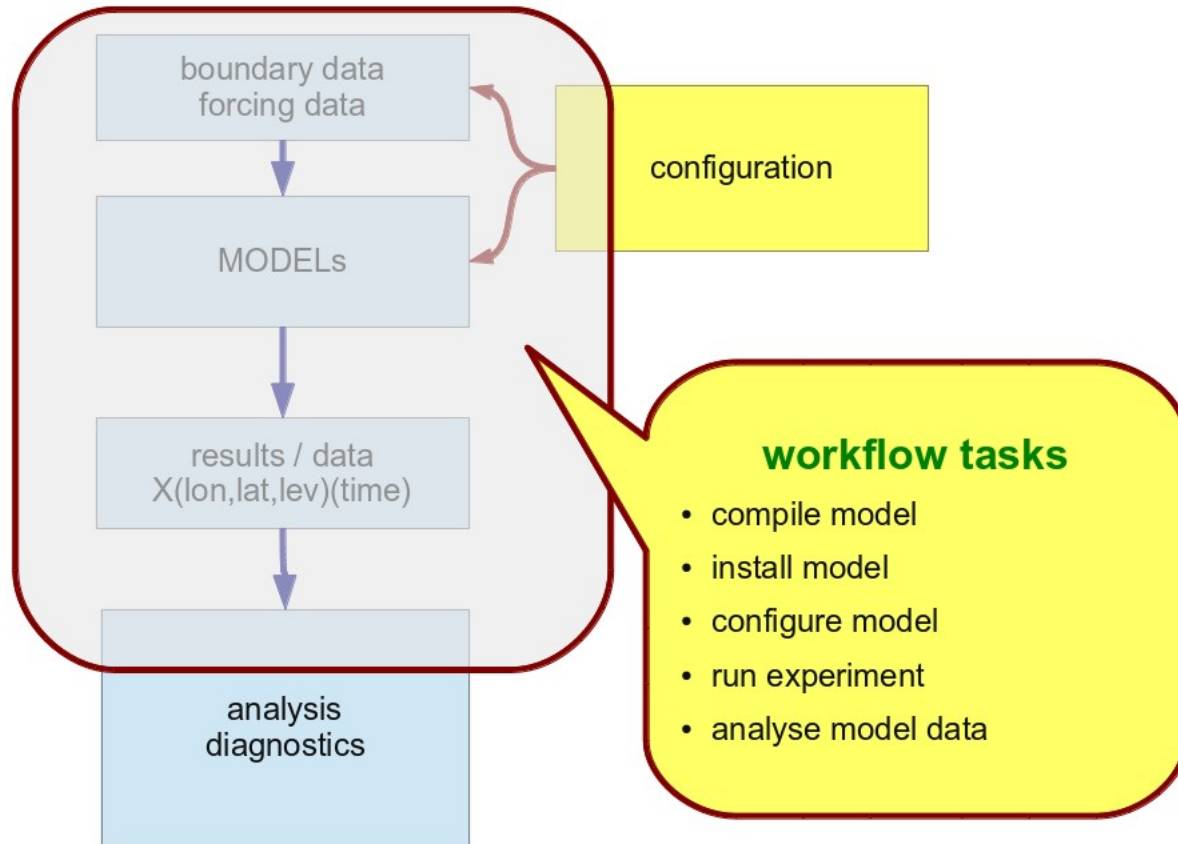
- **EINFACH ZU HANDHABEN**
  - Webbasiert
  - Kommandozeile im Terminal
  - nur minimale Konfiguration notwendig
- **UNIVERSELL UND MODELLUNABHÄNGIG**
  - default Experiment als Ausgangspunkt
  - typische Szenarien zu jeder Modellklasse
- **STARKER FOKUS AUF DER FRAGESTELLUNG**

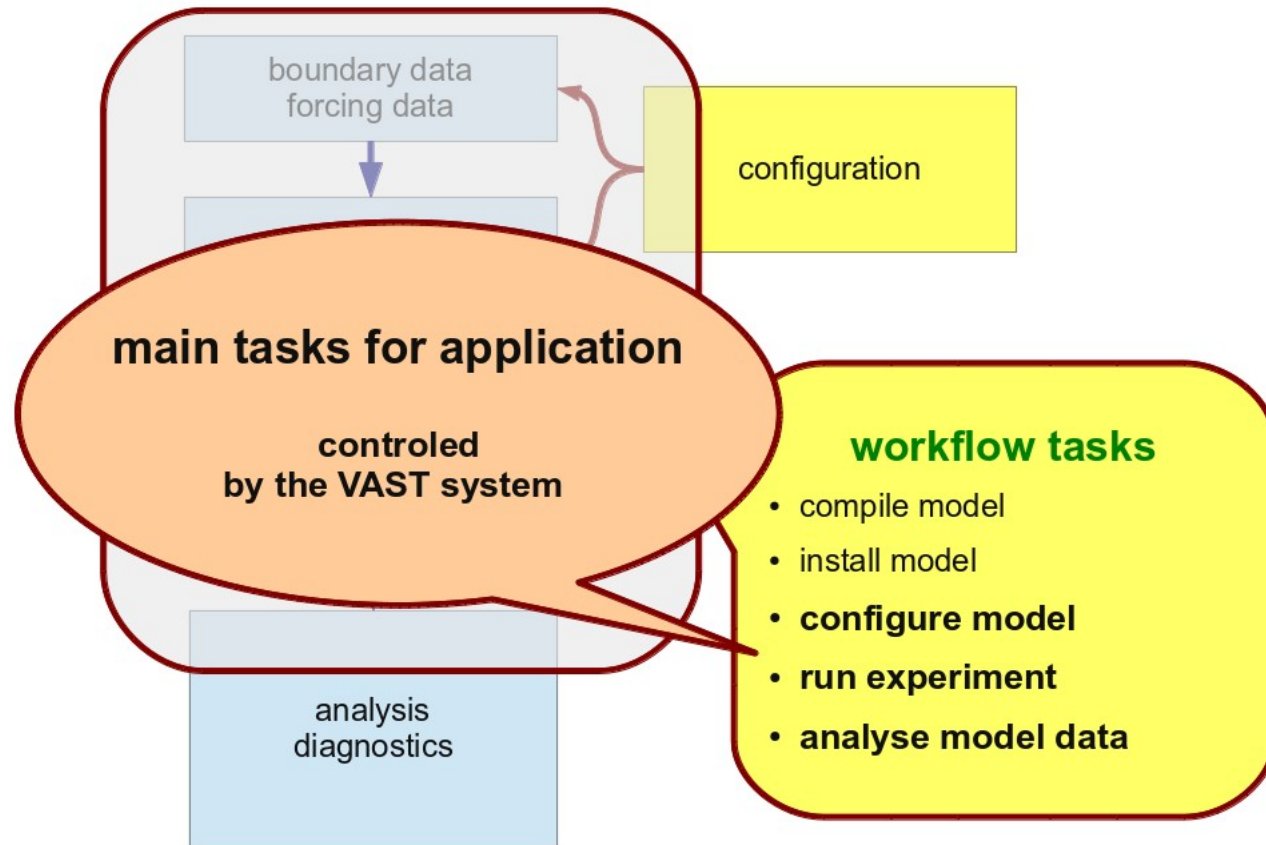
# Von der Hypothese zur Erkenntnis



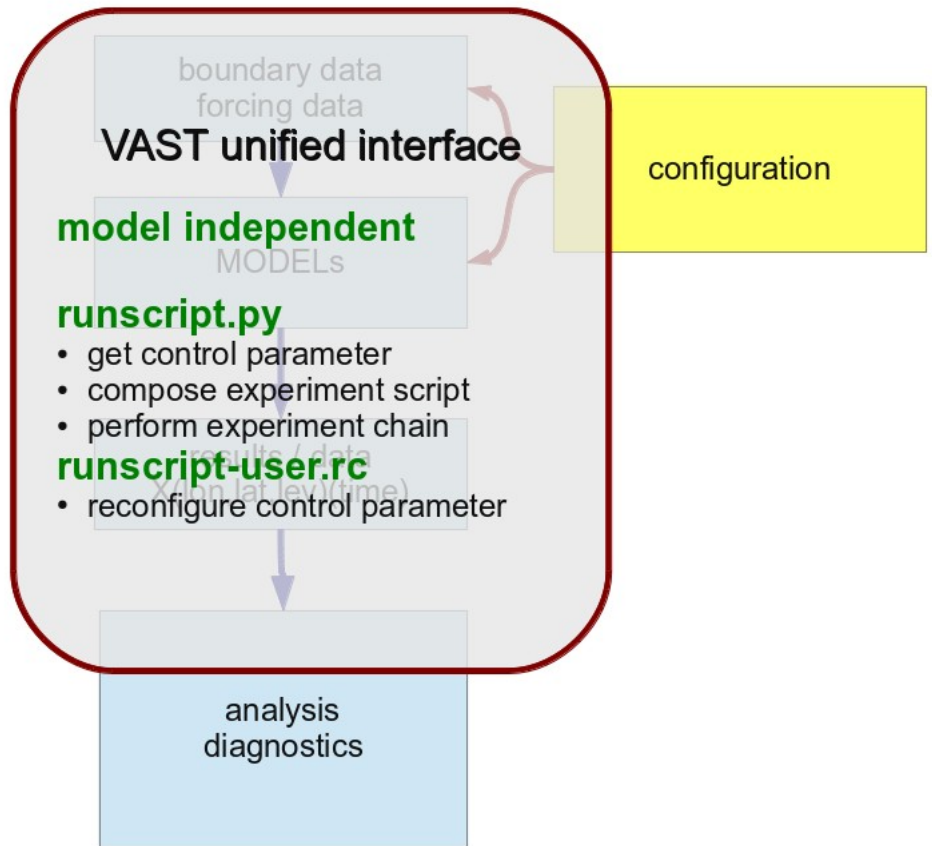


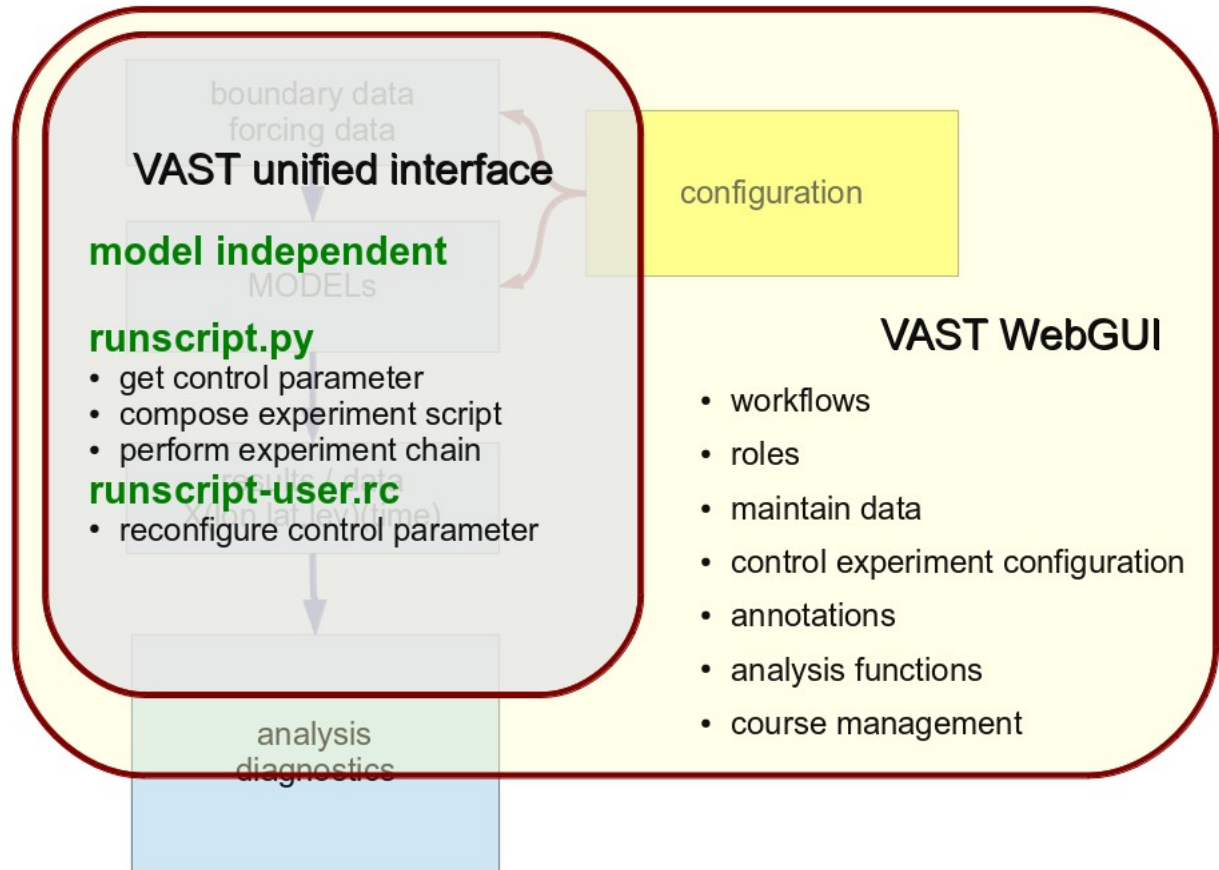






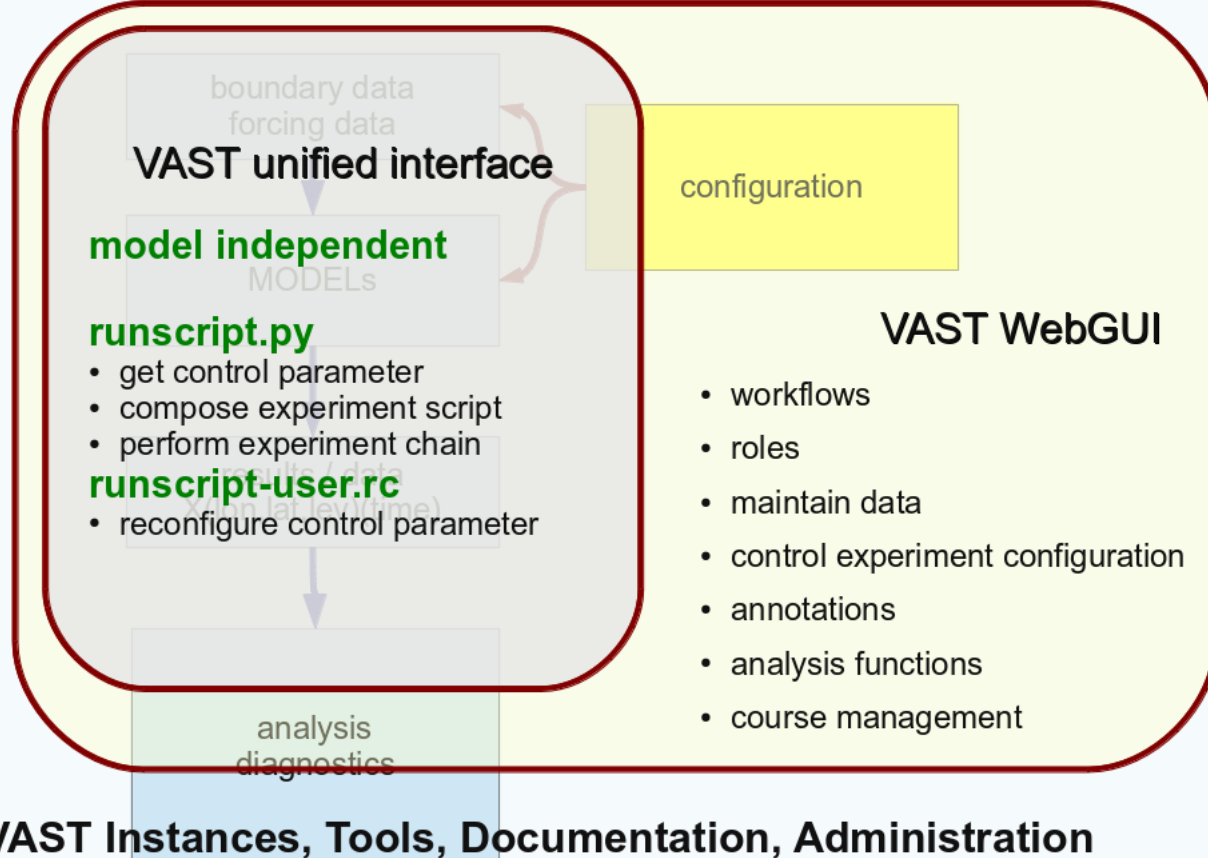






# VAST Portal

<https://vast.klimod.de>



VAST Instances, Tools, Documentation, Administration

The image shows a screenshot of a web browser displaying the VAST application. The browser's address bar shows the URL `https://vast.klimod.de/vast/`. The application's navigation bar includes a logo, version information 'demo V.4.04', a 'workflows' dropdown menu, and user roles 'guest', 'register', and 'login'. On the right side of the navigation bar are links for 'tutorial', 'help', 'german', and 'english'. The main content area features a 'workflow menu' with role-dependent icons and labels such as 'Documentation (guest)', 'visualization tool (guest)', and 'extension of the system (guest)'. A 'workflow window' is open, showing a 'template #1' with a 'role: guest' and a 'start' button. Below the window, a 'desktop selector' is visible with tabs labeled '1', '2', and '3'. A 'switch-to/view/hide running WFs' button is located at the bottom left. A 'desktop area' contains windows with workflow content and icons for quick start of WFs. A 'your role' callout points to the 'guest' role in the navigation bar. An 'exclusive WFs' callout points to the 'workflows' dropdown menu.

exclusive WFs

workflow menu  
role dependent

your role

desktop area  
contains windows  
with workflow content  
and icons for  
quick start of WFs

workflow window

switch-to/view/hide running WFs

desktop selector

VAST demo V.4.04 workflows guest register login tutorial help german english

Documentation (guest) visualization tool (guest) extension of the system (guest)

template #1 role: guest

start

This is the first workflow step

choose the next Step

step B

1 2 3

running workflows

# Mehr zum Thema

- <https://vast.klimod.de>
  - verbindet Dokumentation, Arbeitsumgebung
  - zentraler Einstiegspunkt
- <https://vast-desktop.klimod.de/wekuw/>
  - Webbasierte Umgebung
  - zugeschnitten auf Meteorologie@IfM

# Übung auf der Kommandozeile

**mkdir EXPDIR**

**cd EXPDIR**

**/daten/vast/arch/vast-devel/models/icon/scripts/runscript.py -ibs**

**squeue -u ingokir**

- *Es wird die VAST-Standardsimulation mit ICON gestartet ....*
  - *Testcase (jabw) barokline Welle*
  - *R02B04 (ca.160km) L40 Top 23,5 km, DT 360 s*
  - *20 Tage mit Restart nach 2 Tagen*
  - *4CPUs ca. 40 min Dauer, 30GB Storage*