



Open Source Toolset Community Support

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Complete Toolset Available at <https://github.com/CCSI-Toolset>

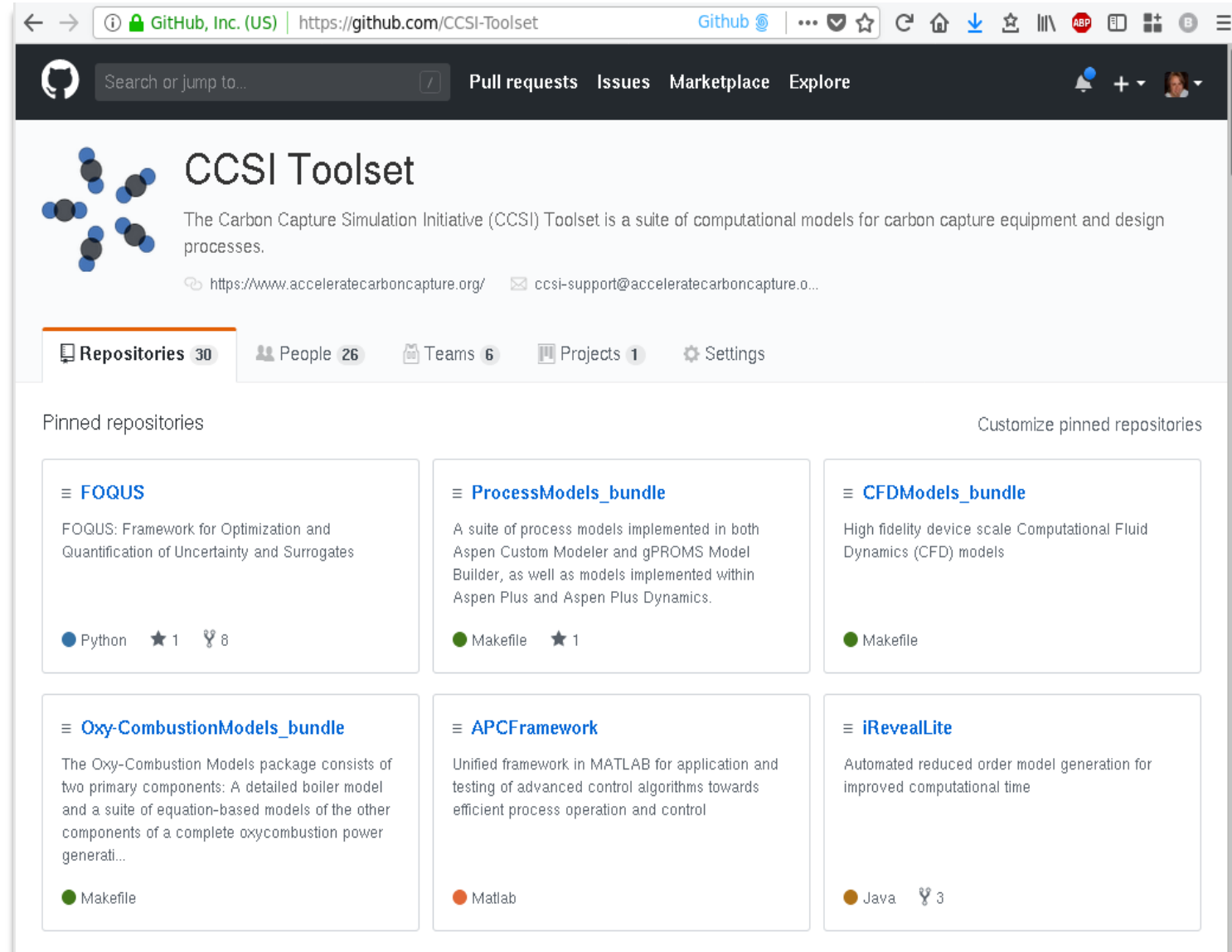
FOQUS - Framework for Optimization and Quantification of Uncertainty and Surrogates

3 Toolset Bundles:

- **CFD Models:** High fidelity device scale Computational Fluid Dynamics (CFD) models
- **Oxy-Combustion Models:** Boiler model and a suite of equation-based models
- **Process Models:** A suite of process models implemented in gPROMS, Aspen Custom Modeler, Aspen Plus and Aspen Plus Dynamics

*No need to abandon your current toolset!
Tools are designed to interface with your current models.*

2016 R&D 100 Award



The screenshot shows the GitHub repository page for 'CCSI Toolset'. The repository is owned by 'CCSI' and has 30 repositories, 26 people, 6 teams, and 1 project. The page lists several pinned repositories:

- FOQUS:** Framework for Optimization and Quantification of Uncertainty and Surrogates. Language: Python. 1 star, 8 forks.
- ProcessModels_bundle:** A suite of process models implemented in both Aspen Custom Modeler and gPROMS Model Builder, as well as models implemented within Aspen Plus and Aspen Plus Dynamics. Language: Makefile. 1 star.
- CFDModels_bundle:** High fidelity device scale Computational Fluid Dynamics (CFD) models. Language: Makefile.
- Oxy-CombustionModels_bundle:** The Oxy-Combustion Models package consists of two primary components: A detailed boiler model and a suite of equation-based models of the other components of a complete oxycombustion power generati... Language: Makefile.
- APCFramework:** Unified framework in MATLAB for application and testing of advanced control algorithms towards efficient process operation and control. Language: Matlab.
- iRevealLite:** Automated reduced order model generation for improved computational time. Language: Java. 3 forks.

Download Latest Release

Release Schedule:

- **FOQUS:** Date driven for now: bi-monthly
- Feature driven for all other products.

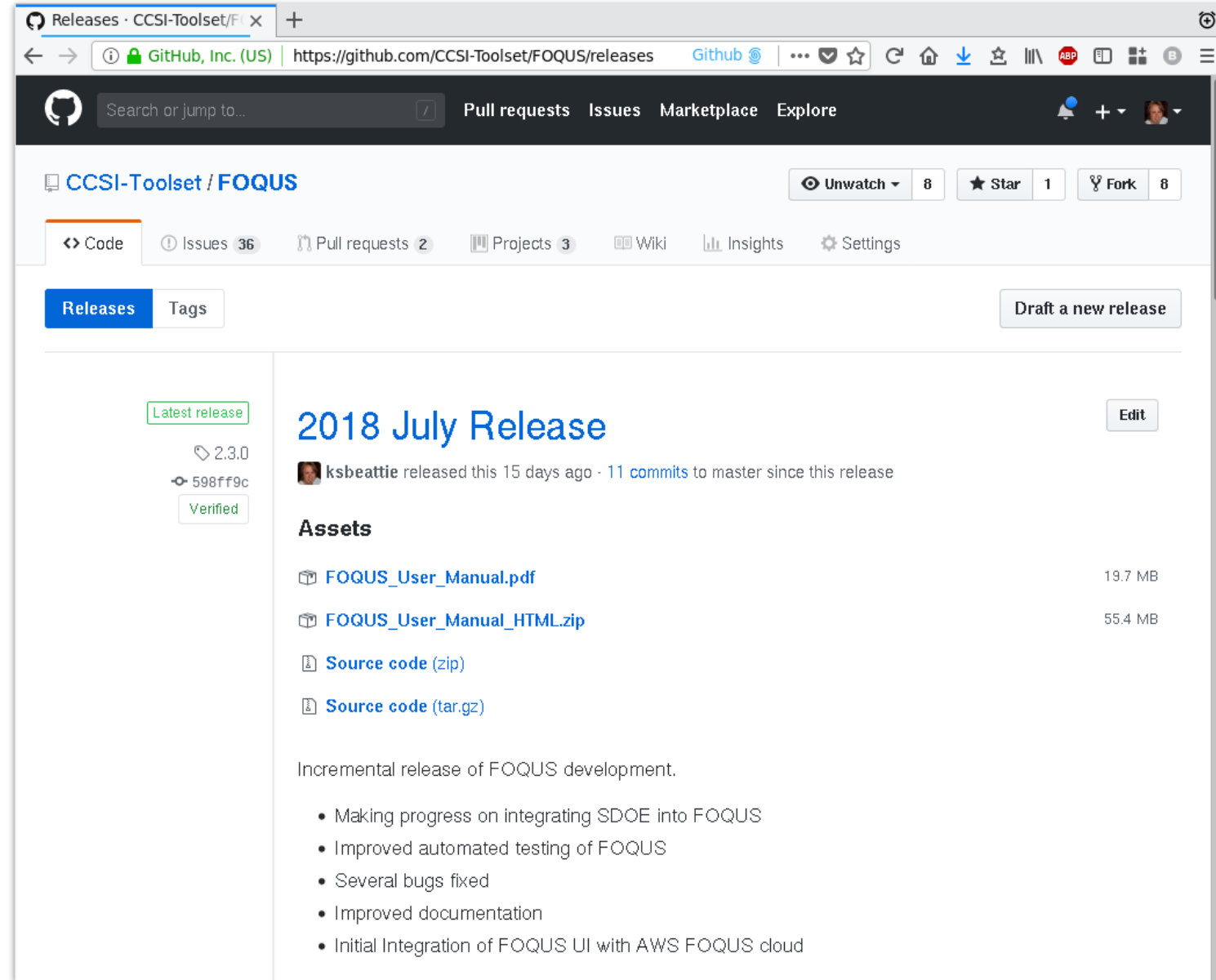
Feedback, Feedback, Feedback:

- Please download and give feedback!
- Any and all feedback is valuable
- No news is bad news

Send to:

ccsi-support@acceleratecarboncapture.org

or maintainer of given product



The screenshot shows the GitHub interface for the repository 'CCSI-Toolset / FOQUS'. The page is titled 'Releases · CCSI-Toolset / FOQUS' and displays the '2018 July Release' as the latest release. The release was made by user 'ksbeattie' 15 days ago, with 11 commits to master since this release. The release includes several assets: 'FOQUS_User_Manual.pdf' (19.7 MB), 'FOQUS_User_Manual_HTML.zip' (55.4 MB), 'Source code (zip)', and 'Source code (tar.gz)'. The release is described as an 'Incremental release of FOQUS development' and lists the following changes:

- Making progress on integrating SDOE into FOQUS
- Improved automated testing of FOQUS
- Several bugs fixed
- Improved documentation
- Initial Integration of FOQUS UI with AWS FOQUS cloud

What Is Open Source?

A long term product development philosophy based on access to a product's internals, collaborative support and public redistribution.

- **Open: Free as in Freedom**
 - Not as in “Free Beer”
- **Open: Access**
 - Design, implementation, testing, support, documentation, roadmap
- **Open: Over Time**
 - Not dependent on vendor or funder
- **Open: To Reuse and Change**
 - Access to Internals
- **Open: For All**
 - Collaborative work

Myths about Open Source

- **OS is Free:**
 - Time is still money
- **OS is not reliable or supported:**
 - Strong community => Solid Support
- **Unchecked changes:**
 - Maintainer, approvers & community
- **OS license are “viral”:**
 - Some are, not BSD
 - BSD is the “non license, license”

Why Open Source?

Insight, Influence and Access

- **Wider audience:**
 - More testers, bugs fixed, feedback
- **Greater exchange of ideas**
 - Collaboration, community-oriented development
- **Research, Academic & Industry Friendly**
 - Use and results not restricted by license, no obligation
 - Enhanced Trust: can understand and validate methodology
- **Longer lived**
 - Not tied to one vendor/funder
- **Potentially more feature rich and stable**



GitHub

- **Cloud-based service for managing software projects**
 - Free for open source projects
- **Provides tool for:**
 - Version Control: git
 - Issue, Milestone & project management
 - Automate build & test systems
 - Community, user, team management
- **Interested Users can view and influence development**

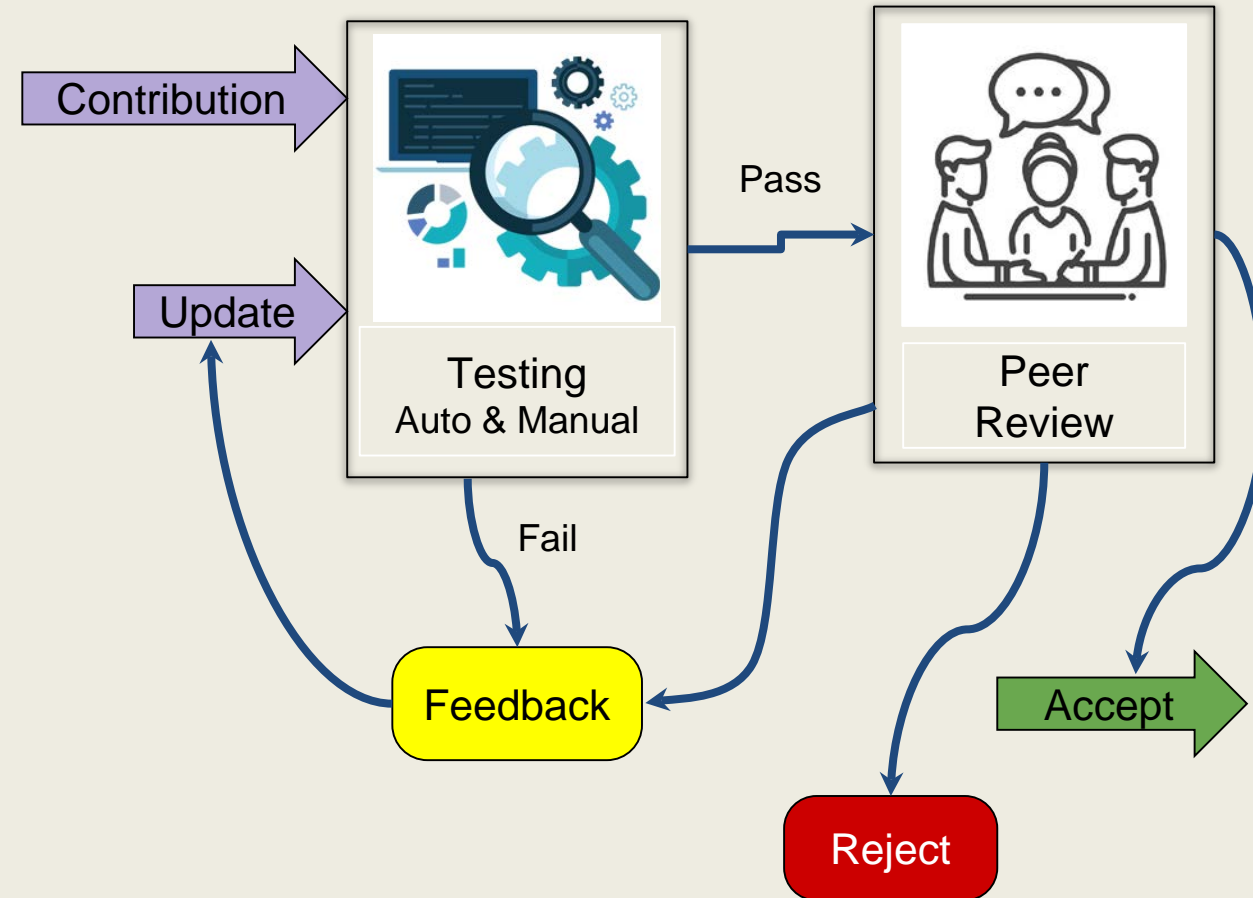
The screenshot shows the GitHub interface for the repository CCSI-Toolset/FOQUS. At the top, there are navigation links for Pull requests, Issues, Marketplace, and Explore. Below the repository name, there are statistics for Unwatch (8), Star (1), and Fork (8). The main content area features a Kanban board with three columns: 'To do' (10 items), 'In progress' (4 items), and 'PR Awaiting Review' (0 items). Each item in the board is a card representing a task or issue, with details such as the issue number, the person who opened it, and associated labels. For example, the first item in the 'To do' column is 'Turbine: Add/Update Model to Turbine produces BadStatusLine error' (#147) by sotorrio1, with a 'Turbine' label. The 'In progress' column contains items like 'Test AWS Cloud Submission' (#243) by boverhof and 'Simulation Resource: get-simulation and get-simulation-list' (#242) by boverhof. The 'PR Awaiting Review' column is currently empty. At the bottom of the board, there are 'Automated as' labels for each column: 'To do', 'In progress', and 'PR Awaiting Review', each with a 'Manage' link.

Change Control

All Changes Tested and Reviewed

- Currently being used by dev team
- Contributions are tested (manual and automatic)
- Peer reviewed by core team member
- Feedback, conversation, changes possibly take place
- Change is accepted or rejected

Two-Stage Review Process





- The CCSI² toolset is available now
- Works with your existing toolset and models
- Download, use and let us know
- Become involved and influence development

For more information:

<https://github.com/CCSI-Toolset>
[https://www.acceleratecarboncapture.org/
ccsi-support@acceleratecarboncapture.org](https://www.acceleratecarboncapture.org/ccsi-support@acceleratecarboncapture.org)

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