Structured Analysis and Integration of RNA-Seq experiments (de.STAIR)

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Short description of the project

**Galaxy** is an established platform for biomedical research with a continuously increasing popularity within Life Science communities. The Galaxy project offers share places for workflows and training resources, that implement tools of a large and steadily growing toolshed. However, the training material and workflows lacking the ability to give a systematic overview of alternative tools and implications of their parameterizations to address data analysis tasks.

In order to enable users to make informed decisions about the selection and best practice of available software, we developed the **Galaxy workflow generator plugin**. This application leverages on a webhook and utilizes the novel concept of Galaxy atoms, i.e. new interactive tours that illustrate precise algorithms, which parameterization are tailored for specific experimental setups (see Fkz 031L0106A). Alternative atoms are presented as multiple choice options through a novel interaction layer. Upon user selection, the plugin interprets extended and revised interactive tours and allows fully automated playback. Furthermore, the plugin offers one-click export of functional workflows, compatible with usegalaxy.eu, commands and tool references. Our workflow generator enables self-training, can advice and gives expertise. We compiled a new Galaxy flavor and deployed our system as a web service and Docker image.

**de.NBI services**

**de.STAIR** Galaxy flavor powered by Docker

https://destair.leibniz-fl.de

quay.io/destair
dev

de.STAIR Galaxy flavor powered by Docker

https://destair.leibniz-fl.de

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dev

**Galaxy atoms & Workflow generator plugin**

segemehl

10.13.71/journal.pcbi.1000502

DIEGO

10.1093/bioinformatics/btx690

Metilene

10.1101/ger196394.115

**de.NBI Training and education**

A primer for RNA-Seq processing, interpretation and visualization

Freiburg

04.10.2017 - 06.10.2017

A primer for RNA-Seq processing, interpretation and visualization

Jena

27.06.2018 - 29.06.2018

Galaxy for linking Bisulfite sequencing with RNA sequencing

Bostock

06.03.2019 - 08.03.2019

Introduction to RNA-Seq data analysis with Galaxy

Jena

04.04.2019 - 04.04.2019

Galaxy for linking Bisulfite sequencing with RNA sequencing

Freiburg

09.10.2019 - 11.10.2019

Introduction phylogenetic tree inference with Galaxy

Jena

14.01.2020 - 15.01.2020

Progress report

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General information on the project

**Publications**


Riege et al. (2019). Dissecting the DNA binding landscape and gene regulatory network of p63 and p53. Submitted

