

COLLABORATIVE TOOLS AND WORKFLOWS

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PLAN

- Introduction
- Source code and version control
- Data management
- Articles, Reports and Bibliography
- Extras

VERSION CONTROL

- Stores incremental changes in code
- Identifies authors of changes
- Can manage several parallel branches

There are many version control software, we'll focus on the one we currently use *GIT*

GIT

- Distributed: changes are committed locally and then synched away
- Local repository is equivalent to distant copies
- Git alone or within software forges (github, bitbucket, *gitlab...*)

GIT WORKFLOW

THE GITHUB FLOW



CREATE A BRANCH

Create a branch in your project where you can safely experiment and make changes.

OPEN A PULL REQUEST

Use a pull request to get feedback on your changes from people down the hall or ten time zones away.

MERGE AND DEPLOY

Merge your changes into your master branch and deploy your code.

WHO DOES WHAT

SUPERVISER:

- Creates a new branch (or project)
- Supervises Issues and Milestones
- Validate pull requests

STUDENT:

DEMO

<https://gitlab.utc.fr>

DATA MANAGEMENT

Where and how to stores projects related data beside
code

PERSONAL / SMALL FILES

- UTC owncloud instance:
<https://cloud.utc.fr>
- Online access to files, even outside UTC
- Sync folder on one or more computers

DEMO



 Nom d'utilisateur

 Mot de passe

se souvenir de moi

Connexion

SHARED / BIGGER FILES

- NSE NAS server: <http://ds8bmbi.utc:5000/>
- Only accessible inside UTC network (physical or VPN)
- Can store a few terrabytes and share data between users

DEMO



FOLDER AND NAMING STRUCTURES

- To be defined

MetaData are to be kept in a *text* file along the data.

ARTICLES, REPORTS AND BIBLIOGRAPHY

Efficient tools to publish your science

SHARED BIBLIOGRAPHY WITH ZOTERO

- Manage articles with full metadata
- Add article from DOI or journal webpage
- Local software with online sync (metadata on Zotero servers / PDF on the NAS)
- Can process bulk pdf to extract data
- See full tutorial for details and settings

SIMPLE EXAMPLE:

The image shows a web browser window with a search bar at the top containing the text "Saisir l'ISBN, le DOI ou le PMID à chercher dans la boîte ci-dessous." Below the search bar, a list of search results is displayed. The first result is highlighted with a blue box and contains the DOI "10.1139/o91-119".

The browser address bar shows the URL: researchpress.com/doi/abs/10.1139/o91-119#.VwvOO3pUU0Y

The page content includes a navigation menu with the following items: Accueil > Revues > Biochimie et biologie cellulaire > Liste de numéros > Volume 69, numéro 12, décembre 1991 > Calcium-dependent mechanisms of regulation of smooth muscle contraction.

The main article information is as follows:





- Article**
- Calcium-dependent mechanisms of regulation of smooth muscle contraction**
- Michael P. Walsh
- Biochimie et biologie cellulaire*, 1991, 69(12): 771-800, [10.1139/o91-119](https://doi.org/10.1139/o91-119)

Options for downloading the article are provided:

- PDF (4649 K)
- PDF-Plus (1720 K)
- Citation d'articles

The **RÉSUMÉ** (Abstract) section begins with the text: "L'état contractile du muscle lisse est contrôlé d'abord par la concentration sarcoplasmique (cytosolique) du Ca²⁺ libre. Divers stimuli qui induisent la contraction du muscle lisse (e.g., dépolarisation de la membrane, agonistes α -adrénergiques et muscariniques) déclenchent une augmentation du [Ca²⁺] sarcoplasmique libre qui passe de 120–270 (taux à l'état de repos) à..."

At the bottom of the page, a list of other articles is visible, including "Biology of the Uterus" by Wynn et Jollie, "Biomechanics of the Human Urinary Bladder" by Miftahof et Nam, and "BRIEF REVIEW" by Somlyo.

 calcium dependant mechanisms of regulation of smooth muscle contraction.pdf		•
▶  Cellular aspects of smooth muscle function	Kao	•
▶  Cellular aspects of smooth muscle function	Kao	•
▶  Computer models to study uterine activation at labour	Sharp et al.	•

LATEX

- Separate style and content
- Very efficient for structure, math and references
- Follows rules for scientific articles (specifically when fed the correct journal/conf style)
- Can benefit from version control

EXAMPLE

```
\documentclass[a4paper, 11pt]{article}
\usepackage[utf8]{inputenc}
\usepackage[T1]{fontenc}
\usepackage{lmodern}
\usepackage{graphicx}
\usepackage[french]{babel}

\begin{document}
Bonjour, j'édite en \LaTeX!
\begin{equation}
a^2 x + b x + c = 0
\end{equation}
\end{document}
```

EXAMPLE

Generated PDF:

Bonjour, j'édite en L^AT_EX!

$$a^2x + bx + c = 0 \tag{1}$$

SHARELATEX

- Online service
- Collaborative edition of latex document
- History and chat included

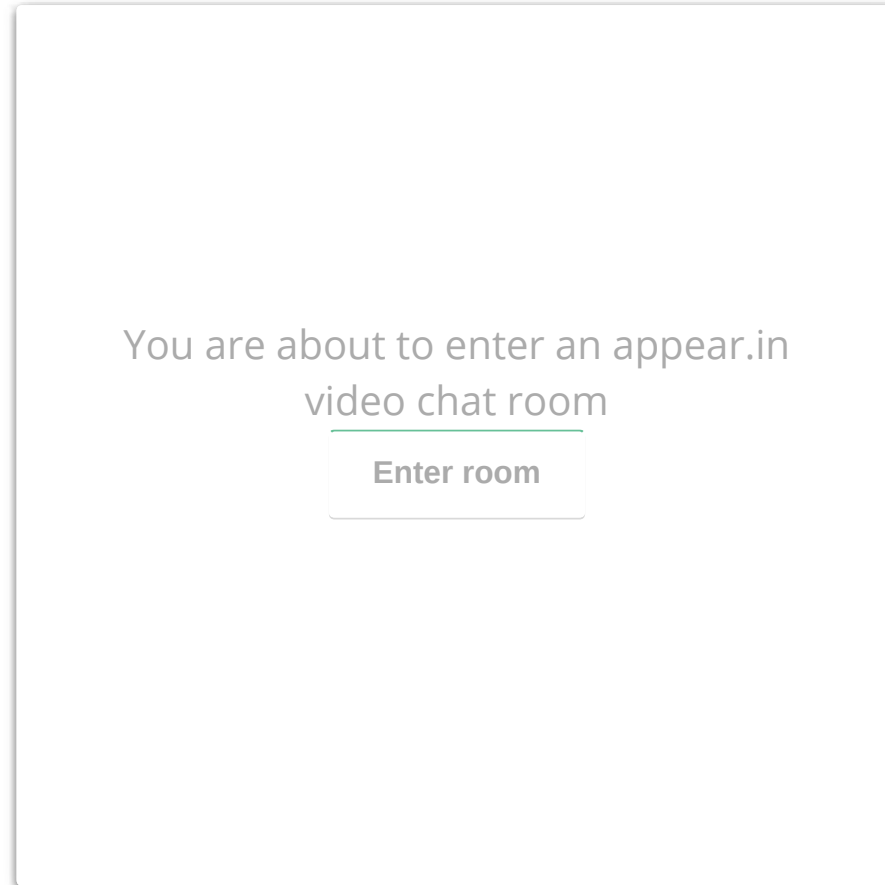
Démo: <https://fr.sharelatex.com/project>

PLAN FOR A MEETING

octobre 2014								
	mer. 22	jeu. 23	ven. 24	sam. 25				
	10h	19h	15h30	20h	18h-19h	matin	soir	
Yanaj	✓ (✓) ⊘	✓ (✓) ⊘	✓ (✓) ⊘	✓ (✓) ⊘	✓ (✓) ⊘	✓ (✓) ⊘	✓ (✓) ⊘	Enregister
Agnès		✓		(✓)	✓	✓		✎
Mohamed	✓		✓		✓	(✓)		✎
Cathy	✓		✓		(✓)		✓	✎
Adelin		✓			✓			✎
Claire		(✓)	(✓)	✓		(✓)		✎
Luc		✓		✓	✓			✎
Somme	2	3	2	2	★4	1	1	

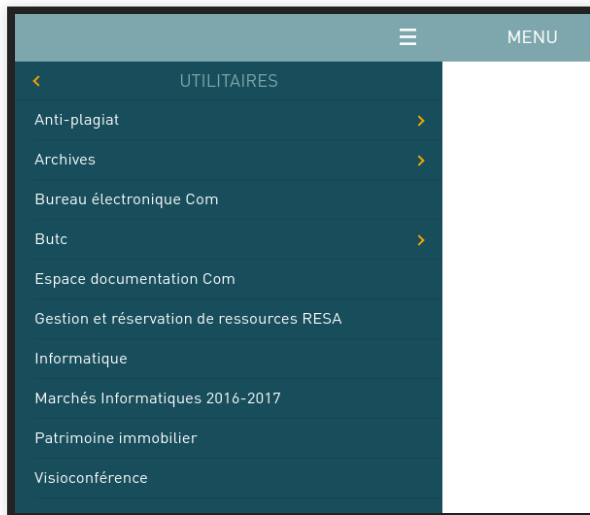
Framadate service

LIGHTWEIGHT CONF CALL WITH WEBCAM



<https://appear.in/nse-students>

BOOK A ROOM OR A DEVICE



RESA - Gestion et Réserveation de Ressources Jeremy LAFORET

Gestion des conflits En attente de modération [0] En attente de restitution [0] Mes Réservations

Rechercher une ressource sous modération Statistiques

Vue Domaines

Rechercher

Domaines: UTC - BMBI

Site: -- Tous -- Bâtiment: -- Tous --

Description:

Ressources: -- Toutes --

Type ressource: -- Toutes --

Exclure les ressources indisponibles: Oui

Calendrier: Mars 2017

L	M	M	J	V	S	D
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Recherche

Double cliquer dans un créneau libre pour ajouter une réservation.
Double cliquer sur une réservation pour l'afficher.
Cliquer une fois sur une réservation, puis sur la croix pour la supprimer.
Vue mois: Faire glisser la grille de gauche vers la droite ou inversement pour naviguer dans le temps.

Pour sauvegarder les préférences cliquez sur le bouton à droite de vo...
Actualisation automatique des données toutes les 5 minut...

Précédant Suivant Maintenir

Jour Semaine Mois Rafraichir

	Mars 2017							
	17	19	21	23	25	27	29	
BOSE Electroforce 3230 (Appareil de tests de traction et de co...)								
BOSE Planar Biaxial TestBench (Appareil de tests de traction d...)								

ent.utc.fr > utilitaires > RESA

CONCLUSION

Questions?

Slides and cheatsheets will be available online.