1st 2018/19 GouTP @ SCEE

- *About:* **Searching and Organizing Your Bibliographic References**
- *Date:* 25th of October 2018 📅
- *Who:* Lilian Besson and Bastien Trotobas and Nabil Zeraneh ✋

Open source content 🔳 ?

> Note: slides are online: `github.com/Naereen/slides/tree/master/2018_10__Looking_for_and_organizing_your_bibliographic_references__GouTP_at_CentraleSupelec`

What's a *"GouTP"* ?

- **Internal monthly technical training session** 📅
- Usually: on *Thursday*, at *3pm* 🕒 - *3:30pm* 🕞
- With ☕ coffee, 🍵 tea and 🍪 sweets: we relax while training !

> Initiative of Quentin and Vincent 👏 in January 2017...
> Continued by Rémi, Muhammad, Rami and Lilian 👌 !

Not only @ SCEE 😃 ?

- Now open to all the PhD students of CentraleSupélec, campus of Rennes.

Agenda for today 🕐

1. Quick presentation of internal tools @ SCEE
2. How to look for bibliographic references?
3. How to organize your references: Zotero, JabRef & others.

Please 🙏

Ask questions and interrupt me if you want!

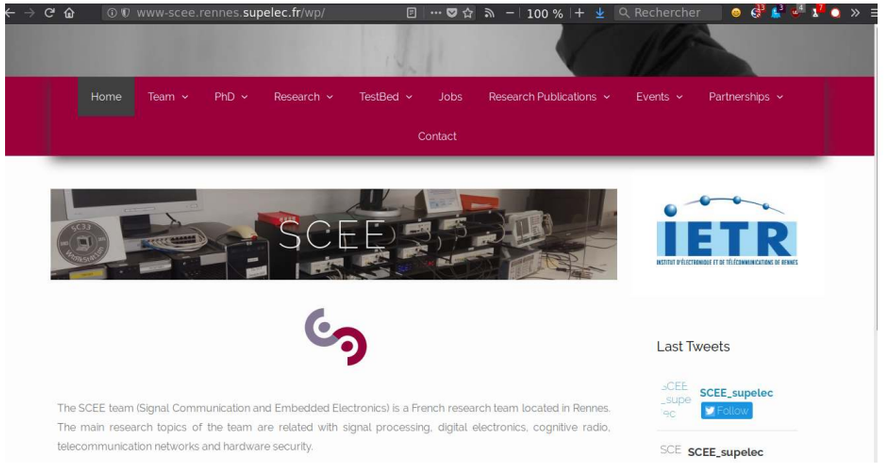
1. Presentation of internal tools @ SCEE

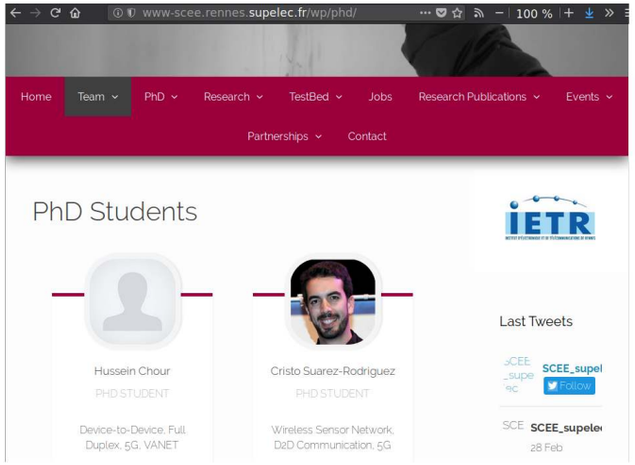
- Welcome to our new PhD student and interns 🖐 !
- You met (almost) everybody this week !
- You will become familiar with the research themes of our team…

↪ **Let see a few 🛠 tools that can make your life easier!**

Website 🕸

- www-scee.rennes.supelec.fr was created by Rémi and Aymeric
- It is maintained by Karim and Majed



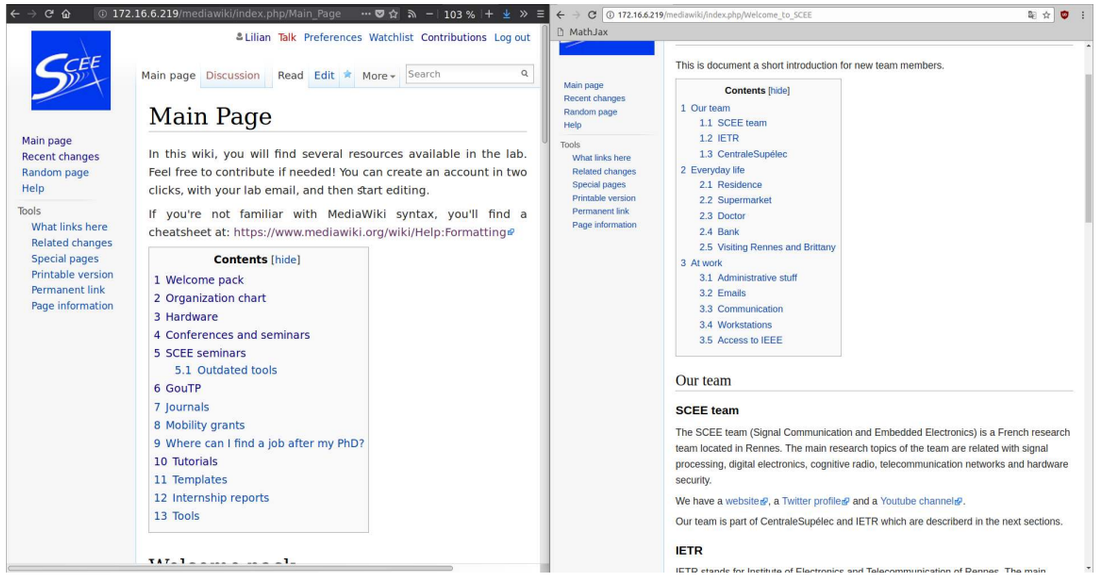


New comers, please 🙏

- send a short summary of your research interest with links to your LinkedIn, Google Scholar profile (or other sites). Picture: *if you want*
- **to Karim and Majed** so we add you on the website

Internal Wiki 📝

- We have a MediaWiki running locally on http://172.16.6.219/
- Welcome pack : can be useful in your first days here! http://172.16.6.219/mediawiki/index.php/Welcome_to_SCEE
- Anyone can edit, it is maintained by Bastien and Lilian
- Participate if you have anything to change (create an account, edit!)

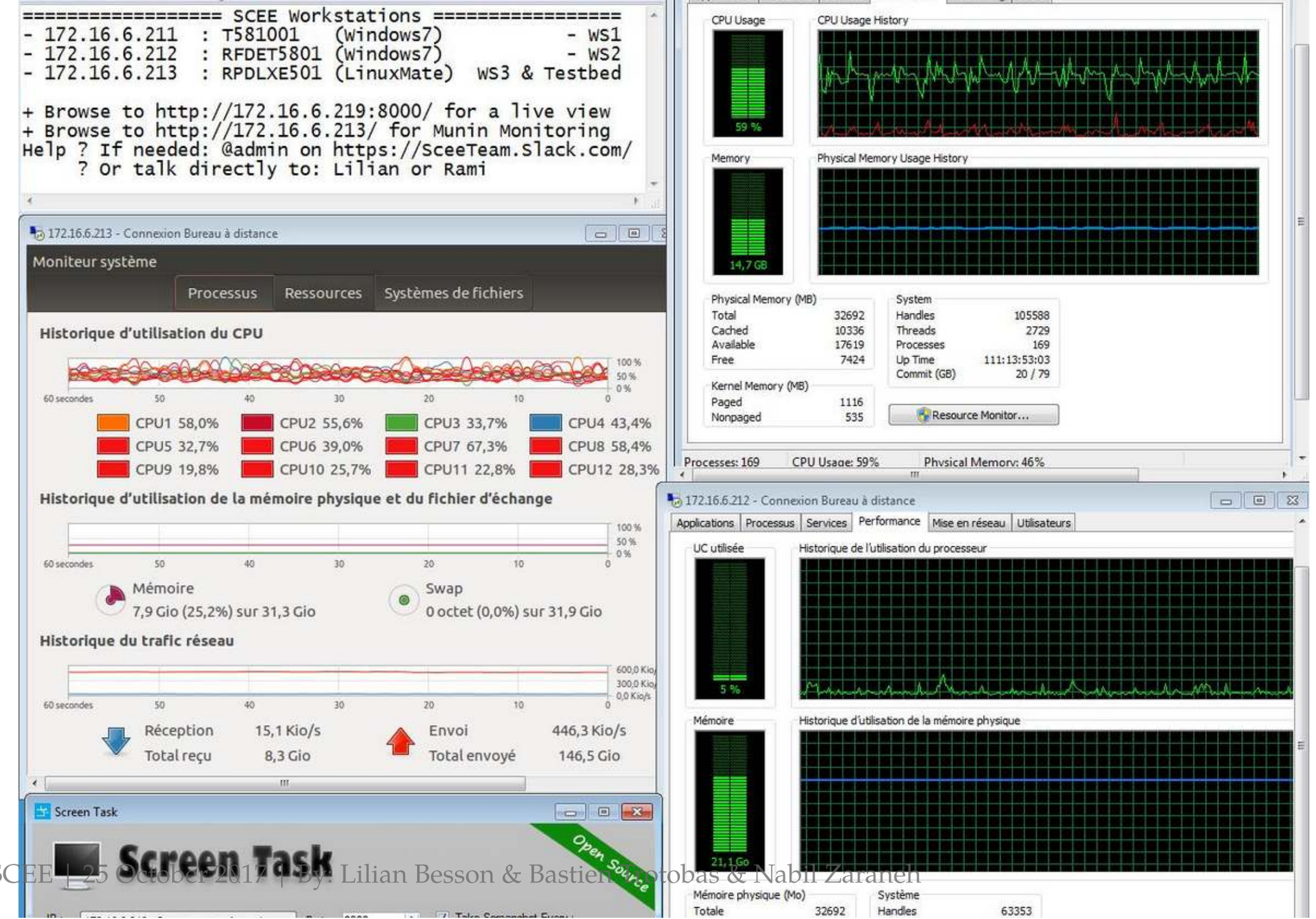


Workstations 💻 (Windows & GNU/Linux)

- 2 Windows 7 workstations, with MATLAB
  - WS1 : `172.16.6.211`
  - WS2 : `172.16.6.212`
- 1 GNU/Linux (Ubuntu) workstation, with Python, GNU Radio…
  - WS3 : `172.16.6.213`
- Powerful machines: 12 cores, 32 Gb of RAM, lots of storage…
- Monitoring 🔍 : http://172.16.6.219:8000 (ask us for id/passwd)
  (please check for use load, before launching heavy simulations)

🤦 Ask for an account if you need

- To run computations, or to use the TestBed
- Ask to *Rami for Windows*, to *Lilian for GNU/Linux*


========== SCEE Workstations ==========
- 172.16.6.211 : T581001 (Windows7) - WS1
- 172.16.6.212 : RFDET5801 (Windows7) - WS2
- 172.16.6.213 : RPDLXE501 (LinuxMate) WS3 & Testbed
+ Browse to http://172.16.6.219:8000/ for a live view
+ Browse to http://172.16.6.213/ for Munin Monitoring
Help ? If needed: @admin on https://SceeTeam.Slack.com/
? Or talk directly to: Lilian or Rami
CPU Usage
59 %
CPU Usage History
Memory
14,7 GB
Physical Memory Usage History
Physical Memory (MB)
Total 32692
Cached 10336
Available 17619
Free 7424
System
Handles 105588
Threads 2729
Processes 169
Up Time 111:13:53:03
Commit (GB) 20 / 79
Kernel Memory (MB)
Paged 1116
Nonpaged 535
Resource Monitor...
Processes: 169
CPU Usage: 59%
Physical Memory: 46%
172.16.6.213 - Connexion Bureau à distance
Moniteur système
Processus
Ressources
Systèmes de fichiers
Historique d'utilisation du CPU
CPU1 58,0%
CPU2 55,6%
CPU3 33,7%
CPU4 43,4%
CPU5 32,7%
CPU6 39,0%
CPU7 67,3%
CPU8 58,4%
CPU9 19,8%
CPU10 25,7%
CPU11 22,8%
CPU12 28,3%
Historique d'utilisation de la mémoire physique et du fichier d'échange
Mémoire
7,9 Gio (25,2%) sur 31,3 Gio
Swap
0 octet (0,0%) sur 31,9 Gio
Historique du trafic réseau
Réception 15,1 Kio/s
Total reçu 8,3 Gio
Envoi 446,3 Kio/s
Total envoyé 146,5 Gio
172.16.6.212 - Connexion Bureau à distance
Applications
Processus
Services
Performance
Mise en réseau
Utilisateurs
UC utilisée
5 %
Historique de l'utilisation du processeur
Mémoire
21,1 Go
Historique d'utilisation de la mémoire physique
Mémoire physique (Mo)
Totale 32692
Système
Handles 63353
Screen Task
Screen Task
Open Source

USRP TestBeds ☎️

- We have 8 USRP cards that can be used from GNU Radio Companion on the WS3
- See more on http://172.16.6.219/mediawiki/index.php/Main_Page#Hardware

Monitoring 🔍

- http://172.16.6.213:8000 (made by Quentin)
- let you see the IP of each USRP card
- and who uses what in real time

💁 Advice

- If you need to use the USRP, *discuss with Nabil and Lilian before*

SCEETestbed Monitor

Kit N°1	Kit N°2	Kit N°3	Kit N°4	Kit N°5
192.168.10.101	192.168.10.102	192.168.10.103	192.168.10.104	192.168.10.105
Disconnected	Disconnected	Free to use	Free to use	Free to use

Kit N°6	Kit N°7	Kit N°8	Kit N°9	Kit N°10
192.168.10.106	192.168.10.107	192.168.10.108	192.168.10.109	192.168.10.110
Free to use	Free to use	Free to use	Disconnected	Free to use

Kit N°11	Kit N°12	Kit N°13	Kit N°14	Kit N°15
192.168.10.111	192.168.10.112	192.168.10.113	192.168.10.114	192.168.10.115
Free to use	Disconnected	Disconnected	Disconnected	Disconnected

Kit N°16	Kit N°17	Kit N°18	Kit N°19	Kit N°20
192.168.10.116	192.168.10.117	192.168.10.118	192.168.10.119	192.168.10.120
Disconnected	Disconnected	Disconnected	Disconnected	Disconnected

2. How to look for bibliographic references?

⚠ Do we need references?

- Yes

⚠ But just for the paper right?

- No: you need references *at every step* of our research job!

⚠ How to find references?

- We will see some techniques

Reading papers

- Each research paper has a list of references
- This always gives an easy way to find new references: just go read every quoted paper!

experiment with the code.

References

Lilian Besson and Emilie Kaufmann. What Doubling Trick Can and Can't Do for Multi-Armed Bandits. Preprint, February 2018a. URL `hal.inria.fr/hal-01736357`.

Lilian Besson and Emilie Kaufmann. Multi-Player Bandits Revisited. In *Algorithmic Learning Theory*, Lanzarote, Spain, April 2018b. URL `hal.inria.fr/hal-01629733`.

Lilian Besson, Emilie Kaufmann, and Christophe Moy. Aggregation of Multi-Armed Bandits Learning Algorithms for Opportunistic Spectrum Access. In *IEEE WCNC - IEEE Wireless Communications and Networking Conference*, Barcelona, Spain, April 2018. URL `hal.inria.fr/hal-01705292`.

Georg Brandl et al. Sphinx: Python documentation generator, 2018. URL `www.sphinx-doc.org`.

Sébastien Bubeck and Nicolò Cesa-Bianchi. Regret Analysis of Stochastic and Non-Stochastic Multi-Armed Bandit Problems. *Foundations and Trends® in Machine Learning*, 5(1), 2012.

Olivier Chapelle and Lihong Li. An Empirical Evaluation of Thompson Sampling. In *Advances in Neural Information Processing Systems*, pages 2249–2257. Curran Associates, Inc., 2011.

6. See the page `SMPyBandits.GitHub.io/DoublingTrick` on the documentation.

Note: the simulation code used for the experiments in Section 5 is for MATLAB or GNU Octave, and is open-sourced under the MIT License,
at: `https://Bitbucket.org/scee_ietr/rl_slotted_iot_networks`.

References

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2. T. L. Lai and H. Robbins, "Asymptotically efficient adaptive allocation rules," *Advances in Applied Mathematics*, vol. 6, no. 1, pp. 4–22, 1985.
3. S. Bubeck, N. Cesa-Bianchi, *et al.*, "Regret analysis of Stochastic and Non-Stochastic Multi-Armed Bandit Problems," *Foundations and Trends® in Machine Learning*, vol. 5, no. 1, pp. 1–122, 2012.
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10. V. Toldov, L. Clavier, V. Loscr, and N. Mitton, "A Thompson Sampling approach to channel exploration-exploitation problem in multihop cognitive radio networks," in *PIMRC*, pp. 1–6, 2016.
11. R. Bonnefoi, C. Moy, and J. Palicot, "Advanced metering infrastructure backhaul reliability improvement with Cogn.Radio," in *SmartGridComm*, pp. 230–236, 2016.
12. S. Boyd and L. Vandenberghe, *Convex Optimization*. Cambridge Univ. Press, 2004.
13. D. G. Luenberger, "Quasi-convex programming," *SIAM Journal on Applied Mathematics*, vol. 16, no. 5, pp. 1090–1095, 1968.
14. M. E. Yaari, "A note on separability and quasiconcavity," *Econometrica*, vol. 45,

Looking by keyword

- Try to look for some keywords, in Google Scholar, Google, DuckDuckGo, ResearchGate etc
- ⚠️ Some keywords will give *a lot* of results!
- Filter by language! Filter by date!
- Combine keywords!

Google

Bandit and Internet-of-Things

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About 9,440,000 results (0.27 seconds)

[PDF] Multi-Armed Bandit Learning in IoT Networks - Archive ouverte HAL
https://hal.archives-ouvertes.fr/hal-01575419/document
by R Bonnefoi - 2017 - Cited by 9 - Related articles
Jul 2, 2018 - Multi-Armed **Bandit** Learning in **IoT** Networks: Learning helps even in non-stationary settings. Rémi Bonnefoi, Lilian Besson, Christophe Moy, ...

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Sep 4, 2018 - Setting up the future Internet of Things (**IoT**) networks will require to support ... **Bandit** (MAB) learning algorithms to improve resource exploitation.

(PDF) A Bandit Approach for Intelligent IoT Service Composition ...
https://www.researchgate.net/.../308412577_A_Bandit_Approach_for_Intelligent_IoT_S...
Nov 7, 2016 - PDF | The number of connected devices and services available across the Internet of Things (**IoT**) is rapidly expanding. In this paper, we ...

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GitHub - bgalbraith/bandits: Python library for Multi-Armed Bandits

https://github.com/bgalbraith/bandits

Python library for **Multi-Armed Bandits**. Contribute to bgalbraith/bandits development by creating an account on GitHub.

Topic: multi-armed-bandit · GitHub

https://github.com/topics/multi-armed-bandit

A **multi-armed bandit library** for **Python** ... A simple implementation of the multi_arm_bandit problem which can be used in **Open** AI gym as well.

SMPyBandits · PyPI

https://pypi.org/project/SMPyBandits/

Mar 7, 2018 - SMPyBandits: **Open-Source Python package** for Single- and Multi-Players **multi-armed Bandits** algorithms.

[PDF] SMPyBandits: an Open-Source Research Framework for Single and ...

https://perso.crans.org/besson/articles/SMPyBandits__Long_Version__02-2018.pdf

by L Besson - 2018 - Related articles

Feb 28, 2018 - algorithms and in different variations of the **multi-armed bandits** problem. Contents ... This **Python package** is the most complete **open-source** ...

Looking by author

- If you know an author, it's easy to find his/her work
- It usually gives good references on related work!

Example?

- For examples, with my advisor Émilie Kaufmann…

emilie kaufmann

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Emilie Kaufmann - Inria

chercheurs.lille.inria.fr/ekaufman/ ▾

Welcome to my professional webpage. I am a CNRS Junior Researcher in the CRIStAL at Université de Lille. I am also a member of the Inria team SequeL.

Research

Emilie Kaufmann, Wouter Koolen and Aurélien Garivier ...

Un point de vue bayésien pour ...

Un point de vue bayésien pour des algorithmes de bandit plus ...

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Emilie Kaufmann - Citations Google Scholar

scholar.google.com/citations?user=9GE1vx4AAAAJ&hl=fr ▾

Thompson sampling: An asymptotically optimal finite-time analysis. E **Kaufmann**, N Korda, R Munos. International Conference on Algorithmic Learning Theory, ...

dblp: Emilie Kaufmann

https://dblp.org › Persons ▾

Aug 23, 2018 - List of computer science publications by **Emilie Kaufmann**.

Non sécurisé | chercheurs.lille.inria.fr/ekaufman/research.html

iot 1/1

Emilie Kaufmann

CNRS Junior Researcher at CRIStAL
emilie.kaufmann"at"univ-lille.fr

Inria Lille - Nord Europe
Equipe SequeL, Bureau A07
40, avenue du Halley
59650 Villeneuve d'Ascq, FRANCE
+333.59.57.79.12.

2017

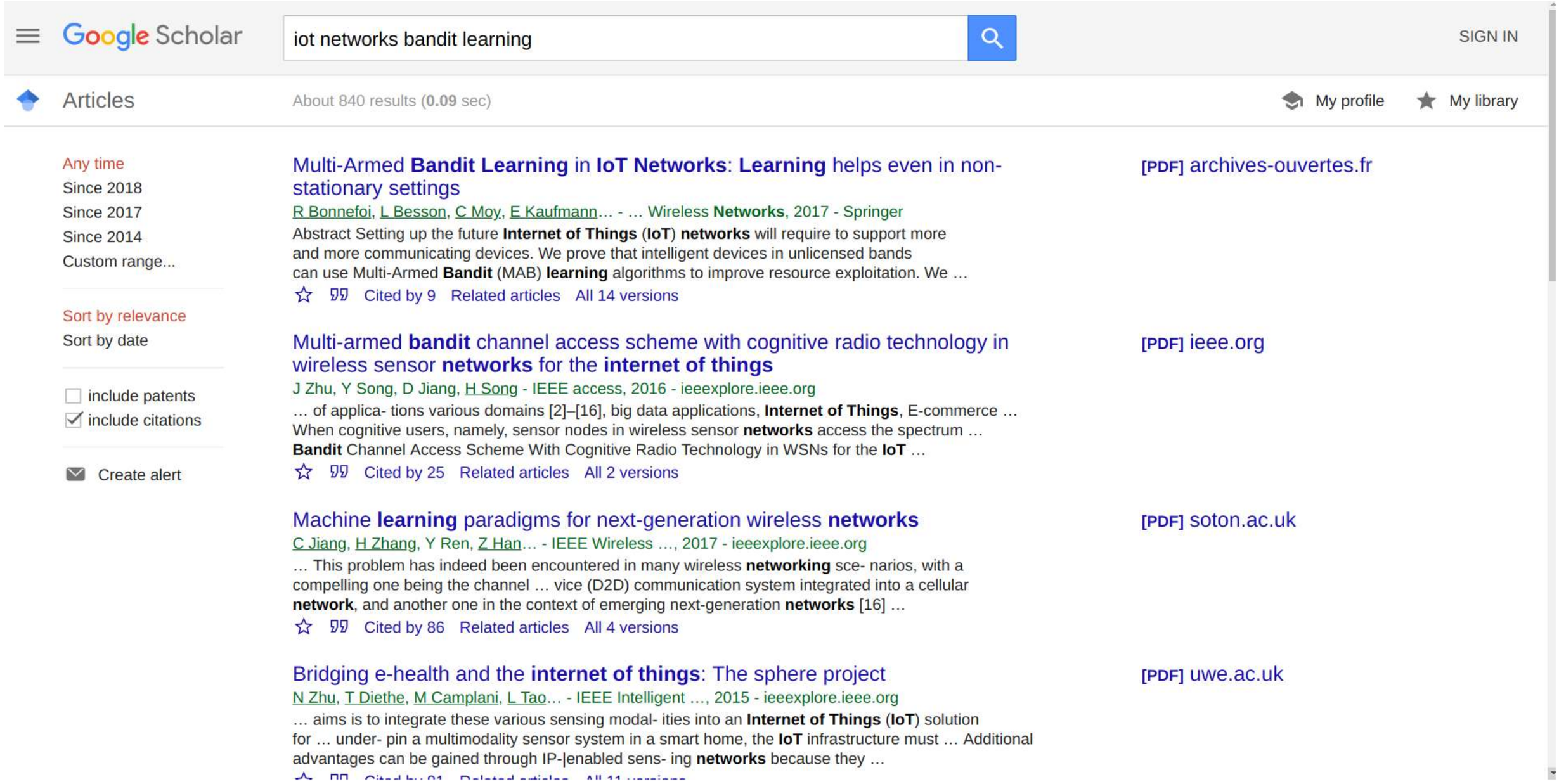
- Learning the distribution with largest mean: two bandit frameworks. Emilie Kaufmann and Aurélien Garivier. ESAIM: Proceedings and Surveys, Vol 60:114-131.
- Monte-Carlo Tree Search by Best Arm Identification. Emilie Kaufmann and Wouter M. Koolen. Advances in Neural Processing Systems (NIPS).
- Multi-Armed Bandit Learning in IoT Networks: Learning helps even in non-stationary settings. Rémi Bonnefoi, Lilian Besson, Christophe Moy, Emilie Kaufmann and Jacques Palicot. International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM). (best paper award)
- A Spectral Algorithm with Additive Clustering for the Recovery of Overlapping Communities in Networks. Emilie Kaufmann, Thomas Bonald and Marc Lelarge. Journal of Theoretical Computer Science.
- On Bayesian Index Policies for Sequential Resource Allocation. Emilie Kaufmann. Annals of Statistics, Vol 46(2): 842-865.

2016

- Modèles de bandit : une histoire bayésienne et fréquentiste (survey paper in French). MATAPLI 109:51-64, 2016.
- On Explore-Then-Commit Strategies. Aurélien Garivier, Emilie Kaufmann and Tor Lattimore. Advances in Neural Processing Systems (NIPS).

Google Scholar

- Many researchers have a Google Scholar profile
- But it is also very useful to look for new references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J Zhu, Y Song, D Jiang, H Song - IEEE access, 2016 - ieeexplore.ieee.org
... of applica- tions various domains [2]–[16], big data applications, Internet of Things, E-commerce ... When cognitive users, namely, sensor nodes in wireless sensor networks access the spectrum ... Bandit Channel Access Scheme With Cognitive Radio Technology in WSNs for the IoT ...
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... This problem has indeed been encountered in many wireless networking sce- narios, with a compelling one being the channel ... vice (D2D) communication system integrated into a cellular network, and another one in the context of emerging next-generation networks [16] ...
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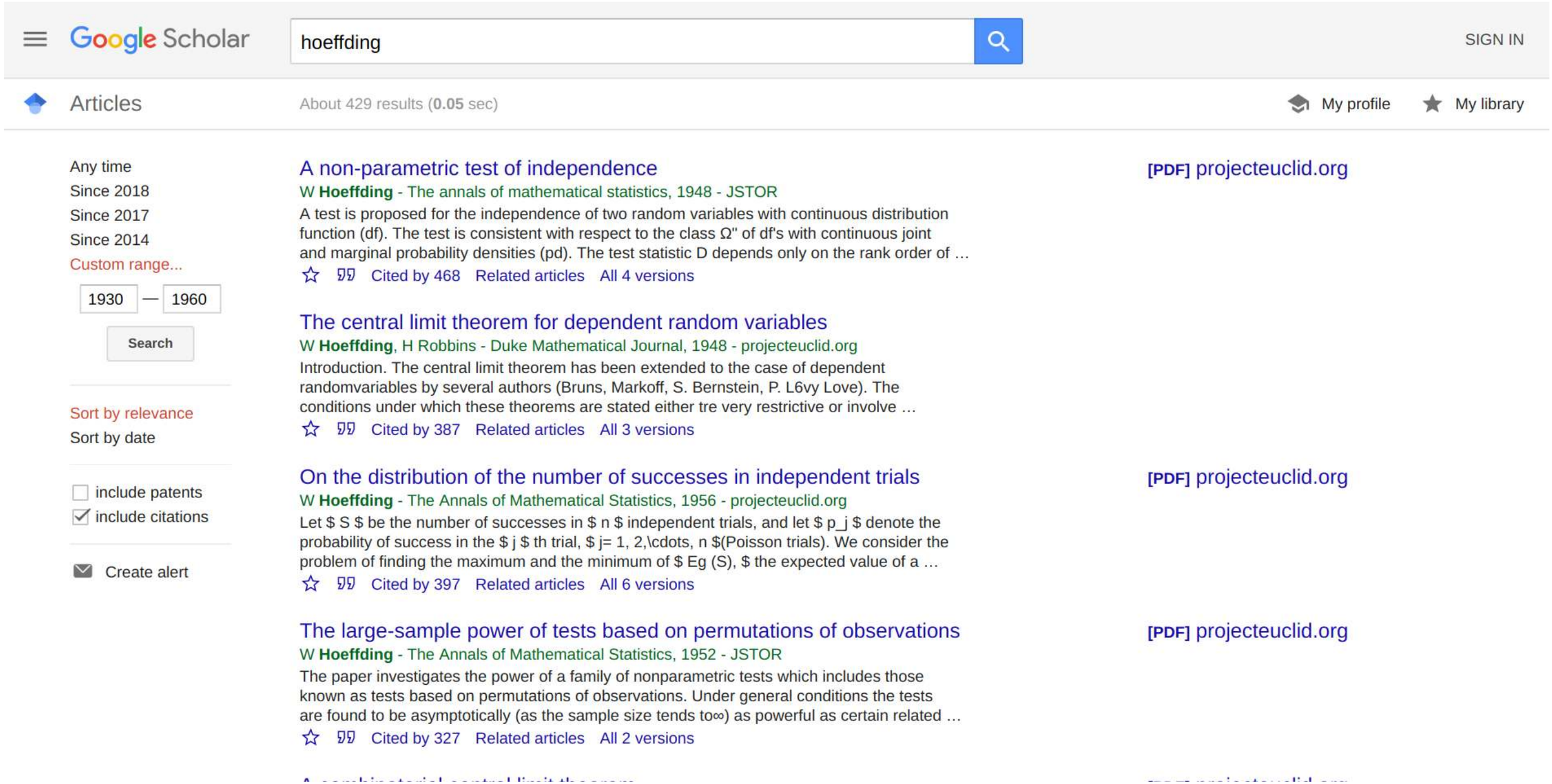
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- (same, just less popular than Google Scholar)

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- ⚠ they have a very aggressive copyright policy!
- Suggestion: do as Rémi:
  only upload a one-page PDF that links to the HAL version

Multi-Armed Bandit Learning in IoT Networks: Learning Helps Even in Non-stationary Settings

Multi-Armed Bandit Learning in IoT Networks: Learning Helps Even in Non-stationary Settings

Rémi Bonnefoi[(1)], Lilian Besson[(1)(2)], Christophe Moy[(1)], Emilie Kaufmann[(2)] and Jacques Palicot[(1)]
[(1)]CentraleSupélec/ IETR, CentraleSupélec Campus de Rennes Avenue de la Boulais, 35510 Cesson-Sévigné, France
[(2)] Univ. Lille 1, CNRS, Inria, SeQueL Team, UMR 9189 – CRIStAL, F-59000 Lille, France
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Full text available at: https://hal.archives-ouvertes.fr/hal-01575419

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Rémi Bonnefoi | PhD

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[C11] – Bonnefoi, R.; Moy, C.; Palicot, J.; Nafkha A. "Low-Complexity Antenna Selection for Minimizing the Power Consumption of a MIMO Base Station", AICT 2018, July 2018.

[C10] – Bonnefoi, R.; Tarcisio, M.; C. Estêvão Fernandes "Latency Efficient Request Access Rate for Congestion Reduction in LTE MTC", ICT, June 2018.

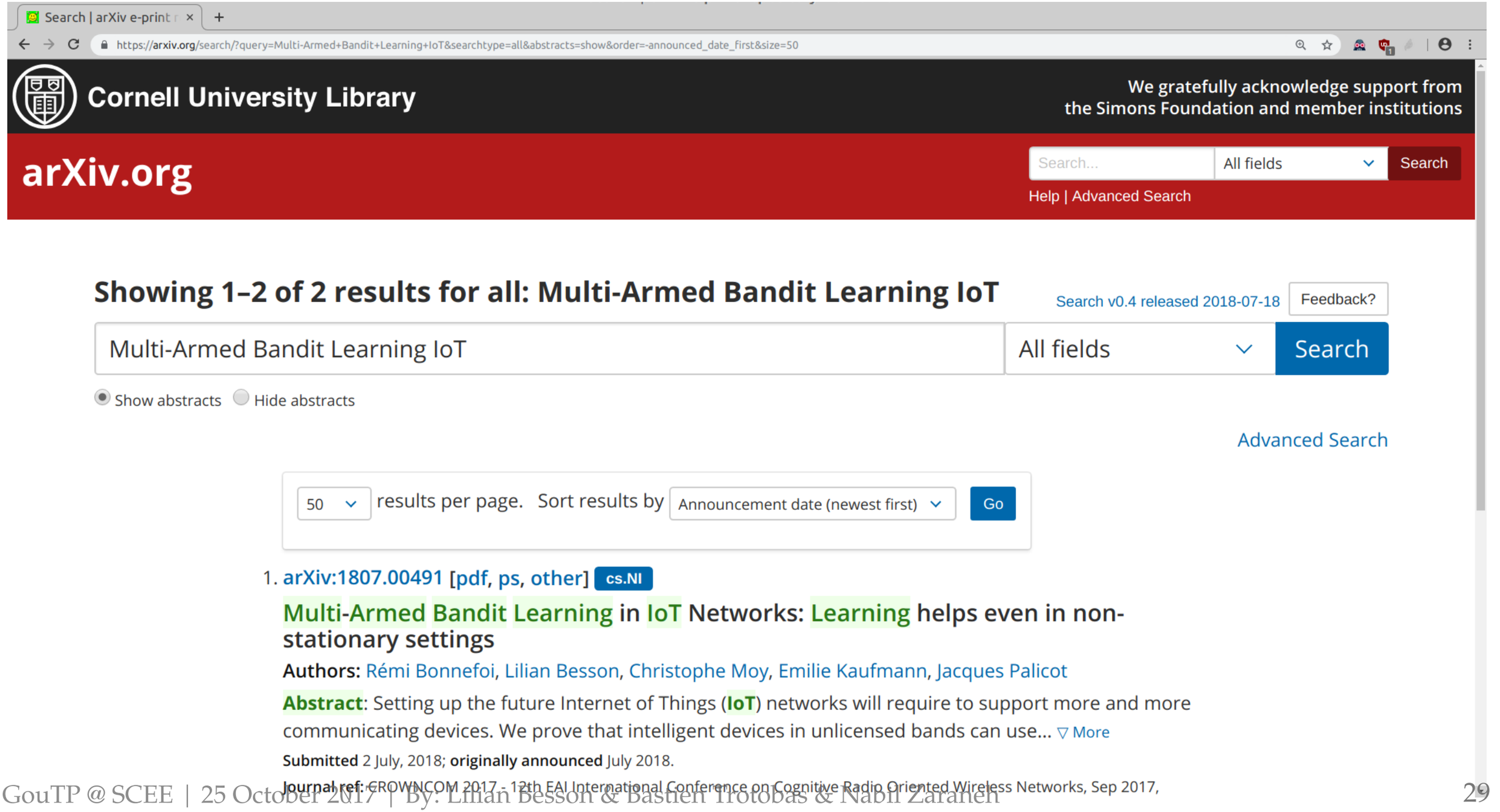
[C9] – Bonnefoi, R.; Besson, L.; Moy, C.; Kaufmann, E.; Palicot, J. "Multi-Armed Bandit Learning in IoT Networks: Learning helps even in non-stationary settings", CROWNCOM, September 2017. (Best Paper Award)

[C8] – Bonnefoi, R.; Moy, C.; Palicot, J. "Mises en veille dynamique pour Minimiser la Consommation d'Energie d'une Station de Base", Colloque GRETSI, Septembre 2017.

[C7] – Bonnefoi, R.; Moy, C.; Palicot, J. "Framework for Hierarchical and Distributed Smart Grid Management", URSI GASS, August 2017.

[C6] – Bonnefoi, R.; Moy, C.;Farès, H.; Palicot, J. "Power Allocation for Minimizing Energy Consumption of OFDMA Downlink with Cell DTx", ICT, May 2017.

[C5] – Bonnefoi, R.; Nafkha, A. "A New Lower Bound on the Ergodic Capacity of Optical MIMO Channels", ICC, May 2017.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1. arXiv:1807.00491 [pdf, ps, other] cs.NI
Multi-Armed Bandit Learning in IoT Networks: Learning helps even in non-stationary settings
Authors: Rémi Bonnefoi, Lilian Besson, Christophe Moy, Emilie Kaufmann, Jacques Palicot
Abstract: Setting up the future Internet of Things (IoT) networks will require to support more and more communicating devices. We prove that intelligent devices in unlicensed bands can use... ▽ More
Submitted 2 July, 2018; originally announced July 2018.
Journal ref: CROWNCOM 2017 - 12th EAI International Conference on Cognitive Radio Oriented Wireless Networks, Sep 2017,

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An Asymptotically Optimal Algorithm for Communicating Multiplayer Multi-Armed Bandit Problems
1712.00656v1 pdf
show similar | discuss
Noyan Evirgen, Alper Kose, Hakan Gokcesu
12/2/2017 cs.LG
This work is an extension of the paper [arXiv:1711.01628] which has been accepted to the 2017 IEEE...

We consider a decentralized stochastic multi-armed bandit problem with multiple players. Each player aims to maximize his/her own reward by pulling an arm. The arms give rewards based on i.i.d. stochastic Bernoulli distributions. Players are not aware about the probability distributions of the arms. At the end of each turn, the players inform their neighbors about the arm he/she pulled and the reward he/she got. Neighbors of players are determined according to an Erd{\H{o}}s-R{\'e}nyi graph with connectivity α. This graph is reproduced in the beginning of every turn with the same connectivity. When more than one player choose the same arm in a turn, we assume that only one of the players who is randomly chosen gets the reward where the others get nothing. We first start by assuming players are not aware of the collision model and offer an asymptotically optimal algorithm for $\alpha = 1$ case. Then, we extend our prior work and offer an asymptotically optimal algorithm for any connectivity but zero, assuming players aware of the collision model. We also study the effect of α, the degree of communication between players, empirically on the cumulative regret by comparing them with traditional multi-armed bandit algorithms.

The Effect of Communication on Noncooperative Multiplayer Multi-Armed Bandit Problems
1711.01628v1 pdf
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Noyan Evirgen, Alper Kose
11/5/2017 cs.LG
This work has been accepted to the 2017 IEEE ICMLA

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Recherche

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Type de dépôt ×
Tous ×

multi-player bandit — Rechercher

+Recherche avancée…

8 résultats

enregistrer la recherche

Tri | Nombre | Outils

TYPE DE DOCUMENT

- [x] Communication dans un congrès (3)
- [x] Pré-publication, Document de travail (2)
- [x] Article dans une revue (1)
- [x] Rapport (1)
- [x] Thèse (1)

AUTEUR

Filtrer

- [ ] Robin Allesiardo (1)
- [ ] Lilian Besson (1)
- [ ] A. Garivier (1)
- [ ] Nobuyuki Hanaki (1)
- [ ] Emilie Kaufmann (1)
- [ ] Alan Kirman (1)
- [ ] Wouter Koolen (1)
- [ ] Odalric-Ambrym Maillard (1)
- [ ] Rémi Munos (1)

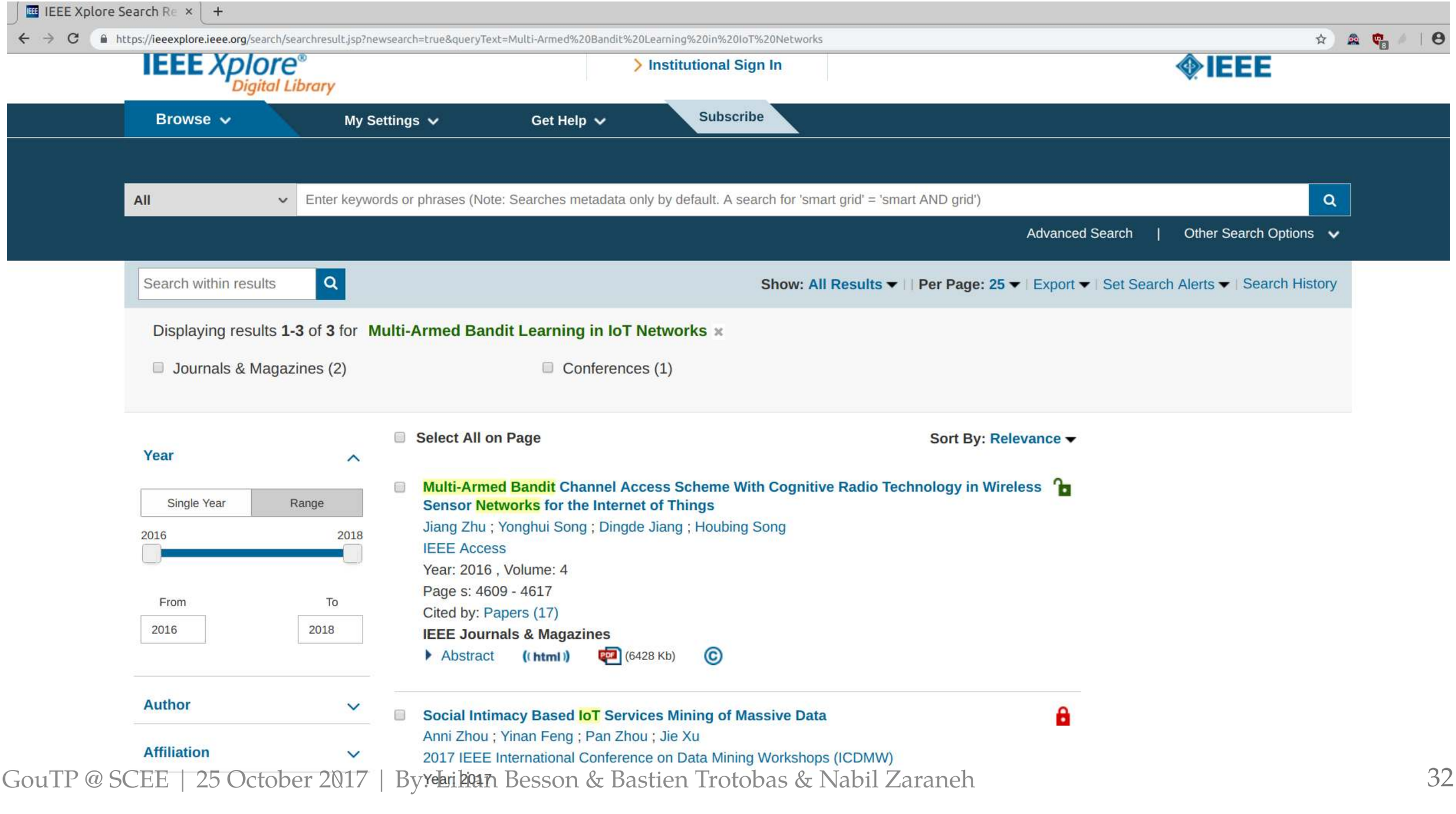
hal-00562257v2 **Pré-publication, Document de travail**
Antoine Salomon. **Large Bandit Games**
2010

tel-01420663v3 **Thèse**
Robin Allesiardo. **Bandits Manchots sur Flux de Données Non Stationnaires**
Intelligence artificielle [cs.AI]. Université Paris-Saclay, 2016. Français. 〈NNT : 2016SACLS334〉

halshs-01723513v1 **Article dans une revue**
Nobuyuki Hanaki, Alan Kirman, Paul Pezanis-Christou. **Observational and reinforcement pattern-learning: An exploratory study ***
European Economic Review, Elsevier, 2018, 104, pp.1 - 21. 〈10.1016/j.euroecorev.2018.01.009〉

hal-01840022v1 **Pré-publication, Document de travail**
Lilian Besson. **SMPyBandits: an Experimental Framework for Single and Multi-Players Multi-Arms Bandits Algorithms in Python**
2018

inria-00433866v1 **Communication dans un congrès**
Philippe Rolet, Michèle Sebag, Olivier Teytaud. **Boosting Active Learning to Optimality: a**


IEEE Xplore Search Re
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Displaying results 1-3 of 3 for Multi-Armed Bandit Learning in IoT Networks
Journals & Magazines (2)
Conferences (1)
Year
Single Year
Range
2016
2018
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To
2016
2018
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Multi-Armed Bandit Channel Access Scheme With Cognitive Radio Technology in Wireless Sensor Networks for the Internet of Things
Jiang Zhu ; Yonghui Song ; Dingde Jiang ; Houbing Song
IEEE Access
Year: 2016 , Volume: 4
Page s: 4609 - 4617
Cited by: Papers (17)
IEEE Journals & Magazines
Abstract
html
(6428 Kb)
Social Intimacy Based IoT Services Mining of Massive Data
Anni Zhou ; Yinan Feng ; Pan Zhou ; Jie Xu
2017 IEEE International Conference on Data Mining Workshops (ICDMW)
Year: 2017

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Multi-Armed Bandit Learning in IoT Networks

open

about ideas community donate

How to write paper and insert bibliography

- Use *LaTeX*
- Use *BibTeX* (or *BibLaTeX*)

Example (LaTeX `.tex` file and BibTeX `.bib` file):

```
\bibliographystyle{ieeetr}   % or alpha, or other style
\bibliography{myBibFile}     % at the end of the LaTeX file
```

```
@unpublished{SMPyBanditsHAL,
    title = {{SMPyBandits: an Experimental Framework
    for Single and Multi-Players Multi-Arms Bandits Algorithms in Python}},
    author = {Besson, Lilian},
    url = {https://hal.inria.fr/hal-01840022},
    note = {Presentation paper, at hal.inria.fr/hal-01840022},
    year = {2018},
}
```

Example: In the body of the article

For instance, in my numerical environment [Bes18], we can[3] generate some change point if we assume that at every time step $t = 1, \dots, T]$, there is a (small) probability $p \in (0, 1)$ to have a change point. This is for instance the model considered in [AF17].

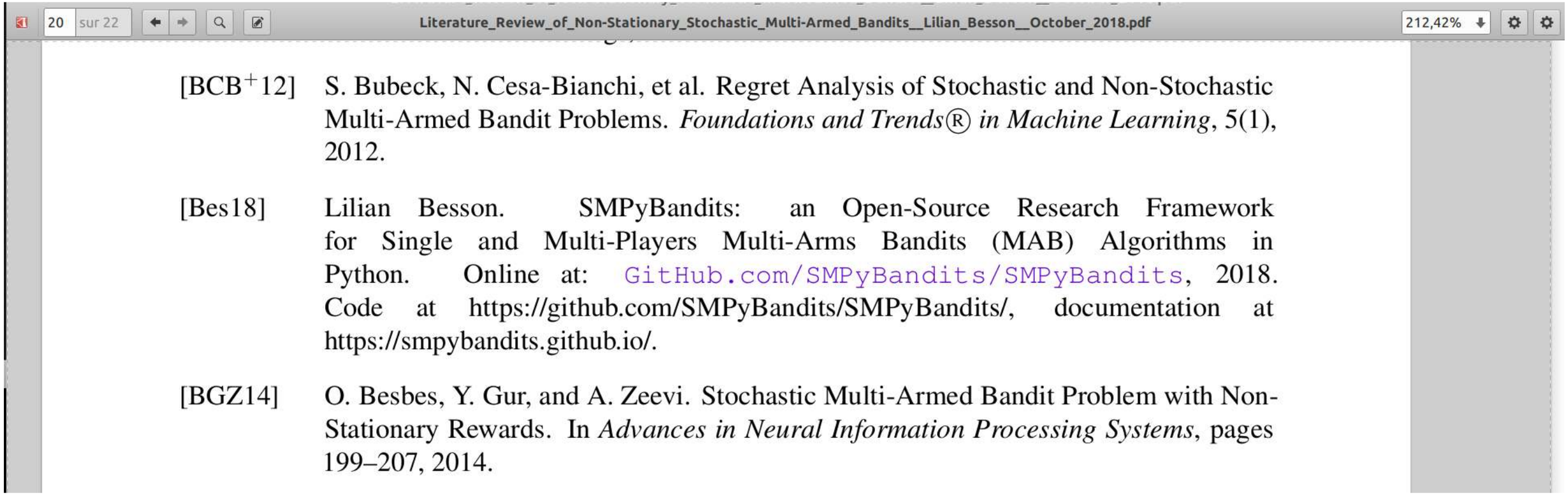
The number of change points Υ_T should not be a constant w.r.t. T (otherwise when $T \to \infty$ only the last section counts and give a stationary problem so it is not harder). Some algorithms require to know the value of Υ_T, or at least an upper-bound, and some algorithms try to be efficient without knowing it (this is what we want!).

Limit case and harder case? The goal is to have an efficient algorithm, but of course if $\Upsilon_T = \Omega(T)$ the problem is too hard to hope to be efficient and any algorithm will suffer a linear regret (*i.e.*, be as efficient as a naive random strategy).

Moreover, letting an adversary choosing the location of the breakpoints is obviously harder, but it is still unclear how much harder.

Applications? This model makes sense from an application point of view if the action time scale is fast. For instance, using MAB for Internet of Things networks, like in [BBM+17], if the dynamic devices are choosing channels for fast communications that happen, *e.g.*, every second, this abruptly changing problem could be interesting. For example for the connected agriculture setting, an abrupt change can correspond to a new farmer having equiped all of her/his cows with connected devices, as a large number of new devices in a network will abruptly change the availability or quality of some radio channels.

Example: In the reference list



[BCB+12] S. Bubeck, N. Cesa-Bianchi, et al. Regret Analysis of Stochastic and Non-Stochastic Multi-Armed Bandit Problems. *Foundations and Trends® in Machine Learning*, 5(1), 2012.

[Bes18] Lilian Besson. SMPyBandits: an Open-Source Research Framework for Single and Multi-Players Multi-Arms Bandits (MAB) Algorithms in Python. Online at: GitHub.com/SMPyBandits/SMPyBandits, 2018. Code at https://github.com/SMPyBandits/SMPyBandits/, documentation at https://smpybandits.github.io/.

[BGZ14] O. Besbes, Y. Gur, and A. Zeevi. Stochastic Multi-Armed Bandit Problem with Non-Stationary Rewards. In *Advances in Neural Information Processing Systems*, pages 199–207, 2014.

Lazy way to organize your references

- Keep a bibtex file for each research project or paper,
- Fill it slowly and painfully everytime you think of a new reference
- Struggle a lot
- $\Longrightarrow$ avoid this lazy solution ⚠️

> Lilian : I'm ashamed but I'm still at this level…

Smart way to organize your references

Use a dedicated software such as

- Zotero $\Longrightarrow$ ask me
- JabRef $\Longrightarrow$ ask Hussein
- Others (see full comparison by Munich University)

Why selecting this two ones

- Used by the team
- Cross-plateform (Windows, Mac, Linux)
- Integration with text editors
- Open source $\Longrightarrow$ free

But what is this ?

Goal

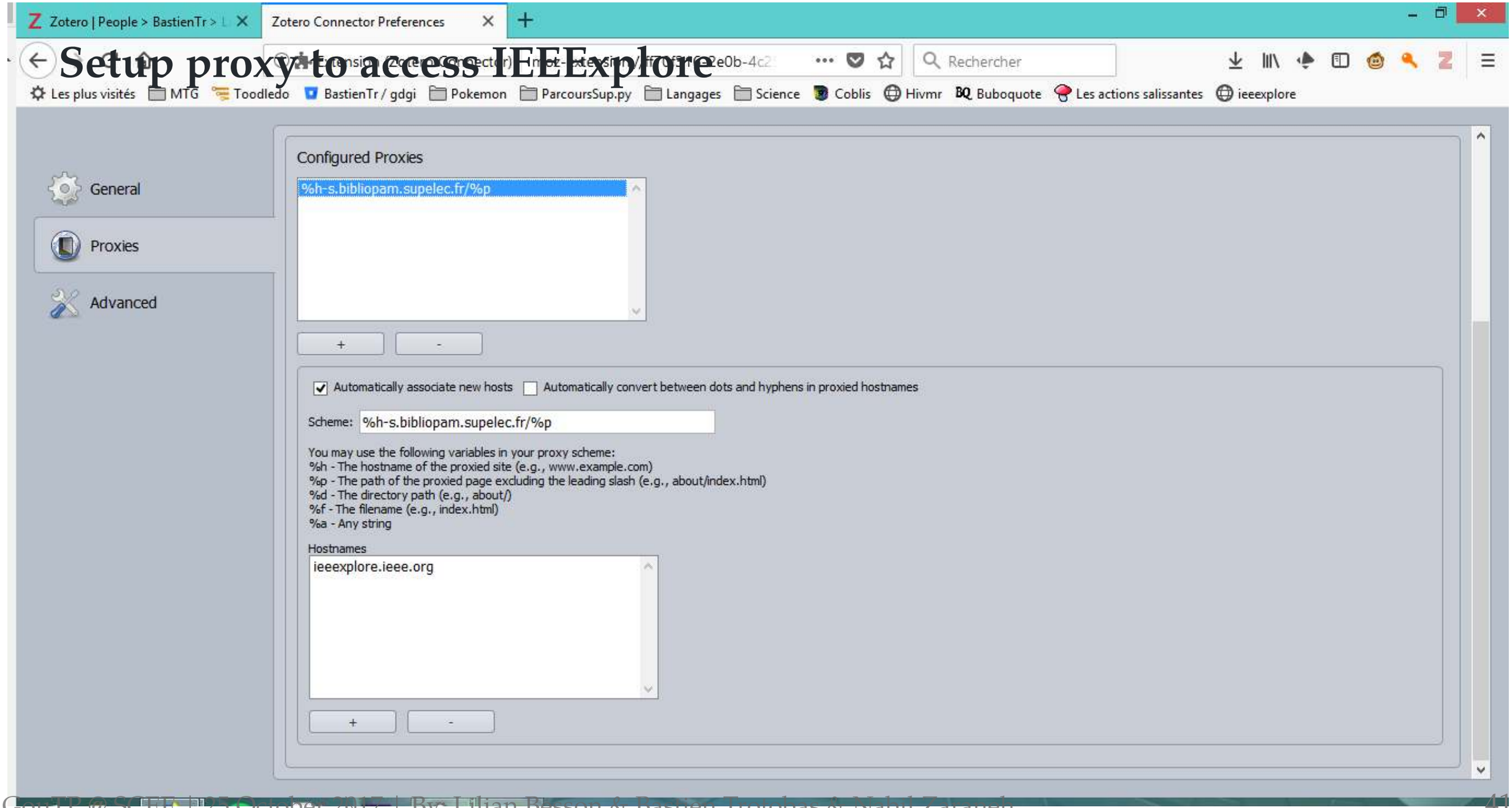
- To help you along
  - searching,
  - classifying,
  - inserting references in your papers.

Let's go for a quick walkthrough 🚶

Step 1: Download, install and setup

- Download and install from website (Zotero, JabRef, etc).
- Download and install browser add-on.
  - Zotero: Firefox, Chrome & Safari
  - JabRef: Firefox only
- Setup synchronization.
  - Backup your bibliography
  - Share your bibliography
- Setup CentraleSupelec proxy if you want to access IEEExplore with connector.

Setup proxy to access IEEExplore



Step 2: Develop your bibliography

On both Zotero & JabRef

- Import files from your computer
- Save pages from your web browser
  - Papers
  - Web pages
  - Wikipedia...

On JabRef

- Search for papers on IEEExplore, arXiv, Google Scholar...

Step 3: Classify your bibliography

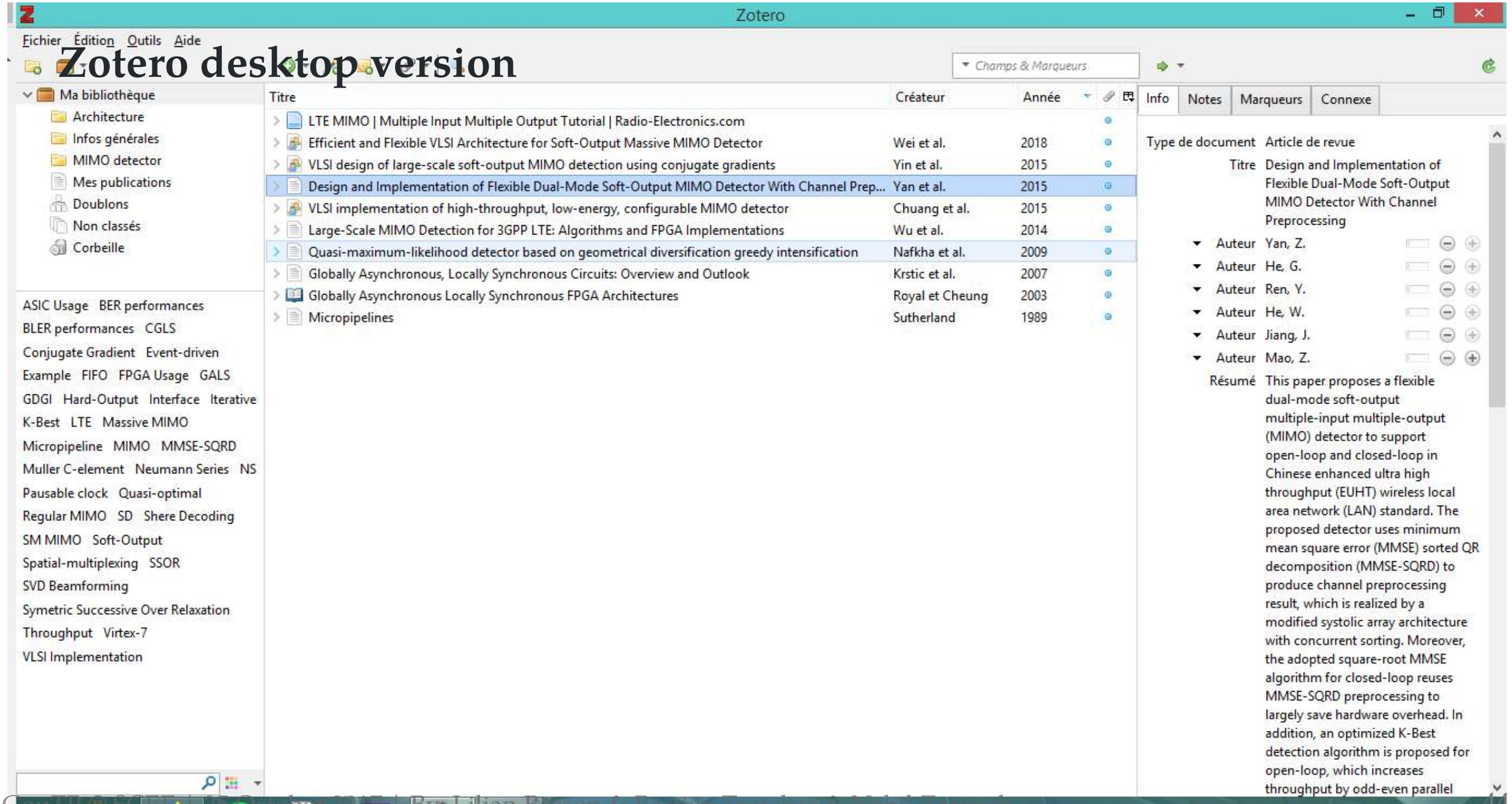
On both Zotero & JabRef

- Classify into collections to sort documents by topics.
- Automatic fetch of meta-data.
- Search based on author, date, conferences...
- Add notes and comments.

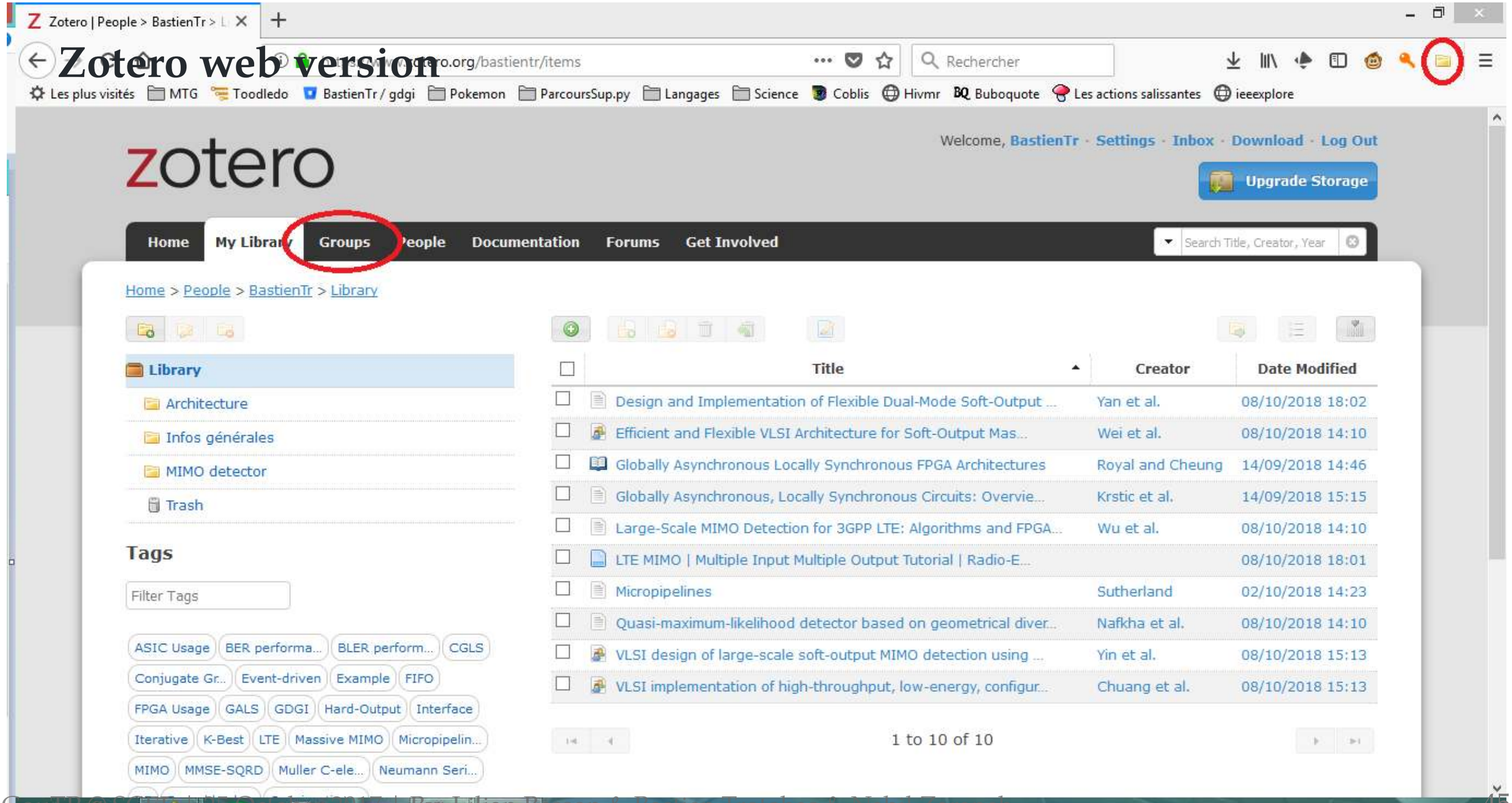
On Zotero

- Add markers and use them to find articles.
- Construct a chronology.

Zotero desktop version



Zotero web version



Step 4: Add references to your documents

- Application plugins to quick reference insertions
  - JabRef: Emacs, Lyk, TeXstudio, Vim...
  - Zotero: LibreOffice, Word...
- Export a list of references as
  - *BibTex* and other *LaTeX* formats
  - IEEE style and other ordinary styles for copy & paste

Export as *BibTex*

```
@incollection{goos_globally_2003,
        address = {Berlin, Heidelberg},
        title = {Globally {Asynchronous} {Locally} {Synchronous} {FPGA} {Architectures
        volume = {2778},
        isbn = {978-3-540-40822-2 978-3-540-45234-8},
        url = {http://link.springer.com/10.1007/978-3-540-45234-8_35},
        abstract = {Globally Asynchronous Locally Synchronous (GALS) Systems have prov
        language = {en},
        urldate = {2018-09-12},
        booktitle = {Field {Programmable} {Logic} and {Application}},
        publisher = {Springer Berlin Heidelberg},
        author = {Royal, Andrew and Cheung, Peter Y. K•},
        editor = {Goos, Gerhard and Hartmanis, Juris and van Leeuwen, Jan and Y. K. Ch
        year = {2003},
        doi = {10.1007/978-3-540-45234-8_35},
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        file = {Royal et Cheung - 2003 - Globally Asynchronous Locally Synchronous FPG
}
```
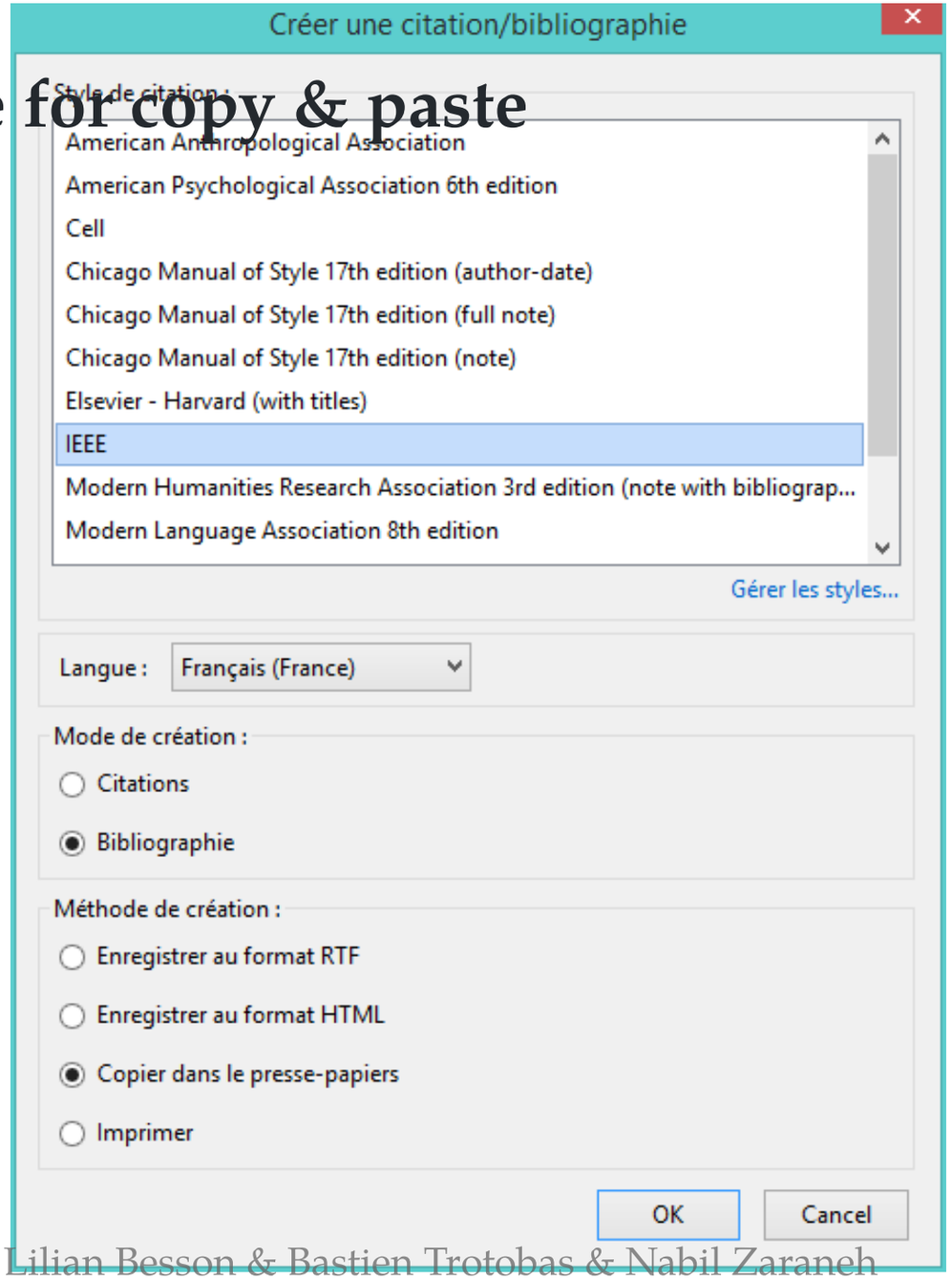

Export as IEEE style for copy & paste



Output

```
[1] Q. Wei, L. Liu, G. Peng, S. Yin, et S. Wei,
« Efficient and Flexible VLSI Architecture
for Soft-Output Massive MIMO Detector », in
Proceedings of Information Science and Cloud
Computing – PoS(ISCC 2017), Guangzhou, China,
2018, p. 055.

[2] B. Yin, M. Wu, J. R. Cavallaro, et C. Studer,
« VLSI design of large-scale soft-output MIMO
detection using conjugate gradients », in 2015
IEEE International Symposium on Circuits and
Systems (ISCAS), Lisbon, Portugal, 2015, p. 1498-1501.
```

Tips & tricks

- Save all papers that you read.
- Save also usefull web pages, newspaper articles...
  - ⚠️ Dont forget to add few information about the content
- A few minutes to lose now but hours to save later.

Conclusion (1/3)

Sum-up

- We showed you techniques to look for new references,
  and to find and download the PDF (*legally*)
- We showed you some softwares to manage your bibliography

Pointers

- ↪ scholar.google.com
- ↪ archives-ouvertes.fr & arxiv.org
- ↪ duckduckgo.com ❤
- ↪ zotero.org and jabref.org

Conclusion (2/3)

Next GouTP @ SCEE

- Any request or suggestion ?

We need participants!

> 👉 By *you*? Any idea is welcome! 😃

> Contact us if you want to do a GouTP !

Conclusion (3/3)

Thanks for joining 👏 !

Your mission, if you accept it… 💥

1. *Padawan level :* be smart about how you look for new references.
2. *Jedi level :* organize **and backup** your references and BibTeX files!
3. *Master level :* publish so many papers that your name will be in the BibTeX files of half the planet (*yes we can!*).