Dr. Frederick BENABEN (Eng., Ph.D., HDR.)

43 years old, Born March the 9th 1974 (Paris – FRANCE)
Married, 3 children.

FULL PROFESSOR – INFORMATION SYSTEMS & COLLABORATION

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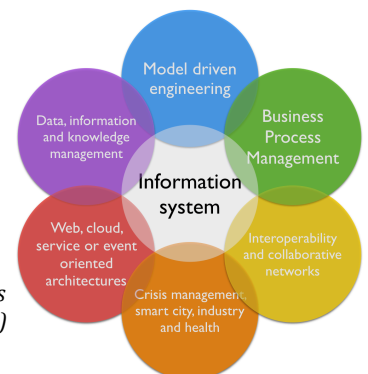
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Centre GI – IMT Mines Albi – Route de Teillet
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General presentation

Head of the IO research team (Interoperability of Organizations – IMT Mines Albi), lecturer and researcher in the fields of Collaborative Networks and Information Systems. Research activities concern gathering, interpretation and exploitation of data about collaborative situations, through model transformations and knowledge management, to design agile information systems based on web and cloud architectures. Main application domains are security and crisis situation management, smart city, supply chain, transportation networks, and health care systems.
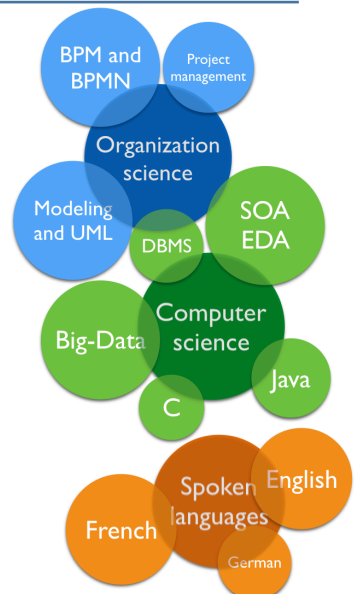
Experience

2016 – …	**Full Professor**, *Ecole Nationale Supérieure des Mines d'Albi-Carmaux*
2012 – 2016	**Assistant Professor**, *Ecole Nationale Supérieure des Mines d'Albi-Carmaux* Researcher, Lecturer and Board Member of the *Industrial Engineering Center* Head of the team *Interoperability of Organizations* (25 fellows) Involved in French/European projects
2003 – 2012	**Assistant Professor**, *Ecole Nationale Supérieure des Mines d'Albi-Carmaux* Researcher and Lecturer in the *Industrial Engineering Center (CGI)*
2001 – 2003	**Post-doctoral research fellow** in *Ecole Nationale Supérieure des Mines d'Alès* Position in the *Center for Computer Science and Industrial Engineering (LGI2P)*
1998 – 2001	**PhD student** (industrial) with *Thales Optronique (Montpellier University)* Research Engineer in the *Research Direction* of Thomson CSF Optronique

Education

2013	Qualified as a **Professor** (Computer science and industrial engineering)
2012	**Accreditation to supervise research** – (HDR) Toulouse University INPT Specialty: *Industrial systems* *Design of mediation IS in collaborative situation to support interoperability*
2003	Qualified as an **Associate-Professor** (Computer science and programming)
2001	**PhD** – Montpellier University II – *Industrial grant by Thales Optronics* Specialty: *Computer Sciences* *Design of complex and heterogeneous systems*
1998	**M. Sc.** – Montpellier University II Specialty: *Automated systems and microelectronics* *UML modeling of optronics multi-technology systems*
1998	**Engineer Master Degree** – EERIE Ecole des Mines d'Alès Specialty: *Computer Sciences (Major: Artificial Intelligence)*
1992 – 1995	**Preparatory School** (Mathematics) – Saint-Etienne C. Fauriel High School
1992	**BA (Hons)** (Baccalauréat C, AB) – Saint-Chamond C. Lebois High School

Teaching activity

Mines Albi Eng. School (2003 – …) *≈ 150h./year (Bachelor and Master):*
- IS design (40%): *Introduction to IS, BPM, UML, MDA, BPMN, Project Mgt.*
- Programming (40%): *Data base, Algorithm, Programming Language C, SOA*
- Others (10%): *Crisis management, Data analysis, internship supervision (10)*

IS and Health Eng. School (2007 – 2012) *≈ 30h./year (Bachelor and Master):*
- IS design (100%): *Introduction to IS, BPM, UML, MDA, Interoperability and SOA*

Toulouse Business School (2009 – 2012) *≈ 20h./year (Master and Adv. Master):*
- IS design (70%): *Business Process Management, Introduction to IS*
- Others (30%): *Enterprise modeling*

Mines Alès Engineering School (2000 – 2003) *≈ 80h./year (Bachelor and Master):*
- IS Design (25%): *UML*
- Programming (50%): *Algorithm, Programming language C, JAVA*
- Others (25%): *Safety, Grafcet, Petri Nets, Industrial Automation, Logics*

Others (2009 - …) *≈ 10h./year (Bachelor, Master, Firemen Officers):*
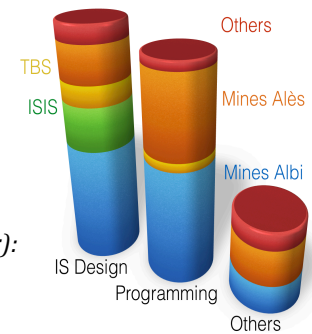- *Leadership and Team management – ENSOSP: National School for Firemen Officer (2015 - …) ≈ 6h.*
- *Big-Data and Principal Component Analysis – Beijing JiaoTong University, China (2014 - …) ≈ 6h.*
- *Model-Driven Engineering – Universidade de la Republica, Uruguay (2015) ≈ 20h.*
- *Business Process Management – ISAE: Institute for Aeronautics and Space (2010 – 2012) ≈ 12h.*
- *Service Oriented Architecture – IS Master of Toulouse University (2009 – 2012) ≈ 6h.*

In charge of two teaching units (definition, structure and organization):
- *Information and Communication Sciences* (concept of IS presented to first-year students L3 – undergraduate).
- *Modeling and Design of IS* (methods and technics for IS design for third-year students M2 – graduate).

Current teaching activities (out of supervision and tutorship)

	Year	School	Hours		
			Courses	Tutorial	Practice
Model Driven Engineering	M2	Eng.-students IMT Mines Albi	4	8	
UML Modeling	M2	Eng.-students IMTMines Albi	6	4	10
Business Process Management	M2	Eng.-students IMT Mines Albi	4	8	
System Modeling	M1	Eng.-students IMT Mines Albi	2		
Introduction to IS	L3	Eng.-students IMT Mines Albi	6	12	
Algorithmics / Programming	L3	Eng.-students IMT Mines Albi		18	
Crisis Management IS	M2	Apprentices IMT Mines Albi	6		
Enterprise and Process Modeling	M1	Apprentices IMT Mines Albi	12		12
Leadership and team management	-	French School of Firemen Officers ENSOSP	4	4	

Reputation and personal skills

Reputation and Scientific Standing:
- Professor **affiliated** to **Georgia Institue of Techology (GaTech)** Physical Internet Laboratory.
- Professor **affiliated** to **Penn State University (PSU)** 3C informatics.
- Professor **affiliated** to **Beijing JiaoTong University (BJTU)** School of Economics and Management.
- General Conference Chair of **I-ESA'14** / Conference Chair of **PRO-VE'15** / Organization Chair of **ISCRAM'17**.
- **President** of the **Board of Directors of ISCRAM association** since 2017 (member of the board since 2016).
- Member of IEEE, IFIP, SOCOLNET, InterOp-VLab, *CNRS MACS* (industrial engineering) and *MADICS* (Big Data)
- **Reviewer** (*CII, EIS, IJCIM, EAAI…*) / **Scientific Committee** (IEEE DEST, ACM MEDES, IEEE IIT, IFIP CoopIS…)

Management skills:
- Strong leadership (head of a research team, president of ISCRAM, experience in sport as player and coach)
- Outstanding empathy ability and strong team spirit (design and management of collective projects)
- Very good communication skills

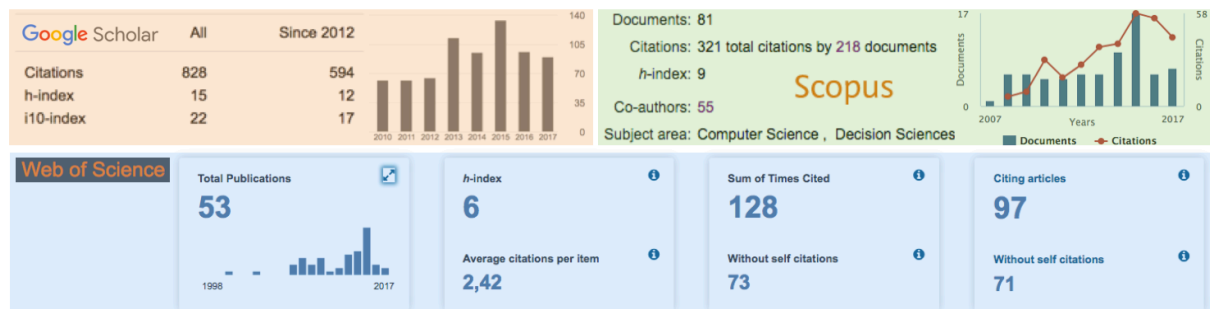**Specific and original abilities in research activities:**
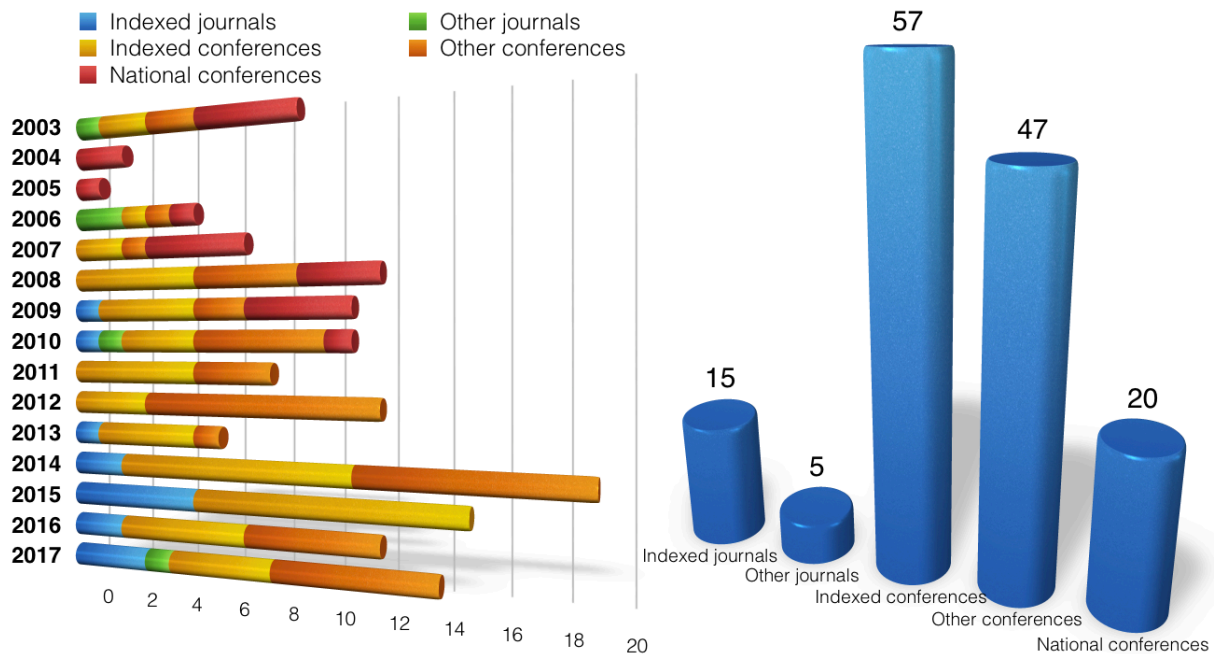- High abstract thinking ability
- Vivid imagination and creativity
- Huge working capacity

Miscellaneous

- Coach of a Volley-Ball team (engaged in the French National Championship – Second division 2003-2016)
- Former Volley-Ball player (French National Championship – Third division 1992-2006)
- Other sports: Judo (black belt) and Running (several semi-marathons)
- Drawing and painting.

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Publications and communications

- **20 academic journal publications:**
  - *15 Indexed articles (WoS, DBLP, CORE, Scopus): ISEB, IS, JSS, DISA, ISF, EIS, DSS, IJCIM, CII, IJPE, IJISCRAM.*
- **5 invited keynotes in international conferences / workshops:**
  - *MOSIM'18 conference on Modeling, Simulation and Optimization (Toulouse, 2018)*
  - *Modelsward'17 conference on Model-Driven Engineering (Porto, 2017)*
  - *BPMuy'15, BPM conference for South-America (Montevideo, 2015)*
  - *3M4SE'12 workshop of EDOC conference (Beijing, 2012)*
  - *Ontoflow'11, workshop of the DEXA conference (Toulouse, 2011)*
- **7 open conferences for various communities:**
  - *CNRS GDR MACS keynote (2012), "Nugget" conference of IMT Mines d'Albi (2013), BOSH conference (2014)*
  - *Conferences for the European night of research (2014, 2015, 2016 and 2017)*
- **124 articles in conferences with reviewing committee:**
  - *57 articles in indexed (WoS, DBLP, Scopus) international conferences with edited proceedings.*
  - *47 articles in non-indexed international conferences with edited proceedings.*
  - *20 articles in French conferences with edited proceedings.*

- **4 Main indexed journal publications and 2 Main indexed conference communications:**

Bénaben, F., Truptil, S., Mu, W., Pingaud, H., Touzi, J., Rajsiri, V., Lorre, J.-P., (2017) – **Model-Driven Engineering of Mediation Information System for Enterprise Interoperability.** *International Journal of Computer Integrated Manufacturing (IJCIM)*, Taylor&Francis, Published online, pp. 1-22. Sept. 2017.

Bénaben, F., Montarnal, A., Truptil, S., Lauras, M., Fertier, A., Salatgé, N., Rebière, S. (2017) – **A conceptual framework and a suite of tools to support crisis management.** *Proceedings of 50th HICSS'17*, Hawaii, USA.

Lauras M., Bénaben, F., Truptil S., (2015) – **Event-cloud platform to support decision-making in emergency management.** *Information Systems Frontiers (ISF)*, Springer, Vol. 17, Issue 4, pp. 857-869. Aug 2015.

Bénaben, F., Mu, W., Boissel-Dallier, N., Barthe, A.-M., Zribi, S., Pingaud, H. (2015) – **Supporting interoperability of collaborative networks through engineering of a service-based Mediation Information System (MISE 2.0).** *Enterprise Information System (EIS)*, Taylor&Francis. Vol. 9, issue 5-6, pp. 556-582. Aug 2015.

Bénaben, F., Truptil, S., Lauras, M., Salatgé, N. (2015) – **Management of collaborative behavior through a service-oriented mediation system: The case of crisis management.** *Proceedings of SCC'15*, IEEE, pp. 554-561, New-York, USA.
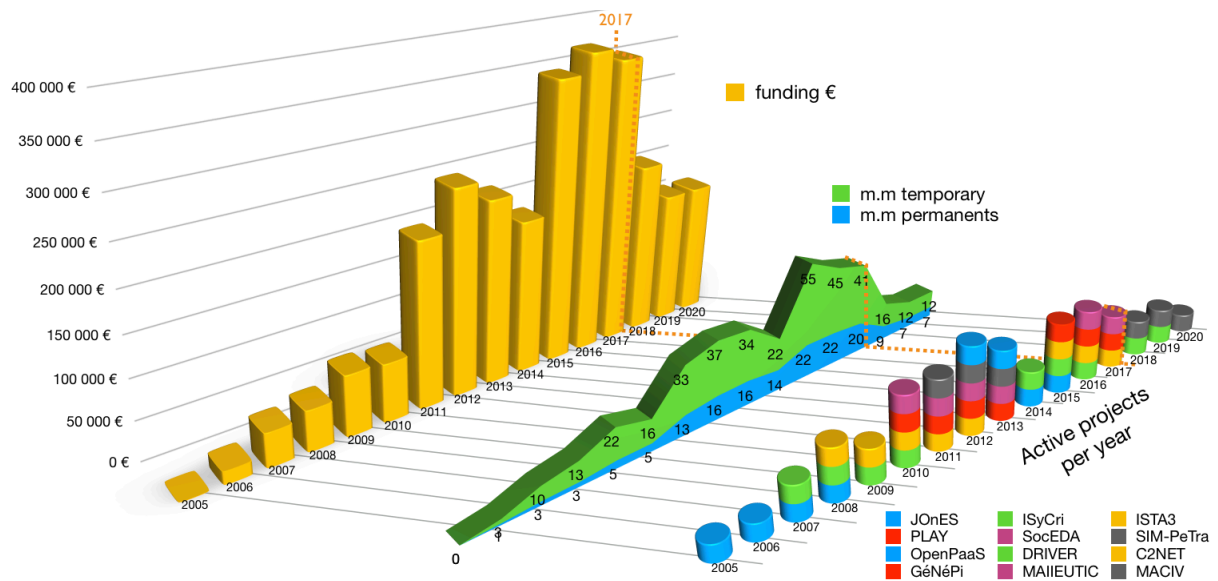
Barthe, A.-M., Truptil, S., Bénaben, F., Pingaud, H. (2014) – **Event-driven agility of interoperability during the run-time of collaborative processes.** *Decision Support System (DSS)*, Elsevier, Vol. 59, pp. 171-179. Mar 2014.

Funded Research Projects

Contracted research is at the heart of the economic model of my research process since 2003:
- 5 "industry-based" PhD funding (CIFRE contract) for a total of approximately 300 k€.
- 13 collaborative projects for a total funding of approximately 2.7 M€

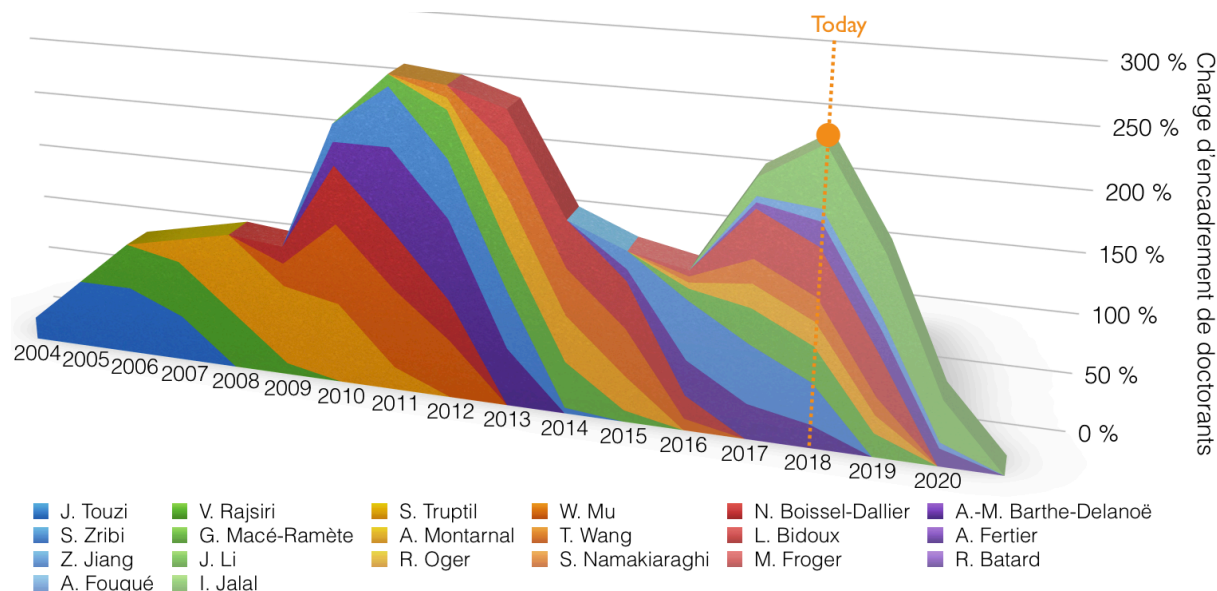| Project	Call	Period	Total Budget	Total Funding	Local Budget	Local Funding	Local M.M	Hired M.M	Hired persons	Role
MACIV	FR ANR	01/10/17 30/09/20	1 800 k€	650 k€	425 k€	212 k€	55.5	36	R. Batard V. Kocaman	Writer Participant Local Manager ~~Coordinator~~
MAIIEUTIC	FR Carnot	01/10/15 31/12/17	250 k€	250 k€	113 k€	113 k€	16.5	12	Amandeep	Writer Participant Local Manager ~~Coordinator~~
C2NET	EU H2020	01/01/15 31/12/17	7 126 k€	7 126 k€	394 k€	394 k€	63.5	48	J. Zheng *T. Wang*	Writer Participant ~~Local Manager~~ ~~Coordinator~~
GéNéPi	FR ANR	01/10/14 30/09/17	2 100 k€	700 k€	689 k€	345 k€	80	48	A. Fertier *G. Macé Ramète*	Writer Participant Local Manager Coordinator
DRIVER	EU FP7	4/14-07/16 9/17-11/19	46 870 k€	33 929 k€	437 k€	331 k€	45.7	30	*A.M. Barthe A. Montarnal*	Writer Participant Local Manager ~~Coordinator~~
OpenPaaS	FR FUI	01/07/12 30/06/15	5 738 k€	2 774 k€	500 k€	200 k€	57	36	A. Montarnal *W. Mu*	Writer Participant Local Manager Coordinator
SIM-PeTra	FR Predit	08/09/11 07/09/13	351 k€	146.7 k€	261.7 k€	147 k€	30	24	G. Macé Ramète	Writer Participant Local Manager Coordinator
SocEDA	FR ANR	01/10/10 30/09/13	3 991 k€	1 579 k€	295 k€	158 k€	30	18	A.M. Barthe *S. Truptil*	Writer Participant Local Manager ~~Coordinator~~
PLAY	EU FP7	01/10/10 30/09/13	3 938 k€	2 894 k€	389 k€	294 k€	52	36	A.M. Barthe *S. Truptil A. Charles*	Writer Participant Local Manager ~~Coordinator~~
ISTA3	FR FUI	15/10/08 14/01/12	3 167 k€	1 556 k€	241.2 k€	121 k€	46	36	W. Mu	~~Writer~~ Participant Local Manager ~~Coordinator~~
ISyCri	FR ANR	03/05/07 02/02/10	1 539 k€	721.8 k€	252 k€	109 k€	35	29	S. Truptil, *J. Touzi*	Writer Participant Local Manager Coordinator
JOnES	FR ANR	19/12/05 19/03/08	1 783 k€	1 172 k€	78.4 k€	36 k€	8.5	6	J. Touzi	Writer Participant Local Manager ~~Coordinator~~
I-CARE	FR ANR	01/01/01 31/12/03	-	-	-	240 k€	44	36	P. Frausto, *F. Bénaben*	~~Writer~~ Participant ~~Local Manager~~ ~~Coordinator~~

Supervized and Directed PhD Students

The continuously renewing team of students has built an homogenous research system:
- **20 PhD students** (full-supervisor or director): *11 defended, 9 running (since 2004)*
- 10 Masters students (full or semi supervision): *10 defended (since 2004)*
- 11 Post-Doctoral researchers (full or semi supervision): *11 are finished (since 2007)*

	Name	Period	Grant	Director	Supervision
1	Jihed Touzi	09/2004 - 11/2007	Mines Albi	Prof. Hervé Pingaud	60%
2	Vatcharaphun Rajsiri	01/2006 - 03/2009	Indus.	Prof. Hervé Pingaud	50%
3	Sébastien Truptil	10/2007 - 01/2011	Project	Prof. Hervé Pingaud	70%
4	Wenxin Mu	10/2009 - 11/2012	Project	Prof. Hervé Pingaud	70%
5	Nicolas Boissel-Dallier	10/2009 - 11/2012	Indus.	Prof. Hervé Pingaud	50%
6	Anne-Marie Barthe-Delanoë	10/2010 - 11/2013	Project	Prof. Hervé Pingaud	70%
7	Sarah Zribi	10/2010 - 02/2014	Indus.	Prof. Hervé Pingaud	50%
8	Guillaume Macé-Ramète	10/2011 - 03/2015	Project	Prof. Jacques Lamothe	40%
9	Autrélie Montarnal	10/2012 - 11/2015	Project	Prof. Jacques Lamothe	40%
10	Tiexin Wang	10/2012 - 02/2016	Mines Albi	Dr. Frederick Benaben	40%
11	Loïc Bidoux	02/2013 - 06/2016	Indus.	Dr. Frederick Benaben	50%
12	Audrey Fertier	10/2015 - …	Project	Prof. Frederick Benaben	30%
13	Zheng Jiang	10/2015 - …	Project	Prof. F. Benaben & Prof. J. Lamothe	50%
14	Jiayao Li	10/2016 - …	BJTU	Prof. J. Gou & Prof. F. Benaben	30%
15	Raphaël Oger	10/2016 - …	Indus. chair	Dr. M. Lauras & Prof. B. Montreuil	20%
16	Sina Namakiaraghi	10/2016 - …	Indus.	Prof. Frederick Benaben	20%
17	Manon Froger	12/2016 -…	Indus.	Prof. Frederick Benaben	40%
18	Robin Batard	09/2017-…	IMT Albi / TPT	Prof. F. Benaben & Prof. C. Prieur	20%
19	Anthony Fouqué	09/2017-…	Labo. Commun	Dr. M. Lauras & Prof. H. Afsarmanesh	10%
20	Ibrahim Jalal	10/2017-…	IMT Mines Albi	Prof. F. Benaben & Prof. J. Gou	50%

Economic development

- 1 **spin-off** company created in **2013** (**ITEROP**) on our research contributions (now 12 employees).
- 1 downloadable opensource **prototype** (**IO-SUITE**) as the combined result of all projects and PhD works.