

Mission USTH, janvier 2025 : Enseignement et prospection pédagogie/recherche



USTH, 2025 january : Teaching and Research Relationship

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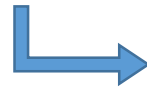
Who I am ?

Louis RENAUD, MCF HC (Assistant Professor)

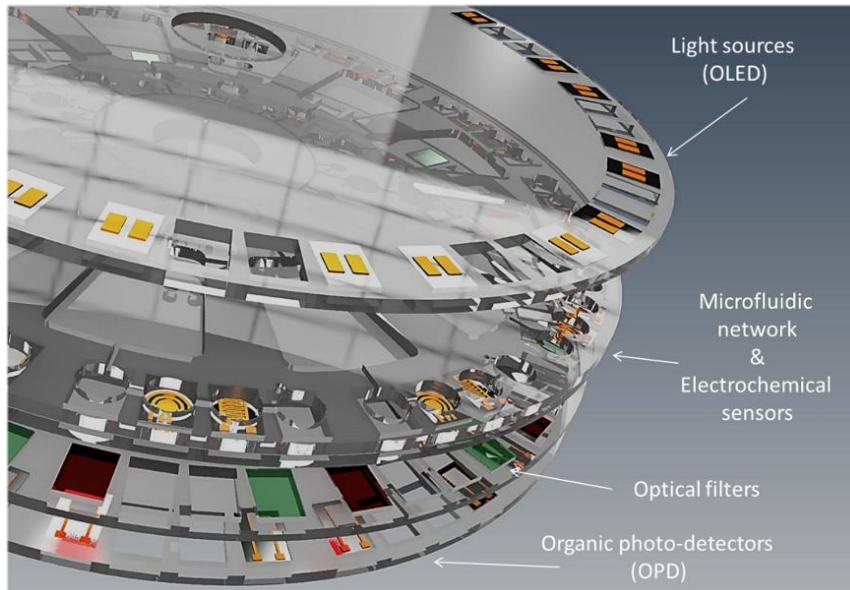
Lab : INL UMR 5270 (Institut des Nanotechnologies de Lyon)



Axe : « Biotechnologies – Santé »



Group : « Lab-on-Chip et Instrumentation »



Jean-François CHATEAUX

9 members :

- 1 PR UCBL / GEP
- 1 MCF CPE
- 1 MCF IUT GEII LYON 1
- 2 CR CNRS
- 4 MCF UCBL Lyon 1

**Département-composante GEP
(Génie Electrique et Procédés)**

My teaching : sensors / microtechnologies

What is the project ?



Teaching and Research Relationship with USTH in Hanoi, Vietnam



UNIVERSITY OF
SCIENCE AND TECHNOLOGY
OF HANOI

- France/Vietnam university
- Located in Hanoi, Vietnam
- Created in 2009
(Intergovernmental Agreement)
- HCERES accreditation
- From Bachelor to Master and PhD
- French Rector (Prof. Jean-Marc LAVEST)
- In 2022-2023, 93 missions of French professors
- USTH consortium in France (around 30 universities and engineering schools)

USTH consortium (Association, governed by the French 1901 law)



Teaching mission :



Applied Environmental Sciences (AES)

Year 1 Year 2



Biotechnology: Plants – Biomedical –
Pharmacology (Bio/Pharma)

Year 1 Year 2



Space

Year 1 Year 2



Advanced Materials Science and
Nanotechnology (AMSN)

Year 1 **Year 2**



Information and Communication Technology
(ICT)

[Link](#)

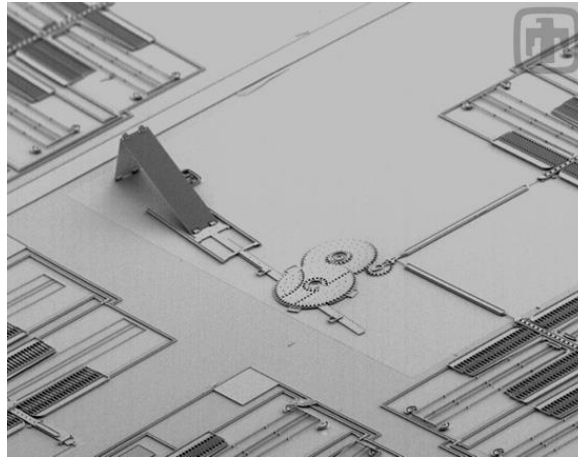


International Air Transport Operations
Management (IATOM)

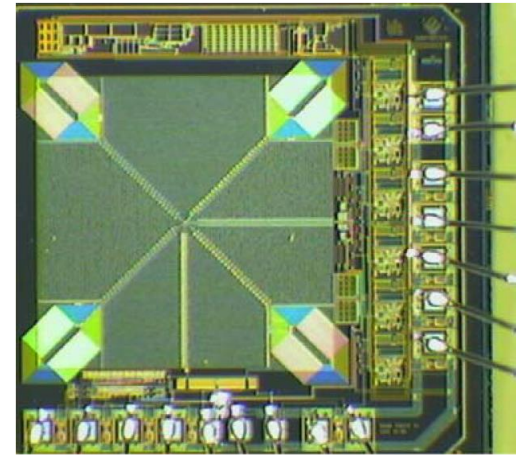
[Link](#)

**Part 1 of mission : teaching MEMS/NEMS (Micro/Nano
ElectroMechanical Systems) in year 2 of the AMSN Master**

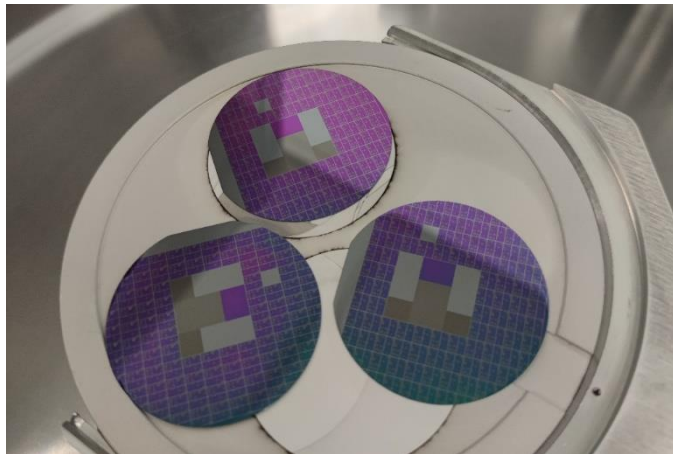
24h CM/TD :



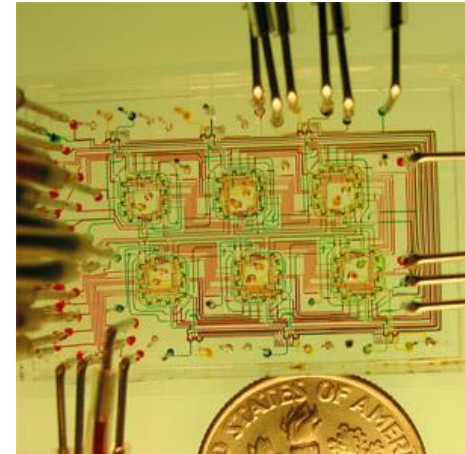
1 - Introduction and scaling laws



2 - Microsensors



3 – Microtechnologies (Clean Room)

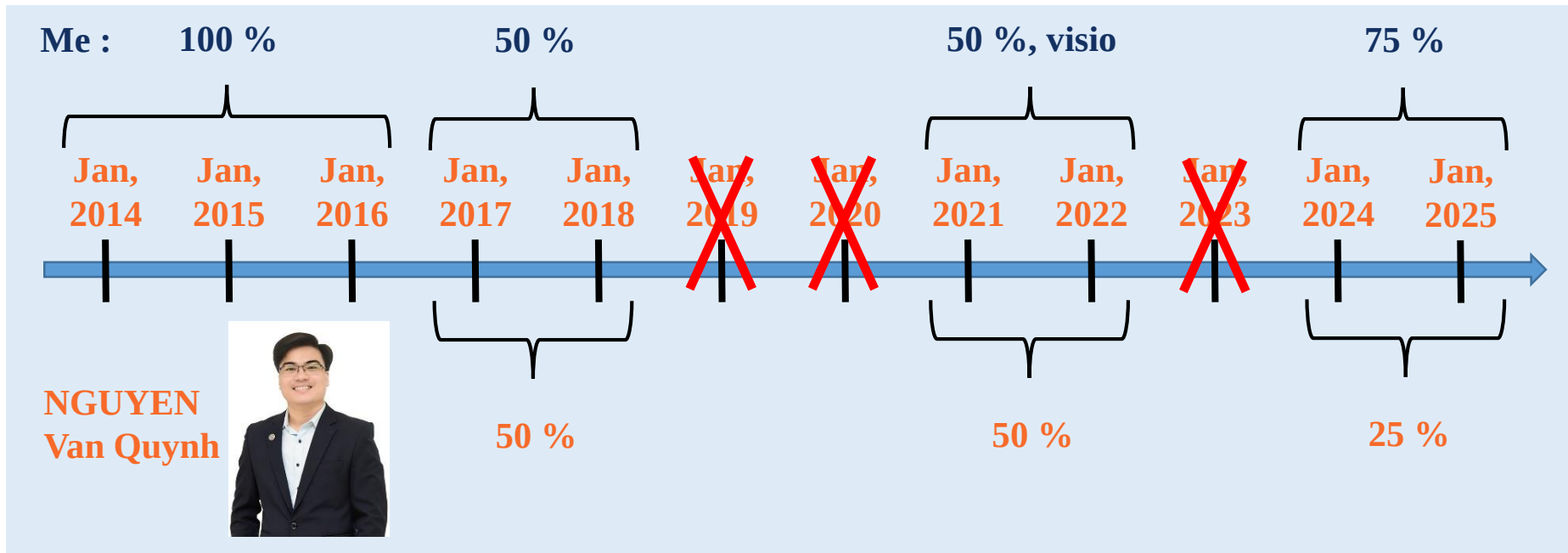


4 – Microfluidics

This teaching is shared with a
local assistant-professor :

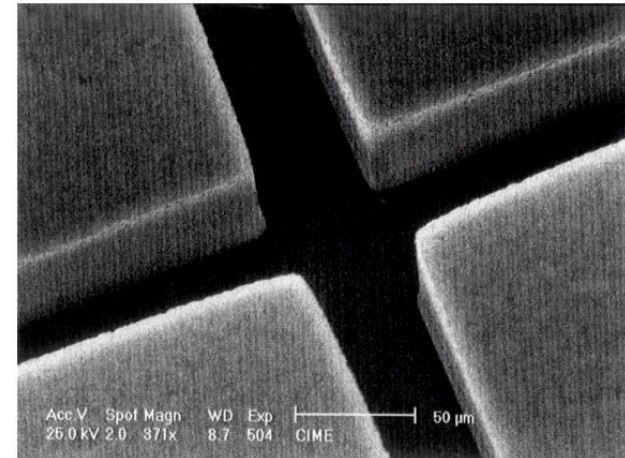


Dr. NGUYEN Van Quynh,
VN co-director of AMSN master
(French co-director is
Benoît PIRO, ITODYS
Paris DESCARTES)



Research mission : My research topic is “Microfluidics”, could be defined as “manipulating fluids at microscales”

PhD in 2004, 35 peer-reviewed articles, 1210 citations and H-factor 21.



My « speciality » is to make microfluidics chips by cutting adhesive layers, by a technic called « Xurography »

Si / Glass

2 days

100 € per chip

PDMS

1/2 days for master + 2h per chip

50 € for master + 2€ per chip

Clean Room

Xurography

Few minutes per chip

Less than 1€ per chip

January 2024, Dr. VU THI Thu
and M2 student VU MINH Thu

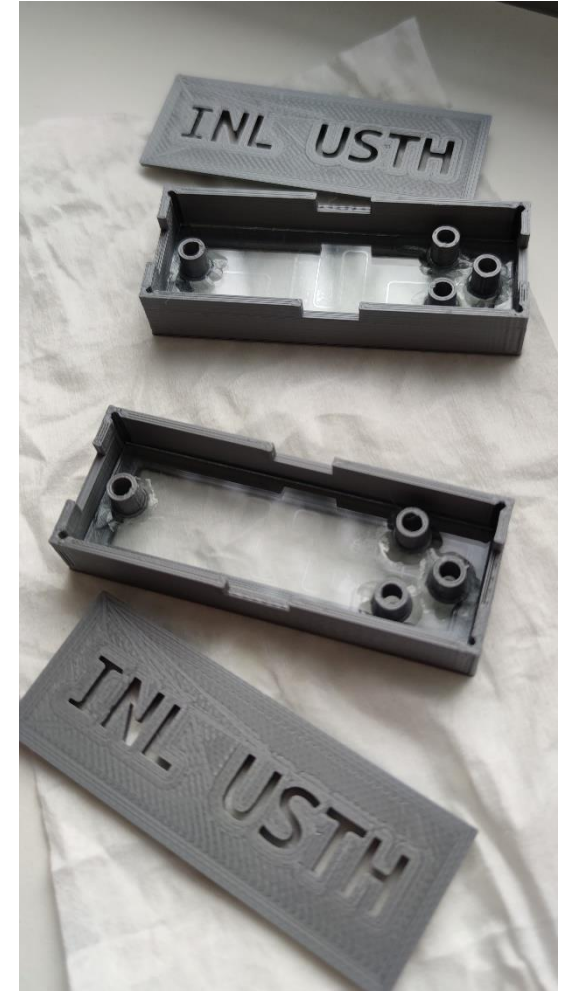
Project :
Capillary Electrophoresis (CE)
chips for antibiotic drugs
detection detection, such as
vancomycin



Beginning of a new collaboration :



From glass/glass
CE chips made by
clean room
technologies to
glass/glass
xurography made
CE chips



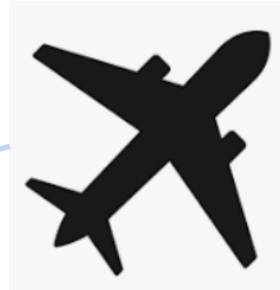
2024, May

About the requested founding :

January 2025 : teaching and research at USTH



UNIVERSITY OF
SCIENCE AND TECHNOLOGY
OF HANOI



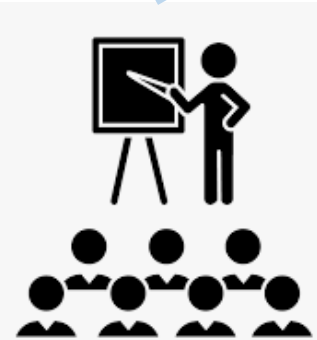
Flying Ticket



- From jan. 2014 to jan. 2018 :

F.ST. Lyon 1
(Faculté des Sciences et Technologies)

- Jan 2024 :
ANR grant
- Jan 2025 :
GI EIF
(between 800€ and 1300€)



Teaching (≈20h) :
UCBL Lyon 1
(GASEL)



Hotel and food
USTH Consortium



Local Transportation
USTH



Conclusion : what are benefits for Lyon 1 university (Masters, Labs) ?



International visibility of the Lyon 1 University



Compliance with the Lyon 1 university commitments



Opening up to a pool of USTH students to join our masters, or do internships or PhDs in our laboratories



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In January 2024, the rector of the USTH, Mr Jean-Marc Lavest, expressed a real need for contacts to extend our relationships in the towards strong pedagogical sectors of our university, in the fields of engineering. It therefore seems strategically useful to me to confirm our interest in the relationship between Lyon 1 and the USTH



Thank you for your attention !

