

P^r Benoit BUSSER

Institute for Advanced Biosciences ([IAB](#))
Allée des Alpes - Sité Santé
F- 38700 Grenoble
France



Tel: +33 632 393 765

Mail: busser@chu-grenoble.fr

Website: www.benoit-busser.com

Pharmacy Corporation # : G/138710

N° RPPS : 10100068849

Researcher ID : N-1841-2013

[ResearchGate](#)

PERSONAL DETAILS

Date and Place of Birth 15/06/1981, Strasbourg (France)
Nationality French
Languages French (mother tongue), English (fluent)

PROFESSIONAL POSITIONS

since 2023: *Professeur des Universités - Praticien Hospitalier (PU-PH) ; 2nd Class*

Institut Universitaire de France (IUF), Junior Member

Full Professor (Biochemistry and Cancer Sciences), School of Pharmacy, Grenoble-Alpes Univ.

Senior Medical Biochemist - Department of Laboratory Medicine , Grenoble-Alpes University Hospital

Scientist - Institute for Advanced Biosciences, UGA / Inserm U1209 / CNRS UMR 5309 research center

DIPLOMA

2017 **HDR (eq. Research Supervision Diploma)**, Claude Bernard University, Lyon, France
2006- 2009 **PhD** in Cell Biology, University Joseph Fourier, Grenoble, France
"Identification and characterization of the role of Amphiregulin in non-small cell lung cancer resistance to gefitinib"
2008 **PharmD** (professional doctor degree in pharmacy), specialty in *Cancer*
Univ. Grenoble, France.
2005- 2006 **Master 2 Degree (Master of Science - MSc)**, specialty in *Cell. and Integrative Biology*
Univ. Grenoble, France.
"Deciphering cellular mechanisms leading to apoptosis-resistance in lung cancers"
2005 **Master 1 Degree (Trainee)**, specialty in *Biological and Medical Sciences*
Subspecialty: "normal and cancer cells"

EDUCATION - ACADEMIC BACKGROUND

Postgraduate:

2023- present **Full Professor**, Univ. Grenoble-Alpes and Grenoble University Hospital, France
2016- 2017 **Research Mobility**, Team SpectroBio (dir. P. Dugourd), Institut Lumière Matière, Lyon
2012- 2023 **Associate Professor** (Tenure), Univ. Grenoble and Grenoble-Alpes Univ. Hospital, France
2009- 2012 **Assistant Professor** (Tenure), Univ. Grenoble and Grenoble-Alpes Univ. Hospital, France

Internship & Residency:

2009 **Grenoble University Hospital, Rhône-Alpes, France**
Pharmacy Senior Resident, Clinical Biochemistry Laboratory, 6 months.
Activities: Protein Electrophoresis (serum, urine), Enzymes and Proteins Laboratory

- 2006- 2009 Grenoble University Hospital, Rhône-Alpes, France**
Pharmacy Resident, Clinical Biochemistry Laboratory, 24 months.
 Activities: DNA sequencing (solid tumors) and blood biomarkers, Cancer Clinical Lab.
- 2005 Grenoble University Hospital, Rhône-Alpes, France**
Pharmacy Resident, Biological Investigation Center, 6 months.
 Activities: Lung cancer secretome analysis, Clinical Proteomics Laboratory
- 2004- 2005 Grenoble University Hospital, Rhône-Alpes, France**
Pharmacy Junior Resident, central cytotoxic preparation unit, 6 months.
 Activities: Personalized chemotherapy preparations and validation
- 2004 French National competitive entrance exam for Medical Residency (Rank 310/1245)**
2003- 2004 Internship in Medical Oncology unit (6 mo) and Geriatry (3 mo), Strasbourg, France

Undergraduate Pharmacy studies:

- 2004 Master of Pharmacy (MSc - 5th year)**, Univ. Strasbourg, France
Specialty in "Design and structure of molecules of therapeutic interest"
- 2003 Master of Pharmacy (4th year)**, Univ. Strasbourg, France
Specialty in "Antiparasitic Drugs"
- 2002 Bachelor of Science in Pharmacy (BSc)**, Univ. Strasbourg, France
- 1998 High School diploma**, spec. maths, option European English, Strasbourg, France

UNIVERSITY APPOINTMENT

Full Professor of Biochemistry and Cancer Sciences, 2nd Class

National University Council (CNU): Pharmacy - section 82, specialty : Biochemistry

Grenoble Alpes University (UGA) - School of Pharmacy

Faculty member in the Teaching Department: Basic and Clinical Biological Sciences

Teaching duty : > 200 h/year

Teaching responsibilities :

2017- 2021 Referent teacher for the "Professional Bachelor of Science in Biotechnologies" (BSc) university degree

(Responsable pédagogique de la Licence 3 Professionnelle Bio-industries - Biotechnologies)

Since 2012 Referent teacher for several university courses

(Responsable d'Unités d'Enseignement)

Cell Biology (L2 Biotech), Protein Engineering (practical session-Master1 Biotech), Serum Glucose Quantitation (practical session-Pharma L3), Basics in Cell Biology and Biochemistry (L3 pro)

Teaching Topics: cell and cancer biology, general and clinical biochemistry, biotechnologies,...

Audiences: Pharmacy students, Master students, Hospital medical residents, Paramedical students...

HOSPITAL APPOINTMENT

Senior Clinical Biochemist, Department of Laboratory Medicine; Grenoble Alpes University Hospital

Since 2022 **Head, Point of care testing**

Since 2020 **Head, Point of care testing**, Biochemistry and blood gases unit

Since 2017 **Senior Clinical Biochemist**, medical molecular genetics laboratory, oncology laboratory

2013 - 2016 **Head**, Clinical Cancer and Biotherapies laboratory

2009 - 2012 **Junior Clinical Biochemist**, serum and urine protein electrophoresis laboratory

Keywords : General clinical biochemistry, circulating tumor markers, circulating tumor DNA (ctDNA) immunoassays, solid tumors, DNA sequencing and molecular biology (next generation sequencing / NGS, pyrosequencing, droplet digital PCR / ddPCR), management, quality, point-of-care testing, translational research, Point-of-Care testing (POCT)

GENERAL RESPONSIBILITIES

Since 2022 Member of “Bureau du pôle de Biologie et de Pathologie”, Grenoble Univ. Hospital

Since 2021 **Board member, l'Alliance des Technologies de la Santé Grenobloises (ATSG)**

Since 2018 **Comité de Direction (Inst. for Advanced Biosciences)** (steering committee - elected)

2018 - 2020 Member of “Bureau du pôle de Biologie et de Pathologie”, Grenoble Univ. Hospital

Since 2017 Member of the “digital PCR” taskforce from the French Clinical Biology Society (SFBC)

2016 - 2020 **Commission Médicale d'Établissement du CHU Grenoble Alpes** (elected member)

2016 - 2019 Conseil d'administration + conseil scientifique de la structure de gestion du dépistage des cancers de l'Isère (elected member)

Since 2015 **Co-founder and president of the “Association Biologie et Cancer”**

2007 - 2009 Conseil de pôle de Biologie, Grenoble University Hospital (elected member)

2006 - 2008 **Conseil d'UFR de Pharmacie, Univ. Grenoble** (elected member)

2007 - 2009 Secrétaire, puis Vice président de l'Association des Internes en Pharmacie Spécialisée de la Région Rhône-Alpes (ASPIRAL)

2005 - 2006 Secrétaire puis trésorier de l'Assoc. des Internes en Pharmacie et en Biologie de Grenoble (AIPBG)

AWARDS / FELLOWSHIPS

2021 Junior member of the **Institut Universitaire de France (IUF)**
-2026



2019 **PEDR** [*prime d'encadrement doctoral et de recherche*] – **National award of scientific excellence**
-2026 Issuer: Grenoble Alpes University (UGA)

2019 **Poster Award** – European Molecular Imaging Meeting (EMIM)
Issuer: European Society of Molecular imaging (ESMI), EMIM-2019, Glasgow, UK
Title: *In situ* multi-elemental imaging of periprosthetic tissues with laser spectrometry

2015 **Young Investigator Award** – European Molecular Imaging Meeting (EMIM) [Rank: 1st/125]
Issuer: European Society of Molecular imaging (ESMI), EMIM-2015, Tübingen, GER
Title: Elemental imaging by Laser spectrometry: new perspectives for medical applications

The EMIM Young Investigator Award 2015 is assigned to a young scientist for her/his extraordinary and innovative research presented in the scope of the European Molecular Imaging Meeting (EMIM). [Complementary information here](#)

- 2015 Award for the best scientific presentation** - Journées Poussières Minérales et Santé (Lyon)
Issuer: Laboratoire d'analyse minéralogique du Centre Hospitalier St Joseph St Luc
Title: Imagerie élémentaire par spectroscopie optique : une nouvelle approche pour localiser et quantifier éléments métalliques et nanoparticules dans les tissus biologique
- 2015 PEDR** [*prime d'encadrement doctoral et de recherche*] – **National award of scientific excellence**
-2019 Issuer: Grenoble Alpes University (UGA)
- 2011 Award for the best scientific presentation - "Cancer" Category**
Issuer: French Pneumology Society (SPLF) - Respiratory Research Meeting (7th J2R), Toulouse
Title: L'amphiréguline, un nouveau biomarqueur des tumeurs pulmonaires.
- 2009 "Diagnostic Innovations" Prize**
Issuer: French Clinical Chemistry Society - (SFBC), International Biology Meeting (JIB), Paris
Title: L'amphiréguline : un nouveau biomarqueur de la résistance aux inhibiteurs de tyrosine kinase dans le cancer du poumon.
- 2007 "Jacques Rocipon" Prize** - Best Scientific project
Issuer: AAIPHG - Association des Anciens Internes en Pharmacie de hôpitaux de Grenoble
Title: "Imagerie non invasive du petit animal par bioluminescence".
- 2007 "Basic research" Award** - French Cancer Society / Eurocancer
Issuer: French Cancer Society (SFC - société Française du Cancer)
Title: Amphiregulin induces resistance to gefitinib via BAX sequestration by Ku70. Plenary Session. XXVIIe Forum of Cancer Research, Eurocancer, Paris.
- 2006 "Alexandre Joël" Prize** - Best presentation, "Master Student" Category
Issuer: French Association for Cancer Research (ARC), Journées Jeunes Chercheurs, Paris.
Title: L'Amphiréguline: un facteur de résistance au gefitinib dans la lignée H358 de Cancer Bronchique Non à Petites Cellules.
- 2005 "Young Investigator" Fellowship**
Issuer: French Association for Cancer Research (ARC), category Master of Science (Master 2)
- 2004 "Hospital pharmacy" Fellowship**, Hospital Privado de Córdoba, Argentina (3 months)

RESEARCH

Scientist in the team **"Cancer targets and Experimental therapeutics"** directed by JL Coll.
Institute for Advanced Biosciences, INSERM U1209 CNRS UMR5309 UGA, Grenoble, FR ([IAB website](#))

Keywords and Topics of interest

Tissue Elemental Imaging, Cancer cell signaling, Resistance to treatments, Nanoparticles, Metals

Clinical Trials

2019 **MEDICO-LIBS** (*ClinicalTrials.gov Identifier: [NCT03901196](#)*)
Coordinator, and PI of this French multicenter study (retrospective & prospective)

Editorial activities

Since 2018 **Editorial board member** Biomedical Spectroscopy & Imaging, iOS Press

External Expert for funding agencies (Grant Reviewer)

Member of the scientific advisory board for the cancer charity “Espoir contre le cancer Isère” (since 2022)

Fondation du Souffle (2017,2018), Clinical Investigation Centre (CHU St Etienne)

External Expert for Private Companies

Member of the Scientific Advisory Board of Ablatom SAS

External PhD thesis examiner and

2022 KAZI TANI Latifa Sarra, Tlemcen University (Algeria)

Researcher Selection committees

2023 External jury member, Selection of an Assoc. Prof of Biotechnology (Univ. Paris Saclay)

Scientific Meetings' Animation

2020 Poster Chair & Abstract reviewer, category “Understanding Tumour Biology”, EMIM 2020

2019 SubChair for the category on “Understanding Tumour Biology”, EMIM 2019

2018 “Understanding Tumor Biology” session chair, European Molecular Imaging Meeting

Since 2016 Main organizer of the annual “Grenoble Cancer Meeting” (5 editions, [informations here](#))

2015 Abstract reviewer, category “Cancer”, European Molecular Imaging Meeting

2012 Member of the Jury for the Young Researchers Awards, Jeunes Chercheurs ARC

Reviewing (see my [Web of Science](#) profile for up-to-date reviewing activities)

Reviewer for Chemical Society Reviews, Advanced Science, Advanced Materials, Coordination Chemistry Reviews, Small Methods, JAMA dermatology, Clinical Cancer Research, Oncogene, Scientific Reports, EMBO Molecular Medicine, Theranostics, Cancer Biomarkers, Acta Dermato-Venereologica, Experimental and Molecular Pathology, Journal of Cancer, Biological procedures online, BioMed Research International, Cancer Biology & Medicine, BMC Cancer, Analytical and Bioanalytical Chemistry, J. Biophotonics, Plasma Science and Technology, Spectrochimica Acta Part B: Atomic Spectroscopy (SAB), Journal of Analytical Atomic Spectrometry (JAAS), Micron, Frontiers in Oncology, IEEE Transactions on Instrumentation & Measurement,

GRANTS, RESEARCH CONTRACTS, and FUNDING

2023-2024	Principal Applicant : A. Deniaud Co-applicant: B. Busser CopCancer : Etude des liens entre Cuivre et Cancer Funding source: Labex GRAL (UGA)	€ 59'000 + € 10'000?
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	Program Name: Pre-maturation	
2022-2024	Principal Applicant : <u>B. Busser</u> Etude des altérations du métabolisme du Cuivre dans les tumeurs broncho-pulmonaires et ses implications dans la résistance aux thérapies Funding source: Grouped French Companies Against Cancer (Groupement des Entreprises Françaises dans la Lutte contre le Cancer - Gefluc)	€ 10'000
2022-2024	Principal Applicant : L. Sancey Co-applicants: <u>B. Busser</u> , C. Goze Développement de sondes optiques NIR-II pour l'aide à la chirurgie dans les cancers des voies aérodigestives supérieures Funding source: La Ligue Nationale contre la cancer Program Name: AO 2021 Pluri Equipes	
2022-2027	Principal Applicant : <u>B. Busser</u> Funding source: Institut Universitaire de France (IUF) Program Name: Junior Member	€ 75'000
2020-2024	Principal Applicant : V. Motto-Ros Co-applicants: <u>B. Busser</u> , J. Hermann, L. Duponchel, V. Bonneterre Medical Diagnosis by Artificial Intelligence applied to LIBS Elemental Microscopy (dIAG-EM) Funding source: Agence Nationale de la Recherche (ANR) Program Name: AAPG - PRC - 2020 (n°ANR-20-CE17-0021)	€ 443'000
2019-2020	Principal Applicant : <u>B. Busser</u> EURO-LIBS Funding source: Agence Nationale de la Recherche (ANR) Program Name: MRSEI - 2019 (n°ANR-19-MRS2-0010)	€ 30'000
2018-2019	Principal Applicant : L. Sancey Co-applicants: <u>B. Busser</u> , R. Auzély-Velty, C. Goze, F. Denat Théra-BODIPY Funding source: FRANCE LIFE IMAGING - Amorces de collaborations Program Name: WP1 - FLI "agents d'imagerie moléculaire"	€ 30'000
2018-2019	Principal Applicant : L. Sancey Co-applicants: R. Auzély-Velty, C. Goze, U. Köster, <u>B. Busser</u> BoRE-10 VEctorisé dans les cellules Tumorales pour la thérapie par capture de neutrons Funding source: CNRS - Missions pour l'interdisciplinarité Program Name: Défi ISOTOP - 2018	€ 57'000
2017-2020	Principal Applicant : <u>B. Busser</u> Co-applicants: V. Motto-Ros, L. Sancey, F. Pelascini, V. Bonneterre Multi-elemental analysis of lung diseases by laser spectroscopy (MEDI-LIBS) Funding source: Agence Nationale de la Recherche (ANR)	€ 450'000

	Program Name: AAPG - PRC - 2017 (n°ANR-17-CE18-0028-01)	
2017	Principal Applicant : A. Hurbin Co-applicants: <u>B. Busser</u> , V. Frachet Utilisation de nouvelles molécules pour contrer la résistance à l'apoptose dans les cancers du poumon Funding source: La LIGUE – comité de l'Isère Program Name: Projet Mono Equipe (PME)	€ 20'000
2015-2018	Principal Applicant : M. Morris Co-applicants: S. Lantuejoul, M. Amblard, A. Hurbin, <u>B. Busser</u> Foldamer-based targeting of CDK4/Cyclin D kinase and therapeutic application to lung cancer Funding source: INCa – DGOS Program Name: Programme de recherche translationnelle en Cancérologie (PRT-K 2014)	€ 550'000
2015-2018	Principal Applicant : L. Sancey Co-applicants: <u>B. Busser</u> , V. Motto-Ros, J. Charles Laser Ablation Spectroscopy for Tumor characterization (LAST) Funding source: Plan Cancer et INSERM Program Name: Physique, Mathématiques, Sciences de l'ingénieur et Cancer	€ 290'000
2014-2016	Principal Applicant : A. Hurbin Co-applicants: <u>B. Busser</u> Utilisation de dérivés pyrrolo-pyrimidine pour contrecarrer la résistance à l'apoptose et aux thérapies ciblées dans les cancers du poumon Funding source: Fondation de France Program Name: Rech. fondamentale et translationnelle sur le cancer	€ 50'000
2014-2015	Principal Applicant : <u>B. Busser</u> Étude de la résistance du cancer du poumon aux thérapies ciblées et implication des mucines Funding source: Grenoble-Alpes Univ. Program Name: AGIR 2014	€ 15'000
2011	Principal Applicant : <u>B. Busser</u> Etude de la résistance des Cancers Bronchiques Non à Petites Cellules au gefitinib : Confirmation du rôle primordial des Mucines Funding source: Grenoble-Alpes Univ. (UFR de Médecine/Pharmacie) Program Name: Vivier de la recherche médicale	€ 3'000
2006	Principal Applicant: <u>B. Busser</u> Etude de la résistance des Cancers Bronchiques Non à Petites Cellules au gefitinib (Iressa®) : Confirmation du rôle fondamental de l'amphiréguline Funding source: Grenoble-Alpes Univ. (UFR de Médecine/Pharmacie) Program Name: Vivier de la recherche médicale	€ 3'000

MAIN COLLABORATIONS (in alphabetical order)

Dr Beauvineau Claire and **Dr Mahuteau-Betzer** Florence. “Chemistry, Modeling and imaging” unit, Institut Curie, Paris, FR. *Screening chemical libraries, apoptosis resistance.*

Pr Cadranel Jacques and **Pr Wislez** Marie, Service de pneumologie, AP-HP Hôpital Tenon, Paris, FR. *Gefitinib resistance in lung cancers*

Pr Campbell Pat, UCLA Department of Orthopaedic Surgery, Los Angeles, CA, USA. *LIBS imaging for periprosthetic tissues.*

Pr Charlet Laurent, Institut des Sciences de la Terre (ISTerre), Univ. Grenoble Alpes

Pr Davey Gail, Brighton and Sussex Medical School, UK. *LIBS for podoconiosis*

Dr Diaz Jose Fernando and **Dr Prado** Fernando Josa. Centro de Investigaciones Biológicas, Consejo Superior de Investigaciones Científicas, Madrid, SPAIN. *Tubulin inhibitors*

Dr Imberty Anne, Centre de recherche sur les Macromolécules (CERMAV), UPR5301, CNRS, Grenoble, FR. *Recombinant lectins and their applications for cancer*

Prof Jabin Ivan, Univ. Libre de Bruxelles (ULB). *Chemistry*

Dr Khochbin Saadi, Institute for Advanced Biosciences, Grenoble, FR. *Ku70 acetylation*

Pr Melikechi, Noureddine. Dean of Kennedy College of Sciences, Lowell University of Massachusetts (UMass) USA. *LIBS imaging.*

Dr Motto-Ros Vincent & **Dr Dugourd** Philippe, Institut Lumière Matière, UMR CNRS/UCBL 5306, Université Lyon 1, FR. *Tissue multi-elemental imaging with Laser Spectroscopy (LIBS)*

Dr Ozturk Mehmet, Dokuz Eylul University, Advanced Biomedical Research Center, Izmir, TURKEY, *Hepatocarcinoma and small molecules (inhibitors)*

Pr de la Hoz Rafael E. Environmental Medicine & Public Health department, Mount Sinai Hospital, New York, USA. *World Trade Center-related lung idiopathic diseases. LIBS imaging.*

Dr Valkenier Hennie, Univ. Libre de Bruxelles (ULB). *Chemistry*

TALKS - CONFERENCES (speaker in italics)

16 Keynote / Lecture invitations in Conferences or Meetings, **24** Oral presentations in Conferences or Meetings (after abstract selection), and **26** Invited lectures from Universities/Labs/Companies

Keynote / Lecture invitations in conferences/meetings/summer schools

- 16** Clinical applications of multi-elemental imaging with laser-induced breakdown spectrometry (LIBS). *B. Busser, Colloquium Spectroscopicum Internationale, 30 May-3 June 2022, Convention Centre, Gijón (SPAIN). Parallel session*
- 15** LIBS elemental imaging : the next player for exploring chemical exposure in human tissues *B. Busser, Regional Environment and Health Workshop. 15-17 June 2021. Clermont-Ferrand. Virtual Event.*
- 14** LIBS elemental imaging is entering the clinic as a new diagnostic tool. *B. Busser, International Workshop on LIBS. 1-2 December 2020. Szeged (HUNGARY). Virtual Event.*
- 13** Reasons to believe in laser spectroscopy (LIBS) for pulmonary diseases. *B. Busser, Meeting of the regional Interstitial Lung Diseases group (PID Alpes). 10 January 2020. Grenoble.*

- 12 In situ Imaging of metal Nanoparticles in tissues with Laser Spectroscopy (LIBS).
B. Busser, Annual Seminar of the Interdisciplinary Group for nanotoxicology studies (GIENS).
13-15 November 2019. **St Quentin en Yvelines. Plenary session**
- 11 From bench to bedside: LIBS imaging is entering the clinic as a new diagnostic tool for respiratory diseases
B. Busser & V. Motto-Ros, SciX annual international conference of the Federation of Analytical Chemistry & Spectroscopy Societies (FACSS) (SciX 2019). 13-18 October 2019. Palm Springs, **California CA (USA). Parallel session**
- 10 Imaging exogenous elements in biological tissues with Laser Spectroscopy (LIBS): from mice to humans.
B. Busser, 7th Georgian Bay International Conference on Bioinorganic Chemistry (CanBIC-7). 21-25 May 2019. Parry Sound, **Ontario (CANADA). Parallel session.**
- 9 Looking for aetiologies and mineral exposome in patients with idiopathic lung diseases: insights from combining electron microscopy with LIBS. **Plenary session**
[Recherche de l'étiologie et de l'exposome minéral chez des patients atteints de pathologies pulmonaires idiopathiques : avancées récentes de la combinaison Microscopie Électronique et LIBS.]
B. Busser & M. Catinon, 3rd "Health and Dust" national meeting, 17 November 2018. Lyon
- 8 Imaging metals in tissues : latest developments of laser spectrometry [Imagerie élémentaire des métaux dans les tissus par spectrométrie laser : nouvelles applications en médecine]
B. Busser, National Meeting of the French Society for the Research on Toxic and Essential Elements (SFERETE), 11-12 October 2018. **Lyon. Plenary session**
- 7 Elemental analysis of human specimens with Laser-Induced Breakdown Spectrometry : first steps towards applications in medical diagnosis.
B. Busser, 1st International Medical Geology Association (IMGA) workshop. 29-30 March 2018. **Annecy. Plenary session**
- 6 LIBS elemental imaging: toward a revolution in medical diagnosis ?
B. Busser, Winter Conference on Plasma Spectrochemistry. January 2018. Amelia Island, **Florida (USA) Plenary session**
- 5 A novel technology for studying the elemental composition of tissues: LIBS (Laser Induced Breakdown Spectrometry).
B. Busser, Meeting "Particles and Health". 26-28 June 2017. **Lyon. Plenary session**
- 4 Tissue Elemental Imaging with LIBS (Laser-Induced Breakdown Spectroscopy): recent advances and medical applications.
B. Busser, International Colloquium: Granulomatosis, sarcoidosis, Mineralogical analysis and inorganic particles hypersensitivity. 5-7 december 2016. Lyon. **Plenary session**
- 3 Elemental imaging by Laser spectrometry: new perspectives for medical applications.
B. Busser, L. Sancey, N. Pinel, J. Charles, V. Motto-Ros. European Molecular Imaging Meeting (EMIM). 10th annual meeting of the European Society for Molecular Imaging (ESMI). 18-20 March 2015. **Tuebingen (GERMANY). Plenary Lecture for finalists of the Young Investigator Award**
- 2 L'Amphiregulin induces gefitinib resistance in Non-Small Cell Lung Cancers through Ku70-mediated BAX inhibition.
B. Busser, Journées de la recherche respiratoire (J2R). Octobre 2008, **Grenoble. Plenary session**
- 1 Amphiregulin induces resistance to gefitinib via BAX sequestration by Ku70

B. Busser, 27th Forum of Cancer Research, **Eurocancer**. June 2007, **Paris**.
Plenary session. Award "Basic Research" from the French Cancer Society (SFC)

Oral presentation in Scientific Conferences or Meetings (after abstract selection)

- 24** In situ multi-elemental imaging with LIBS for periprosthetic tissue characterization
B. Busser, V. Gardette, L. Sancey, P. Campbell, V. Motto-Ros.
Annual international conference of the Federation of Analytical Chemistry & Spectroscopy Societies (FACSS) (**SciX 2022**). 2-7 October 2022. Cincinnati, **Ohio (USA)**. **Parallel session**
- 23** NIR aza-BODIPY: a new vector for boron neutron capture therapy (BNCT)
A. Godard, G. Kalot, *B. Busser*, J. Pliquet, K.D. Wegner, U. Köster, U. Resch-Genger, J-L Coll, F. Denat, E. Bodio, C. Goze, L. Sancey. *European Molecular Imaging Meeting (EMIM)*. 16th annual meeting of the European Society for Molecular Imaging (ESMI). 24-27 August 2021, **Göttingen (GERMANY)**.
- 22** Elemental imaging with Laser spectroscopy is entering the clinic as a new diagnostic tool
B. Busser, M. Leprince, J. Charles, J.L. Coll, V. Bonneterre, V. Motto-Ros, L. Sancey. *European Molecular Imaging Meeting (EMIM)*. 15th annual meeting of the European Society for Molecular Imaging (ESMI). 25-28 August 2020. **Virtual Event**.
- 21** In situ visualization of Boron element in biological tissues: latest advances with LIBS imaging
B. Busser, G. Kalot, J.L. Coll, V. Motto-Ros, L. Sancey. *Technical Meeting on Advances in Boron Neutron Capture Therapy - International Atomic Energy Agency (IAEA)*. 27-30 July 2020. **Virtual Event**.
- 20** Studying the preclinical ex-vivo distribution of metal nanoparticles: label-free direct elemental quantitative imaging with LA-ICP-MS
Y. Yao, L. Sancey, F. Arnaud-Godet, J.L. Coll, P. Télouk, *B. Busser*. Annual national meeting of the French Society for Nanomedicine (**SFNano**), 10-12 December 2019, **Dijon**.
- 19** Mutational Imprints of Cobalt Exposure: A Genome-Scale Multi-system Approach
PN. Melki, C. Renard, E. Mariussen, E. Rundén Pran, EM. Longhin, M. Dusinska, L. Sancey, *B. Busser*, RA. Herbert, M. Korenjak and J. Zavadil. Environmental Mutagenesis and Genomics Society 50th Annual Meeting (**EMGS**), 19-23 September, 2019 - **Washington DC, (USA)**.
- 18** In situ, quantitative, elemental imaging of lung tissues
M. Leprince, *B. Busser*, F. Pelascini, V. Bonneterre, L. Sancey and V. Motto-Ros. 10th Euro-Mediterranean Symposium on Laser-Induced Breakdown Spectroscopy (**EMSLIBS**), 8-13 September 2019, **Brno (CZECH REPUBLIC)**.
- 17** Biological evaluation of innovative nano-compounds for boron neutron capture therapy (BNCT)
L. Sancey, V. Cosensa, *B. Busser*, R. Poirot, G. Kalot, S. Coninx, U. Köster, J.L. Coll, R. Auzély-Velty. National meeting of the French Society for Nanomedicine (**SFNano**), 3-5 December 2018, **Montpellier**.
- 16** Targeting the CDK4/CyclinD interface with a stapled peptide in non-small cell lung cancer.
A. Hurbin, C. Bouclier, G. Laconde, M. Simon, M. Pellerano, C. Prevel, B. Legrand, J. Voltaire, N. LeStang, *B. Busser*, S. Lantuejoul, V. Josserand, J.L. Coll, M. Amblard, M. Morris. National meeting of the French Society for Nanomedicine (**SFNano**), 3-5 December 2018, **Montpellier**.

- 15** In situ metal imaging with laser spectrometry: A new and promising technology with biological and medical applications. B. Busser, M. Leprince, F. Pelascini, J. Charles, JL. Coll, V. Bonneterre, V. Motto-Ros, L. Sancey. 14th biannual European Biological Inorganic Chemistry Conference (**EuroBIC 14**), 26-30 August 2018, **Birmingham (UK)**. **Parallel session**
- 14** Biomedical applications of multi-elemental imaging with laser-induced breakdown spectrometry (LIBS). B. Busser, M. Leprince, S. Moncayo, F. Pelascini, JL. Coll, V. Motto-Ros, L. Sancey. **OptDiag**, 23-24 May 2018, Institut Langevin, **Paris**. **Plenary session**
- 13** In situ multi-elemental imaging of human specimens with laser spectrometry: a future gold standard for medical diagnosis ?
B. Busser, M. Leprince, S. Moncayo, F. Pelascini, J. Charles, JL. Coll, V. Bonneterre, V. Motto-Ros, L. Sancey. **European Molecular Imaging Meeting (EMIM)**. 12th annual meeting of the European Society for Molecular Imaging (ESMI). 20-23 March 2018. **San Sebastián (SPAIN)**. **Parallel session**
- 12** LIBS imaging for supporting medical diagnoses
S. Moncayo, B. Busser, M. Catinon, F. Trichard, M. Sabatier-Vincent, F. Pelascini, D. Devismes, N. Pinel, M. Vincent, V. Bonneterre, J. Charles, L. Sancey and V. Motto-Ros. 9th Euro-Mediterranean Symposium on LIBS (**EMSLIBS**). 11-16 June 2017. **Pisa (Italy)**
- 11** Elemental imaging by laser spectrometry: technological advances for biological and medical applications.
B. Busser, S. Moncayo, F. Trichard, F. Pelascini, V. Bonneterre, N. Pinel, JL. Coll, J. Charles, V. Motto-Ros, L. Sancey. 14th International Symposium on Applied Bioinorganic Chemistry (**ISABC 14**), 7-10 June 2017, **Toulouse**. **Parallel session**
- 10** 3D Elemental Imaging of Nanoparticles in biological tissue by Laser-Induced Breakdown Spectroscopy
B. Busser, Gimenez Y, Trichard F, Kulesza A, Benoit JM, Panczer G, Dugourd P, Tillement O, Pelascini F, Sancey L, Motto-Ros V. **European Molecular Imaging Meeting (EMIM)**. 11th annual meeting of the European Society for Molecular Imaging (ESMI). 8-10 March 2016. **Utrecht (NETHERLANDS)**. **Parallel session**
- 9** Elemental imaging by Laser spectroscopy: new perspectives for biological and medical applications
L. Sancey, B. Busser, F. Trichard, F. Pelascini, N. Pinel, S. Roux, J-L. Coll, O. Tillement, J. Charles, V. Motto-Ros. **European Nanomedicine Meeting**. 7-9 December 2016. **Grenoble**
- 8** Identification d'un dérivé pyrrolo-pyrimidine pour contourner la résistance à l'apoptose des cancers pulmonaires non-à-petites cellules
P. Gilson, F. Mahuteau, C. Beauvineau, JL Coll, A. Hurbin, B. Busser. **Journées de la Recherche Médicale (JRM)**. 3 June 2016. **Grenoble**.
- 7** Elemental imaging by Laser spectrometry: new perspectives for medical applications.
B. Busser, L. Sancey, N. Pinel, J. Charles, V. Motto-Ros. **European Molecular Imaging Meeting (EMIM)**. 10th annual meeting of the European Society for Molecular Imaging (ESMI). 18-20 March 2015. **Tuebingen (GERMANY)**. **Parallel Session**
- 6** Laser-Induced Breakdown Spectrometry for Elemental Imaging of Biological Tissues.
L. Sancey, B. Busser, F. Pelascini, Y. Gimenez, G. Panczer, P. Dugourd, V. Motto-Ros. **European Winter Conference on Plasma Spectrochemistry**. 22-26 February 2015. **Münster (GERMANY)**
- 5** Efficacité prolongée du vemurafenib comme traitement d'une histiocytose langerhansienne

pure cutanée mutée BRAF.

J. Charles, JC. Beani, I. Templier, G. Fiandrino, L. Bondier, MT. Leccia, B. Busser, *Journées Dermatologiques de Paris*, December 2014, **Paris**.

- 4 Laser spectrometry for 2D elemental mapping of biological tissues.
L. Sancey, B. Busser, F. Pelascini, G. Panczer, O. Tillement, J. Yu, V. Motto-Ros. *SciX - The Great Scientific eXchange. National Meeting of Society for Applied Spectroscopy (SAS) & North American Society for Laser-Induced Breakdown Spectroscopy*. 28 Sept-3 Oct 2014, Reno (**NEVADA, USA**)
- 3 Laser-Induced Breakdown Spectrometry for Elemental Imaging of Biological Tissues.
V. Motto-Ros, L. Sancey, B. Busser, G. Panczer, O. Tillement, J. Yu. *8th Annual International Conference on Laser Induced Breakdown Spectroscopy*, September 2014. Beijing (**CHINA**)
- 2 Cancer microenvironment and growth factors. The example of amphiregulin.
Busser B., *11th Topic days from the Albert Bonniot Institute*. October 2011, Grenoble.
Flash Talk
- 1 Amphiregulin induces resistance to gefitinib via BAX sequestration by Ku70
Busser B., *27th Forum of Cancer Research, Eurocancer, Paris*. June 2007, Paris.
Research in Oncology - Parallel Session
"Basic research" Award - from the French Cancer Society / Eurocancer

Invited Lectures for Universities / Laboratories / Companies

- 26 Imaging of Tissues with LIBS. B. Busser, *Lecture for the team "Molecular Systems and nanoMaterials for Energy and Health (SyMMES), from CEA Grenoble*. 27 February 2023.
Invited by Dr Jean Breton
- 25 Tissue Elemental microscopy with LIBS: fast and robust chemical imaging of the skin (and other organs)
B. Busser, *Lecture for the R&D department of L'Oréal*. 24 November 2022. **Remote Presentation**.
Invited by Dr Thomas Bornschloegl
- 24 A revolutionary microscope for medical diagnosis: a world-premiere ?
B. Busser, *Lecture for the Rotary Club of Grenoble*. 28 October 2022. **Grenoble**.
Invited by Dr J. Bessière and M. Peyrière
- 23 LIBS elemental imaging : a powerful tool for geology, but also for biology and medicine !
B. Busser, *Lecture for the Kick-off meeting of the ERC synergy-grant project MEET (Monitoring Earth Evolution through Time)*, 28 October 2022. **Grenoble**.
Invited by Dr Fabrice Brunet and Prof. Alexander Sobolev
- 22 Imaging metals in biological tissues: the advantage of LIBS
B. Busser, *Lecture for the annual meeting of the Grenoble Institute of Metals in Biology (IMBG)*, 15 November 2021. **Grenoble**.
Invited by Dr Stephane Menage
- 21 LIBS elemental imaging for doctors to investigate unknown exposures for idiopathic lung diseases.
B. Busser, *Lecture for the Rare Pulmonary Diseases study group, Louis Pradel University Hospital, Lyon, France* 12 October 2020. **Lyon. Virtual Event**.

Invited by Prof. Vincent Cottin

- 20** Bringing AI to improve human laser spectroscopy-based diagnostics.
*B. Busser, Lecture for the MIAI-meeting of the Multidisciplinary Institute in Artificial Intelligence (MIAI), Grenoble Alpes Univ., 14 January 2021. **Grenoble. Virtual Event.***
Invited by Prof. Eric Gaussier
- 19** Cold cases : LIBS elemental imaging demonstrates the occupational exposure of idiopathic lung diseases.
*B. Busser & V. Bonneterre, Lecture for the monthly "Multidisciplinary Research Seminars" of Grenoble Alpes Univ. Hospital (**CHUGA**). 19 November 2020. **Grenoble.***
- 18** Laser spectroscopy: a new technology for the diagnosis of lung diseases related to metal particles inhalation. [*La spectroscopie laser, une nouvelle technologie pour le diagnostic des pathologies pulmonaires liées à l'inhalation de particules métalliques*]
*B. Busser, Research seminar for the Institute of Biology and Pathology, Grenoble. 5 October 2020. **Grenoble.***
Invited by Prof. Pierre Ray
- 17** LIBS elemental imaging as a tool to investigate unknown exposures for idiopathic lung diseases.
*B. Busser, Lecture for the Lung inflammation and fibrogenesis Group - Inserm UMR 1152 - Bichat / Paris AP-HP University Hospital. 12 October 2020. **Paris.***
Invited by Prof. Bruno Crestani
- 16** Elemental imaging for Idiopathic respiratory diseases : are we ready ?
*B. Busser, Lecture for the Pulmonology Department - Grenoble University Hospital. 25 June 2020. **Grenoble.***
Invited by Prof. Christophe Pison & Dr Sébastien Quetant
- 15** Idiopathic ? Occupational ? Environmental ? In situ elemental imaging reveals exposure to nanomaterials and metal particulates in the lung of mice and patients.
*B. Busser, Lecture for the Pneumology Group - Katholieke Universiteit Leuven - University Hospital. 27 September 2019. **Leuven (BELGIUM).***
Invited by Prof. Ben Nemery
- 14** Inputs of recent tissue analysis technologies to characterize lung exposure
[Apport des techniques récentes d'analyse tissulaire dans la caractérisation de l'exposome pulmonaire]
*B. Busser, Lecture for the Chest Department - Avicenne University Hospital. 5 September 2019. **Bobigny - Paris.***
Invited by Prof. Hilario Nunes
- 13** Visualizing metal exposure in tissues with LIBS: an innovative tool for in-situ multi-elemental imaging.
*B. Busser, Lecture for the Technical/Scientific seminar of the International Agency for Research on Cancer (**IARC**). 27 November 2018. **Lyon.***
Invited by Dr Jiri Zavadil
- 12** Tissue multi-elemental imaging with LIBS: a revolution for medical diagnosis ?
*B. Busser, Scientific seminar - BIG/CEA laboratory. 19 January 2018. **Grenoble***
- 11** Les biopsies liquides et l'ADN tumoral circulant : du sang neuf pour les cancérologues.
*B. Busser, 2nd Rencontres Grenobloises de Cancérologie. 30 June 2017. **Grenoble***

- 10 Identification d'un dérivé pyrrolo-pyrimidine pour contourner la résistance à l'apoptose des cancers pulmonaires non-à-petites cellules.
P. Gilson, F. Mahuteau, C. Beauvineau, J.L. Coll, A. Hurbin, B. Busser. Journées de la Recherche Médicale (JRM). 3 June 2016. Grenoble
- 9 Circuit des investigations biologiques dans les cancers solides : Présent et futur.
B. Busser, Conférence d'actualité organisée au CHU de Grenoble par l'Association des Anciens Internes en Pharmacie des Hôpitaux de Grenoble sur le thème des thérapies ciblées. 18 Septembre 2015. Grenoble
- 8 Analyse multi-élémentaire des tissus biologiques par spectroscopie laser.
B. Busser, Lecture for the annual "Scientific day", Faculty of Pharmacy of Grenoble. 25 June 2015. Grenoble.
- 7 Nouvelles stratégies thérapeutiques dans les cancers du poumon.
B. Busser, Journée Scientifique du pôle Chimie-Biologie-Santé de l'Université Grenoble-Alpes. 22 May 2015. Grenoble
- 6 La digital PCR en Oncologie. Actualités et perspectives.
B. Busser, Symposium sur les nouvelles technologies de Biologie Moléculaire. Institut A. Bonniot. 2 april 2015. Grenoble
- 5 Intérêts et limites de la médecine de précision en Oncologie.
B. Busser, 30^{èmes} Journées Pédagogiques et Scientifiques de l'AE2BM (Association des enseignants de Biochimie et de Biologie Moléculaire des facultés de Pharmacie). Université Claude Bernard de Lyon. 11 & 12 Sept 2014. Lyon
- 4 Remplacement du test Hémocult par un test immunologique dans le dépistage organisé : quels changements pour le programme ?
B. Busser, Réunion annuelle de des gastro-entérologues de l'Isère 2014. Programme départemental du Dépistage organisé du cancer colorectal. Office De Lutte contre le Cancer (ODLC). June 2014. Grenoble
- 3 Intérêts et limites des marqueurs compagnons en Oncologie.
B. Busser, 4èmes Journées Scientifiques du Médicament «nouvelles stratégies thérapeutiques». CNRS/Université Grenoble. June 2014
- 2 La biologie moléculaire au service de la dermatologie. Présent et futur.
B. Busser, Colloque scientifique Inter3C 2013 « Les Incontournables en Cancérologie». October 2013. Chambéry.
- 1 Identification et caractérisation d'un nouveau mécanisme de résistance au gefitinib dans le cancer du poumon non-à petites cellules : Rôle de l'amphiréguline.
B. Busser, Après-midi de la recherche. UFR de Pharmacie-Université Grenoble Alpes. January 2010, Grenoble.

PUBLICATIONS

Peer-reviewed articles

(GR-General Review, OA-original article, CR-case report, ED-Editorial, L-Letter)

* equal contribution, @ corresponding author,

- 44** Roles of zinc in cancers: From altered metabolism to therapeutic applications
GR M. Bendellaa, P. Lelièvre, J.L. Coll, L. Sancey, A. Deniaud, B. Busser
International Journal of Cancer, 2023; **N/A**
DOI : <http://doi.org/10.1002/ijc.34679> **OPEN ACCESS**
- 43** NIR-II aza-BODIPY dyes bioconjugated to monoclonal antibody trastuzumab for selective
OA imaging of HER2-positive ovarian cancer
A. Godard, G. Kalot, M. Privat, M. Bendellaa, B. Busser, K.D. Wegner, F. Denat, X. Le Guével, J.L. Coll, E. Bodio, C. Goze, L. Sancey
Journal of Medicinal Chemistry 2023; 66 (7), 5185-5195
DOI : <https://10.1021/acs.jmedchem.3c00100>
- 42** Laser-induced breakdown spectroscopy imaging for material and biomedical applications:
GR recent advances and future perspectives
V. Gardette, V. Motto-Ros, C. Alvarez-Llamas, L. Sancey, L. Duponchel, and B. Busser@
Analytical Chemistry 2023; 95 (1) 49-69
DOI : <https://doi.org/10.1021/acs.analchem.2c04910>
“invited review” for the annual special Issue “Fundamental and Applied Reviews in Analytical Chemistry 2023”
- 41** Al(III) and Ga(III) bisphenolate azadipyrromethene-based “N2O2” complexes as efficient
OA NIR-fluorophores
A. Godard, L. Abad Galán, J. Rouillon, S. Al-Shehimi, W. Tajani, C. Cave, R Malacea-Kabbara, Y. Rousselin, P. Le Gendre, A. Fihey, M. Bendellaa, B. Busser, L. Sancey, B. Le Guennic, C. Bucher, O. Maury, C. Goze, E. Bodio
Inorganic Chemistry 2023; 62, 13, 5067–5080
DOI : <https://doi.org/10.1021/acs.inorgchem.2c03918>
- 40** Lipoprotein interactions with water-soluble NIR-II emitting aza-BODIPYs boost the
OA fluorescence signal and favor selective tumor targeting.
G. Kalot; A. Godard; B. Busser, M. Bendellaa, F. Dalonneau, C. Paul, X. Le Guével, V. Jossierand, J.L. Coll, F. Denat, E. Bodio, C. Goze, T. Gautier, L. Sancey
Biomaterials Science, 2022; 10, 6315-6325.
DOI : <https://doi.org/10.1039/D2BM01271E>
- 39** Succinimido–Ferrocenylphenol Complexed with Cyclodextrins Inhibits Glioblastoma Tumor
OA Growth In Vitro and In Vivo without Noticeable Adverse Toxicity
F. Najlaoui, B. Busser, G.S. Taiwe, P. Pigeon, N. Sturm., D. Giovannini, N. Marrakchi, A. Rhouma, G. Jaouen, S. Gibaud, M.I De Waard
Molecules 2022; 27(14), 4651
DOI : <https://doi.org/10.3390/molecules27144651>
- 38** Visualizing the cerebral distribution of chemical elements: a challenge met with LIBS
OA elemental imaging
B. Busser, A.L. Bulin, V. Gardette, H. Elleaume, F. Pelascini, A. Bouron, V. Motto-Ros, L. Sancey
Journal of Neuroscience Methods 2022; 379: 109676
DOI : <https://doi.org/10.1016/j.jneumeth.2022.109676>

- 37** Near-infrared emitting fluorescent homobimetallic gold (I) complexes displaying promising
OA in vitro and in vivo therapeutic properties
R. Lescure, M. Privat, J. Pliquett, A. Massot, O. Baffroy, B. Busser, PS. Bellaye, B. Collin, F. Denat, A. Bettaïeb, L. Sancey, C. Paul, C. Goze, E. Bodio
European Journal of Medicinal Chemistry 2021; 220: 113483,
DOI : <https://doi.org/10.1016/j.ejmech.2021.113483>
- 36** Iron Dysregulation in Human Cancer: Altered Metabolism, Biomarkers for Diagnosis,
GR Prognosis, Monitoring and Rationale for Therapy.
P. Lelièvre, L. Sancey, JL. Coll, A. Deniaud, B. Busser
Cancers, 2020; 12: 3524
DOI : <https://doi.org/10.3390/cancers12123524>
- 35** The Multifaceted Roles of Copper in Cancer: a Trace Metal Element with Dysregulated
GR Metabolism, but also a Target or a Bullet for Therapy.
P. Lelièvre, L. Sancey, JL. Coll, A. Deniaud, B. Busser
Cancers, 2020; 12: 3594
DOI : <https://doi.org/10.3390/cancers12123594>
- 34** Radiation dose-enhancement is a potent radiotherapeutic effect of rare-earth composite
OA nanoscintillators in preclinical models of glioblastoma.
AL. Bulin, M. Broekgaarden, F. Chaput, V. Baisamy, J. Garrevoet, B. Busser, D. Brueckner, A. Youssef, JL. Ravanat, C. Dujardin, V. Motto-Ros, F. Lerouge, S. Bohic, L. Sancey and H. Elleaume. *Advanced Science*, 2020; 2001675: 1-18
DOI : <https://doi.org/10.1002/advs.202001675>
- 33** Aza-BODIPY: A New Vector for Enhanced Theranostic Boron Neutron Capture Therapy
OA Applications.
G. Kalot; A. Godard; B. Busser, J. Pliquett; M. Broekgaarden; V. Motto-Ros; K.D. Wegner; U. Resch-Genger; U. Köster; F. Denat; JL. Coll; E. Bodio; C. Goze; L. Sancey *Cells*, 2020; 9, 1953.
DOI : <https://doi.org/10.3390/cells9091953>
- 32** Water-Soluble Aza-BODIPYs: biocompatible organic dyes for high contrast in vivo NIR-II
OA imaging.
A. Godard; G. Kalot; J. Pliquett; B. Busser; X. Le Guével; KD. Wegner; U. Resch-Genger; Y. Rousselin; JL. Coll; F. Denat; E. Bodio; C. Goze; L. Sancey. *Bioconjugate Chemistry*, 2020; 15;31(4):1088-1092.
DOI : <https://doi.org/10.1021/acs.bioconjchem.0c00175>
- 31** Stapled peptide targeting the CDK4/Cyclin D interface synergizes with Abemaciclib in
OA non-small cell lung cancers
C. Bouclier, M. Simon, G. Laconde, M. Pellerano, S. Diot, S. Lantuejoul, B. Busser, L. Vanwonderghem, J. Vollaïre, V. Josserand, B. Legrand, JL. Coll, M. Amblard, A. Hurbin & MC. Morris. *Theranostics*, 2020; 10(5): 2008-2028
DOI : <https://doi.org/10.7150/thno.40971> OPEN ACCESS
- 30** Development of molecular analyses by digital PCR for clinical practice: positioning, current
GR applications and perspectives [article in French]
JA. Denis, A. Perrier, J. Nectoux, PJ. Lamy, AS. Alary, N. Sarafan-Vasseur, D. Henaff, B. Busser, R. Appay, P. Pedini, P. Romanet, V. Taly, F. Fina, *Ann Biol Clin (Paris)*, 2019 Dec 1;77(6):619-637
DOI : <https://doi.org/10.1684/abc.2019.1502>
- 29** Elemental imaging using laser-induced breakdown spectroscopy: latest medical

- GR** applications [article in French]
M. Leprince, L. Sancey, JL. Coll, V. Motto-Ros, B. Busser@. *Med Sci (Paris)*, 2019, 35: 682-8
DOI : <https://doi.org/10.1051/medsci/2019132> OPEN ACCESS
“invited contribution”
- 28** Gold Nanoclusters as a contrast agent for image-guided surgery of Head and Neck tumors
OA C. Colombé, X. Le Guével, A. Martin-Serrano, M. Henry, E. Porret, C. Comby-Zerbino, R. Antoine, I. Atallah, B. Busser, JL. Coll, CA. Righini, L. Sancey. *Nanomedicine: NBM*, 2019, May 17;20:102011
DOI : <https://doi.org/10.1016/j.nano.2019.04.014>
- 27** The pyrrolopyrimidine colchicine-binding site agent PP-13 reduces the metastatic dissemination of invasive cancer cells in vitro and in vivo
OA P. Gilson, M. Couvet, L. Vanwonderghem, M. Henry, J. Voltaire, V. Baulin, M. Werner, A. Orłowska, V. Jossierand, F. Mahuteau-Betzer, L. Lafanechère, JL Coll, B. Busser@, A. Hurbin. *Biochemical Pharmacology*, 2019, February, 160:1-13
DOI : <https://doi.org/10.1016/j.bcp.2018.12.004>
- 26** Laser-Induced Breakdown Spectroscopy for Human and Animal Health: a review
GR N. Melikechi, R. Gaudiuso, Z.A. Abdel-Salam, M.A. Harith, V. Palleschi, V. Motto-Ros, and B. Busser. *Spectrochimica Acta Part B.*, 2019, 152: 123-148
DOI : <https://doi.org/10.1016/j.sab.2018.11.006>
“invited Review”
- 25** Development of digital PCR molecular tests for clinical practice: principles, practical implementation and recommendations [article in French]
OA JA. Denis, J. Nectoux, PJ. Lamy, C. Rouillac Le Sciellour, H. Guermouche, AS. Alary, O. Kosmider, N. Sarafan-Vasseur, C. Jovelet, B. Busser, P. Nizard, V. Taly, F. Fina. *Ann Biol Clin (Paris)*, 2018, 76(5):505-523
DOI : <https://doi.org/10.1684/abc.2018.1372>
- 24** Anticancer properties of lipid and poly(ϵ -caprolactone) nanocapsules loaded with ferrocenyl-tamoxifen derivatives
OA F. Najlaoui, P. Pigeon, S. Aroui, M. Pezet, L. Sancey, N. Marrakchi, A. Rhouma, G. Jaouen, M. De Waard, B. Busser, S. Gibaud. *J Pharm Pharmacol*, 2018, 70 (11), 1474-1484
DOI : <https://doi.org/10.1111/jphp.12998>
- 23** Nuclear translocation of IGF1R by intracellular amphiregulin contributes to the resistance of lung tumour cells to EGFR-TKI
OA M. Guérard, T. Robin, P. Perron, AS. Hatat, L. David-Boudet, L. Vanwonderghem, B. Busser, JL. Coll, S. Lantuejoul, B. Eymin, A. Hurbin, S. Gazzeri. *Cancer Lett.*, 2018, 28(420):146-155
DOI : <https://doi.org/10.1016/j.canlet.2018.01.080>
- 22** Elemental imaging using laser-induced breakdown spectroscopy: A new and promising approach for biological and medical applications
GR B. Busser@, S. Moncayo, JL. Coll, L. Sancey, V. Motto-Ros. *Coord. Chem. Rev.*, 2018, 358:70-79
DOI : <https://doi.org/10.1016/j.ccr.2017.12.006>
invited contribution for the themed issue “ISABC 2017”
- 21** Characterization of foreign materials in paraffin-embedded pathological specimens using in-situ multi-elemental imaging with laser spectroscopy
OA

B. Busser@, S. Moncayo, F. Trichard, V. Bonnetterre, N. Pinel, F. Pelascini, P. Dugourd, JL. Coll, M.D'Incan, J. Charles, V. Motto-Ros, L. Sancey. *Modern Pathol.*, 2018, 31, 378–384.
DOI : <https://doi.org/10.1038/modpathol.2017.152>
Highlighted in “**Inside the USCAP journals**” (<https://doi.org/10.1038/modpathol.2018.26>)

- 20** Identification of pyrrolopyrimidine derivative PP-13 as a novel microtubule-destabilizing agent with promising anticancer properties
OA P. Gilson, F. Josa-Prado, C. Beauvineau, D. Naud-Martin, L. Vanwonderghem, F. Mahuteau-Betzer, A. Moreno, P. Falson, L. Lafanechere, V. Frachet, JL. Coll, JF. Díaz, A. Hurbin, B. Busser. *Sci. Rep.*, 2017, 7:10209.
DOI : <https://doi.org/10.1038/s41598-017-09491-9> **OPEN ACCESS**
- 19** Multi-elemental imaging of paraffin-embedded human samples by laser-induced breakdown spectroscopy
OA S. Moncayo, F. Trichard, B. Busser, M. Sabatier-Vincent, F. Pelascini, N. Pinel, I. Templier, J. Charles, L. Sancey, V. Motto-Ros. *Spectrochimica Acta Part B*, 2017, 133; 40-44.
DOI : <https://doi.org/10.1016/j.sab.2017.04.013>
- 18** Efficacy of AKT inhibitor ARQ 092 compared with sorafenib in a cirrhotic rat model with hepatocellular carcinoma
OA G. Roth, Z. Macek Jilkova, A. Zeybek Kuyucu, K. Kurma, ST. Ahmad Pour, G. Abbadessa, Y. Yu, B. Busser, P. Marche, V. Leroy, T. Decaens. *Mol Cancer Ther*, 2017, 16(10); 2157–65.
DOI : <https://doi.org/10.1158/1535-7163.MCT-16-0602-T>
- 17** Plasma circulating tumor DNA levels for the monitoring of melanoma patients: landscape of available technologies and clinical applications
GR B. Busser@, J. Lupo, L. Sancey, S. Mouret, P. Faure, J. Plumas, L. Chaperot, MT. Leccia, JL. Coll, A. Hurbin, P. Hainaut, J. Charles. *BioMed Research International*, 2017, Article ID 5986129, 8 pages.
DOI : <https://doi.org/10.1155/2017/5986129> **OPEN ACCESS**
- 16** Synergistic activity of vorinostat combined with gefitinib but not with sorafenib in mutant KRAS human non-small cell lung cancers and hepatocarcinoma
OA V. Jeannot, B. Busser, L. Vanwonderghem, S. Michallet, S. Ferroudj, M. Cokol, JL. Coll, M. Ozturk, A. Hurbin. *OncoTargets and Therapy*, 2016, 9;9:6843-6855.
DOI : <https://doi.org/10.2147/ott.s117743> **OPEN ACCESS**
- 15** 3D Imaging of Nanoparticle Distribution in Biological Tissue by Laser-Induced Breakdown Spectroscopy
OA Y. Gimenez, B. Busser, F. Trichard, A. Kulesza, J. M. Laurent, V. Zaun, F. Lux, J. M. Benoit, G. Panczer, P. Dugourd, O. Tillement, F. Pelascini, L. Sancey, V. Motto-Ros. *Sci. Rep.*, 2016, 6:29936.
DOI : <https://doi.org/10.1038/srep29936> **OPEN ACCESS**
- 14** A Recombinant Fungal Lectin for Labeling Truncated N-Glycans on Human Cancer Cells
OA A. Audfray*, M. Beldjoudi*, A. Breiman*, A. Hurbin, I. Boos, C. Unverzagt, M. Bourras, S. Lantuejoul, JL. Coll, A. Varrot, J. Le Pendu@, B. Busser@, A. Imberty A@. *Plos One*, 2015, 10(6): e0128190.
DOI : <https://doi.org/10.1371/journal.pone.0128190> **OPEN ACCESS**
- 13** Laser spectrometry for elemental imaging of biological tissues
OA L. Sancey, V. Motto-Ros, B. Busser, S. Kotb, JM. Benoit, A. Piednoir, F. Lux, O. Tillement,

G. Panczer, J. Yu. *Sci. Rep.*, 2014, 4:6065.
DOI : <https://doi.org/10.1038/srep06065> OPEN ACCESS

- 12** Mechanisms of resistance to anti-BRAF treatments
GR J. Charles, C. Martel, F. de Fraipont, MT. Leccia, C. Robert, B. Busser@. *Ann Dermatol Venereol*, 2014, 141(11):671-681.
DOI : <https://doi.org/10.1016/j.annder.2014.06.021>
- 11** Major response to vemurafenib in patient with severe cutaneous Langerhans cell
CR histiocytosis harboring BRAF V600E mutation
J. Charles, JC. Beani, G. Fiandrino, B. Busser. *Journal of the American Academy of Dermatology*, 2014, 71(3):e97–e99.
DOI : <https://doi.org/10.1016/j.jaad.2014.03.038>
- 10** The PI3K/AKT pathway promotes gefitinib resistance in wild-type EGFR lung
OA adenocarcinoma by a deacetylase-dependent mechanism
V. Jeannot, B. Busser, E. Brambilla, M. Wislez, B. Robin, J. Cadranel, JL. Coll, A. Hurbin.
Int. J. Cancer, 2014, 134(11):2560-71.
DOI : <https://doi.org/10.1002/ijc.28594>
- 9** Identification of a novel complex BRAF mutation associated with major clinical response to
CR vemurafenib in a metastatic melanoma patient
B. Busser@, MT. Leccia, G. Gras-Combe, I. Bricault, I. Templier, A. Claeys, MJ. Richard,
F. De Fraipont, J. Charles. *JAMA Dermatol.*, 2013, 149(12):1403-1406.
DOI : <https://doi.org/10.1001/jamadermatol.2013.8198>
Published Online in the “Current Highlights” category (october 2013)
- 8** Adequacy of Computed tomography (CT)-guided transthoracic needle core biopsy for
OA histomolecular diagnosis of pulmonary adenocarcinoma
G. Ferretti, B. Busser, A. Jankowski, F. De Fraipont, M. Prieur, A. Mc Leer Florin, L.
Mescam-Mancini, D. Moro-Sibilot, and S. Lantuejoul. *Lung Cancer*, 2013, 82(1):69-75.
DOI : <https://doi.org/10.1016/j.lungcan.2013.07.010>
- 7** Comparison of COBAS 4800 KRAS, TaqMan PCR and High Resolution Melting PCR
OA assays for the detection of KRAS somatic mutations in formalin-fixed paraffin embedded
colorectal carcinomas
A. Harlé, B. Busser, M. Rouyer, V. Harter, P. Genin, A. Leroux, JL. Merlin. *Virchows
Archiv*, 2013, 462(3):329-35.
DOI : <https://doi.org/10.1007/s00428-013-1380-x>
- 6** Insulin-like Growth Factor-1 Receptor inhibition overcomes gefitinib resistance in mucinous
OA lung adenocarcinoma
A. Hurbin, M. Wislez, B. Busser, M. Antoine, C. Tenaud, N. Rabbe, S. Dufort, F. De
Fraipont, D. Moro-Sibilot, J. Cadranel, JL. Coll, and E. Brambilla. *J. Pathol.*, 2011, 225(1):
83-95
DOI : <https://doi.org/10.1002/path.2897>
- 5** The multiple roles of amphiregulin in human cancer
GR B. Busser@, L. Sancey, E. Brambilla, JL. Coll, and A. Hurbin. *BBA reviews on cancer*,
2011, 1816(2): 119-131.
DOI : <https://doi.org/10.1016/j.bbcan.2011.05.003>
- 4** Unusual increased beta-globulins in an elderly patient
CR B. Busser@, S. Millet, CE. Bulabois, P. Faure, and JC. Renversez. *Clin. Chem.*, 2011,
57(7): 948-51

DOI : <https://doi.org/10.1373/clinchem.2010.150425> OPEN ACCESS

- 3** Amphiregulin Promotes Resistance to Gefitinib in NonSmall Cell Lung Cancer Cells by
OA Regulating Ku70 Acetylation
B. Busser, L. Sancey, V. Josserand, C. Niang, S. Khochbin, MC. Favrot, J-L. Coll., and A. Hurbin. *Mol. Ther.*, 2010, 18(3): 536-543
DOI : <https://doi.org/10.1038/mt.2009.227> OPEN ACCESS
- 2** Amphiregulin promotes BAX inhibition and resistance to gefitinib in Non-Small Cell Lung
OA Cancers.
B. Busser, L. Sancey, V. Josserand, C. Niang, MC. Favrot, J-L. Coll., and A. Hurbin. *Mol. Ther.*, 2010, 18(3): 528-535.
DOI : <https://doi.org/10.1038/mt.2009.226> OPEN ACCESS
- 1** The increasing role of amphiregulin in non-small cell lung cancer.
ED B. Busser, J-L. Coll, and A. Hurbin. *Pathol. Biol.*, 2009, 57 (7-8): 511-12.
DOI : <https://doi.org/10.1016/j.patbio.2008.10.002>
Invited contribution relating to the "Diagnostic Innovations" 2009 Prize received from the French Clinical Chemistry Society - (SFBC)

Books & Book Chapters

- 6 Advances in Boron Neutron Capture Therapy** (Book)
IAEA - International Atomic Energy Agency - Collective writing,
(Editor: Vienna : International Atomic Energy Agency, *Austria*)
Date published: 2023, 416 pages | 164 figures.
ISBN: 978-92-0-132723-9
DOI : <https://www.iaea.org/publications/15339/advances-in-boron-neutron-capture-therapy>
Free online version [Here](#)
- 5 LIBS imaging for biomedical samples: short review and perspectives** (Chapter)
V. Motto-Ros, L. Sancey, V. Bonnetterre, and B. Busser, pages **XX**
"Cancer Identification and Diagnosis Using Optical Methods"
(Editor: N. Melikechi - *University of Massachusetts Lowell, USA*)
World Scientific Publishing, February 2023, 560 p.
ISBN: 978-981-125-895-4 (hardcover)
DOI : <https://doi.org/10.1142/12907>
- 4 Preclinical evaluation of nanoparticle behavior in biological tissue** (Chapter)
L. Sancey, V. Motto-Ros, and B. Busser, pages **XX**
"Biological, forensic and materials science applications of LIBS"
(Editor G. Galbács)
Springer, 2022, 326 p.
ISBN: 978-3031145018
DOI : <https://doi.org/10.1007/978-3-031-14502-5>
- 3 LIBS Imaging Applications** (Chapter)
V. Motto-Ros, S. Moncayo, C. Fabre, and B. Busser, pages 329-346
Laser Induced Breakdown Spectroscopy, 2nd Edition
(Editors Jagdish P. Singh & Surya N. Thakur)

Publisher Elsevier Science, 2020, 620 p.

ISBN: 978-0-12-818829-3

2 Molecular Biology (Chapter)

P. Gilson and B. Busser, pages 223-233

Les biotechnologies en santé - Tome 1: Introduction aux biotechnologies en santé,
(Coords. Sandrine Bourgoïn-Voillard, Walid Rachidi, Michel Sève)

Publisher Lavoisier, 2015, 318 p.

ISBN: 978-2743020859, [in French]

1 Cancer bronchique : l'amphiréguline induit la résistance au gefitinib (Book)

B. Busser, Editions Universitaires Européennes (EUE), December 2010, broché 224 p.

ISBN: 978-613-1-54607-5 [in French]

Published Conference Abstracts (selection among latest ones) ([full list here](#))

24 Mutational Imprints of Cobalt Exposure: A Genome-Scale Multi-system Approach.

PN. Melki, C. Renard, E. Mariussen, E. Rundén Pran, EM. Longhin, M. Dusinska, L. Sancey,
B. Busser, RA. Herbert, M. Korenjak and J. Zavadil.

2019. Environmental and molecular mutagenesis 60, 49-49

DOI : <https://doi.org/10.1002/em.22328>

23 Sarcoïdoses et Fibroses Pulmonaires Idiopathiques : Les analyses minéralogiques par imagerie LIBS et MEB orientent le diagnostic étiologique

B. Busser, M. Catinon, M. Leprince, F. Pelascini, JL. Coll, L. Sancey, V. Motto-Ros, M. Vincent,
V. Bonneterre

2018. Archives des Maladies Professionnelles et de l'Environnement 79(3):420

DOI : <https://doi.org/10.1016/j.admp.2018.03.475>

22 Tracking etiology and exposure for idiopathic lung diseases: recent advances from in situ multi-elemental imaging with laser spectrometry.

B. Busser, M Leprince, S Moncayo, F Pelascini, JL Coll, V Bonneterre, V Motto-Ros, L Sancey

2018. Occupational and Environmental Medicine 75(Suppl 2):A438.3-A444

DOI : <https://doi.org/10.1136/oemed-2018-ICOHabstracts.1250>

Written Communications in Conferences (Posters)

selection of 5 among >80 posters presented ([full list here](#))

74 In situ multi-elemental imaging of periprosthetic tissues with laser spectrometry.

B. Busser, A. Al-Shihabi, L. Al-Shihabi, JL. Coll, V. Motto-Ros, L. Sancey, P. Campbell.

European Molecular Imaging Meeting (EMIM). 14th annual meeting of the European Society for Molecular Imaging (ESMI). 19-22 March 2019. Glasgow (**UK**).

Award - category "Optical Imaging and Microscopy | Technology"

- 73** Theranostic innovative nano-compounds for fluorescent imaging and boron neutron capture therapy (BNCT).
G. Kalot, V. Cosensa, B. Busser, R. Poirot, U. Köster, JL. Coll, C. Goze, R. Auzély-Velty, L. Sancey.
European Molecular Imaging Meeting (EMIM). 14th annual meeting of the European Society for Molecular Imaging (ESMI). 19-22 March 2019. Glasgow (UK).
Award - category "Imaging Cancer Therapy"
- 69** Laser Induced Breakdown Spectroscopy imaging for supporting medical diagnoses
M. Leprince, S Moncayo, L. Sancey, V. Bonneterre, F. Trichard, F. Pelascini, J. Charles, C. Dujardin, B. Busser, V. Motto-Ros.
14th European Workshop on Laser Ablation (EWLA 14), 16-29 June 2018. Pau.
Award - Journal Spectrochimica Acta Part B: Atomic Spectroscopy (SAB) Poster Prize
- 62** Laser Spectroscopy for in situ elemental imaging of lung tissue: a promising technology.
B. Busser, S. Moncayo, M. Catinon, L. Sancey, F. Thivolet, J.F. Bernaudin, M. Kambouchner, V. Bonneterre, M. Vincent, V. Motto-Ros
European, respiratory Society - ERS CONGRESS 2017 - 9-13 Septembre 2017 Milan (ITALY)
- 56** A new pyrrolo-pyrimidin derivative (PP13) as a potent anti-cancer agent for the treatment of resistant Non-small Cell Lung Cancers.
P Gilson, F Josa Prado, C Beauvineau, F Mahuteau, A Moreno, P Falson, L Lafanechère, V Frachet, JL Coll, JF Diaz, A Hurbin, B Busser
12e Journées de la Recherche Respiratoire (J2R), Octobre 2016, Nice.
Award - Best Communication - topic "Cancer"

Outreach and Press Releases -

FluoNIR-II The start-up that wants to make tumors visible. [article in French]

POCMedia web page, <https://www.pocmedia.fr/la-start-up-fluonir-ii-veut-rendre-visibles-les-tumeurs/>
January 4th, 2023

LIBS opens the doors of the clinic [article in French]

V. Motto-Ros, M. Leprince, L. Duponchel, L. Sancey, V. Bonneterre, C. Dujardin, F. Pelascini, B. Busser,
Photoniques, 2020; 103:34-37

"invited contribution"

LIBS Imaging Is Entering the Clinic as a New Diagnostic Tool [article]

V. Motto-Ros, L. Sancey, V. Bonneterre, B. Busser, *Spectroscopy*, 2020; 35(7) 35):29-31

"invited contribution"

LIBS-based imaging: recent advances and future directions [article]

V. Motto-Ros, V. Gardette, L. Sancey, M. Leprince, D. Genty, S. Roux, B. Busser, F. Pelascini.
Spectroscopy, 2020; 35(2): 34-40

"invited contribution"

Web-Newsletter Hebdomadaire de l'Institut National du Cancer (INCa) "Nota Bene Cancer"

NBC n° 241 du 04/09/2014. Laser spectrometry for multi-elemental imaging of biological tissues_Scientific Reports, Vol. 4, 2014 (article en libre accès)

"Menée sur des échantillons de tissu rénal prélevés sur des modèles murins, cette étude française évalue la faisabilité et les performances d'une méthode de spectroscopie sur plasma induit par laser pour cartographier avec une haute résolution la présence d'éléments-traces dans les tissus biologiques"

Web-Newsletter Hebdomadaire de l'Institut National du Cancer (INCa) "Nota Bene Cancer"

NBC n° 202 du 15/10/2013. Identification of a novel complex braf mutation associated with major clinical response to vemurafenib in a patient with metastatic melanoma. JAMA Dermatology, sous presse, 2013 (résumé)

" Menée sur un patient atteint d'un mélanome métastatique, cette étude identifie une nouvelle mutation complexe du gène BRAF en association avec une réponse clinique majeure au vemurafenib"

Actualités scientifiques en Physique – Site Web du CNRS-INP

9 décembre 2014 - Actualité de l'institut- A la Une

Imager la répartition de nanoparticules non fluorescentes dans les tissus

Des physiciens et biologistes viennent d'adapter à la microscopie haute résolution de tissus biologiques la technique d'imagerie élémentaire, qui permet de cartographier l'abondance des éléments chimiques à l'échelle de la cellule (...)

<http://www.cnrs.fr/inp/spip.php?article3265>

Web-Newsletter CLARA Actus du Cancéropôle Lyon Auvergne Rhône-Alpes Octobre 2014

A LA UNE – PUBLICATIONS: Laser spectrometry for multi-elemental imaging of biological tissues Sancey L., V. Motto-Ros, Busser B. et.al. (Inst. Lumiere Matière)

Preprints

03 The multifaceted roles of Zinc in Cancer.

GR M. Bendellaa, P. Lelièvre, J.L. Coll, L. Sancey, A. Deniaud, B. Busser

Preprints 2022, (not peer reviewed), published in International Journal of Cancer, 2023

DOI : <https://www.preprints.org/manuscript/202209.0282/v1>

02 Iron Dysregulation in Human Cancer: Altered Metabolism, Biomarkers for Diagnosis, Prognosis, Monitoring and Rationale for Therapy.

GR P. Lelièvre, L. Sancey, J-L. Coll, A. Deniaud, B. Busser

Preprints 2020, (not peer reviewed), published in Cancers after peer review

DOI : <https://www.preprints.org/manuscript/202010.0447/v1>

01 The Multifaceted Roles of Copper in Cancer: a Trace Metal Element with Dysregulated Metabolism, but also a Target or a Bullet for Therapy.

GR P. Lelièvre, L. Sancey, J-L. Coll, A. Deniaud, B. Busser

Preprints 2020, (not peer reviewed), published in Cancers after peer review

DOI : <https://www.preprints.org/manuscript/202010.0353/v1>

PATENTS / START-UPS

2023 **Patent : "Calix[4]arenes with high anticancer activity"**

B Busser, A. Deniaud, L. Sancey, P. Lelièvre, I. Jabin, H. Valkenier, N. Renier

Filed January 2023

Application EP23305100.2

2019 **Patent** : “*Utilization of aza-BODIPYs for imaging purposes*”.
 L. Sancey, C. Goze, E. Bodio, **B. Busser**, J. Pliquett, A. Godard, G. Kalot, V. Josserand, X. Le Guével, JL. Coll, F. Denat. **Filed August 2019**
Université Grenoble Alpes, CNRS, INSERM, Univ. de Bourgogne,
PCT/EP2020/071865 _ WO2021023731

2017 Co-founding member of the start-up “**Ablatom SAS**”

RESEARCH GROUP (Current members)

Pierre Lelievre, Mohamed Bendellaa,

RESEARCH GROUP (Former members)

Gadir Khalot, Pauline Gilson, Victor Jeannot, Mona Beldjoudi

MENTORING / Research Supervision

PhD students

2021-... Ongoing	Mohamed Bendellaa	PhD	Biological evaluation of innovative compounds based on metal-DIPY <i>Co-directed by L. Sancey (CNRS & Univ. Grenoble Alpes)</i>
2020-... Ongoing	Pierre Lelièvre	PhD	Targeting trace elements for cancer therapies Univ. Grenoble Alpes <i>Co-directed by A. Deniaud (Univ. Grenoble Alpes)</i>
2017-2021	Marine Leprince	PhD	LIBS “from laser/tissue interactions to medical elemental imaging”. Univ. Lyon & Univ. Grenoble Alpes <i>Award - JAAS Poster Prize, EWLA-14 meeting, Pau, 2018</i> <i>Co-directed by V. Motto-Ros (Univ. Lyon)</i>
2014-2017	Pauline Gilson	PhD	"Characterization of new microtubule-targeting agents with a pyrrolopyrimidine structure for the treatment of cancers". Univ. Grenoble Alpes. With honours <i>PhD award 2017, from Association Biologie et Cancer</i> <i>Best Poster - Respiratory Research Meeting, Nice, 2016</i> <i>Jacques Rocipon Award, Grenoble, 2015</i> <i>“Année Recherche” fellowship, 2015</i> <i>Co-directed by A. Hurbin (IAB)</i>
2013-2015	Mona-Feryale Beldjoudi	PhD	"A Recombinant Fungal Lectin for Labeling Truncated Glycans on Human Cancer Cells". Univ. Batna & Univ. Grenoble Alpes <i>Co-directed by M. Bouras (Univ. of Batna, Algeria)</i>

Licence (B.Sc), Master (M.Sc.)

Jan 2023 July 2023	Cyril Nogier	Master 2 (M.Sc 2) Biotechno	Anticancer effects of calix-4-arènes
Jan 2022 July 2022	Lamia Ourak	Master 2 (M.Sc 2) Biotechno	Resistance to KRAS inhibitors
Jan 2021 July 2021	Mohamed Bendellaa	Master 2 (M.Sc 2) Biotechno	Zinc and resistance to cancer treatments
Jan 2020 July 2020	Yazid Bouzid	Master 2 (M.Sc 2) Clinical Research	Monitoring of a national multicenter clinical trial : LIBS imaging for Idiopathic Lung Diseases
Jan 2020 July 2020	Pierre Lelièvre	Master 2 (M.Sc 2) Biotechno	Copper and cancer
April 2019 Aug 2019	Yijiao Yao	Master 2 (M.Sc 2)	"Development of the elemental imaging of metal-based nanoparticles in biological tissues by LA-ICP-MS" _ <i>Codirection P. Télouk (ENS Lyon)</i>
June 2019 July 2019	Shérine Bouhazama	B.Sc (biotechno)	Characterization of nanocompounds of clinical interest for solid malignancies
April 2018 May 2018	Marion Prono	B.Sc (Pharma)	"Evaluation of toxicity of metal-based nanoparticles"
April 2015 June 2015	Souad Adriouach	Master 1 (M.Sc 1) Biotechno	"Characterization of molecules to overcome resistance to apoptosis and targeted therapies in lung cancers"
April 2015 June 2015	Tristan Le clainche	Master 1 (M.Sc 1) Biotechno	"Identification of novel anticancer agents for treating melanoma" <i>Codirection V. Frachet (EPHE Grenoble)</i>
Feb 2015 July 2015	Nana Talvard-Balland	Master 2 (M.Sc 2) Biotechno	"Biological activity of molecules provided from a high throughput cell-based screening to restore apoptosis in Non-small cell Lung cancer (NSCLC) cells"
Nov 2012 July 2013	Aline Dorendorf	Master 2 (M.Sc 2)	"Identification of the molecular effects induced by pyrrolo-pyrimidine derivatives in lung cancer therapy"
April 2012 Aug 2012	Maëva Ruel	Master 1 (M.Sc 1)	"Study of lung cancer resistance to gefitinib. Role of mucins"

Medical Students and Hospital Residents

2022	Charlotte Gollety	PharmD	place de la nanomédecine dans la lutte contre le cancer Ongoing
2020-22	Romane Siest (MD)	Medical Pathology Specialty Diploma <i>Codirection</i>	"Multi-elemental Imaging of Lung Tissues With LIBS". Univ. Grenoble Alpes. Ongoing <i>Co-direction O. Stephanov (CHUGA)</i>
2021	Geoffroy Lena	PharmD	"1st-line Immunotherapies for Lung Cancers" Ongoing
2017	Clara Bionda (PharmD)	Inter-University Diploma (DIU) of Molecular Pathology	"Technical requirements for the validation of BRAF and EGFR mutations testing with digital droplet PCR, for routine investigation in clinical laboratories." Univ. Paris-Saclay With honours
2016	Pauline Gilson	PharmD <i>Codirection</i>	"Evaluation of the anticancer activity of novel pyrrolo-pyrimidine derivative (PP-13) targeting microtubules in resistant non small cell lung cancers". Univ. Grenoble Alpes <i>Co-direction A. Hurbin (IAB)</i>
2016	Marion Sabatier-Vincent	MD <i>Codirection</i>	"Multi-elemental imaging of human healthy and tumor skin by LIBS :comparison to standard histology". Univ. Grenoble Alpes <i>Co-direction J. Charles (CHUGA)</i>
2014	Céline Martel	PharmD	"Mechanisms of resistance to vemurafenib". Univ. Grenoble Alpes

Post-doctoral Researchers

2022-2023	Vincent Gardette	Post-doc 2 years	LIBS imaging for Respiratory Medicine. <i>Co-direction V. Motto-Ros (Univ. Lyon)</i>
2022	Sarra Kazi-Tani	Post-doc	LIBS imaging for Thyroid Cancers
2020-2021	Ioana Marquier	Post-doc	LIBS imaging for Orthopedic surgery (hip arthroplasty and toxicity of metal implants)
2016-2017	Samuel Moncayo	Post-Doc 2 years	"Technical development and analytical validation of LIBS imaging for human paraffin-embedded tissues." <i>Co-direction V. Motto-Ros (Univ. Lyon)</i>

Graduate student evaluation

Oct 2022	Isabelle Duret	PharmD Thesis	Effet des phyto-œstrogènes sur le risque de cancer du sein, la mortalité et le risque de récurrence : revue de la littérature. Univ. Grenoble. Internal examiner & Member of the jury
Nov 2021	Camille Couvert	PharmD Thesis	"Les voies de réparation de l'ADN comme source de marqueurs prédictifs dans le cancer de l'ovaire". Univ. Grenoble. Internal examiner & President of the jury
Sept 2020	Olivier Msika	MD Thesis	"Analyse de l'ADN tumoral circulant, comme marqueur prédictif de récurrence post-transplantation hépatique pour carcinome hépatocellulaire". Univ. Grenoble. Internal examiner & Member of the jury
Nov 2018	Lucille Capin	PharmD Thesis	"Feuillets épithéliaux de muqueuse jugale dans le traitement du déficit en cellules souches limbiques totale et bilatérale : mise en place d'un essai clinique. Univ. Lyon. External examiner & Member of the jury
Sept 2018	Julien Pagnier	PharmD Thesis	"Organisation de la valorisation et du transfert de technologies dans le domaine pharmaceutique en France". Univ. Grenoble. Internal examiner & Member of the jury
April 2015	Mehdi Brahmi	MD Thesis	"KIT exon 10 variant (c1621 A>C) germ line characteristics as predictor of GIST Patient outcome". Univ. Grenoble. Internal examiner & Member of the jury
Nov 2013	Paul Vilquin	PharmD Thesis	"Les thérapies ciblées dans le cancer du sein métastatique" Univ. Lyon. External examiner & Member of the jury
June 2011	Bruno Revol	PharmD Thesis	"Potentiel des cellules dendritiques plasmacytoïdes dans l'immunité anti-tumorale : nature de la réponse T induite par des pDC activées par différents ligands TLR. Étude de candidats adjuvants au vaccin immunothérapeutique". Univ. Grenoble. Internal examiner & Member of the jury

Complementary Training

- 2019 Good Clinical Practice (GCP)
- 2015 Management (Grenoble)
- 2013 Bio-informatics for Next Generation Sequencing (Lille)
- 2012 Fast reading (Grenoble)
- 2011 Conflict management (Grenoble)
- 2010 Proteomics (CNRS - Paris)
- 2009 Capillary electrophoresis (Paris)
- 2008 Small animal imaging (Oslo, Norway)
- 2007 Level 1 animal experimentation accreditation (Univ. Grenoble)

Professional associations (active memberships)

Société Française de Biologie Clinique (**SFBC**), European Society for Molecular Imaging (**ESMI**), Société Française de Nanomédecine - French Society for Nanomedicine (**SFNano**), Société de Biologie

Cellulaire Française (**SBCF**) ; de l'Association Biologie et Cancer (ABC), de l'Association des anciens internes en pharmacie des hôpitaux de Grenoble (AAIPHG)

Past-affiliations (past memberships)

Groupe Francophone de Cytogénomique Oncologique (GFCO),

SPORTING ACHIEVEMENTS (selection)

Climbing & Mountaineering

Mont-Blanc (traversée royale), Dent du Géant, Aiguille Dibona (Directe Madier), Arête Bionnassay, Arêtes de Rochefort, Dent Blanche, Traversée de la Meije, Allalinhorn, ...

Ultra Trails

Finisher "Échappée Belledonne 2017", Grand Duc Chartreuse (3x), Grand raid 73

Caving

Cuves Sassenage (siphon terminal), Traversées de la dent de Crolles (P40-Glaz, Glaz-Annette, Glaz-Guiers, Guiers-Guiers), Gournier

Canyoning

> 50 canyons in Europe (Ecouges, Ruzand, Gorgette et Craponoz, Iragna integral, Cresciano integral, Pontirone integral, Lodrino integral, Oules de Fressinières, Gorg Blau+Sa Fosca)

Paragliding