

# Tifaout ALMEFTAH *PhD Candidate in Operations Research*

Centre de Recherche INRIA de l'Université de Lille, Park  
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## EDUCATION

12/2021 – present Villeneuve d'Ascq, France	<b>PhD in Operations Research</b> , <i>Centre INRIA de l'Université de Lille (INOCS team) - Centrale Lille</i> Topic: "Advanced Optimization Algorithms for Group Testing" Supervisors: Pr. Martine Labbé, Pr. Frédéric Semet et Dr. Diego Cattaruzza - <b>Winter School</b> : NetOpt2024 in Estoril, Winter School on Network Optimization (25 hours) - <b>Summer School</b> : JPOC13 in Clermont-Ferrand, Summer School on Combinatorial Optimization and Learning (12 hours)
2017 – 2019 Metz, France	<b>Master's in Decision Informatics, Optimization and Algorithmics</b> , <i>Université de Lorraine</i> Program <input checked="" type="checkbox"/>
2014 – 2017 Metz, France	<b>Bachelor's in Computer Science</b> , <i>Université de Lorraine</i> Program : 1st <input checked="" type="checkbox"/> , 2nd <input checked="" type="checkbox"/> and 3rd <input checked="" type="checkbox"/> years.
2013 – 2014 Errachidia, Maroc	<b>Baccalaureate in Mathematical Sciences - Engineering Sciences</b> , <i>Lycée Technique</i>

## PROFESSIONAL EXPERIENCE

02/2024 – 04/2024 Villeneuve d'Ascq, France	<b>Adjunct Lecturer in Optimization and Prescriptive Analysis</b> , <i>Centrale Lille</i> Role: Conducted practical sessions for L3/M1 students (24 hours)
02/2023 – 05/2023 Villeneuve d'Ascq, France	<b>Adjunct Lecturer in Optimization and Prescriptive Analysis</b> , <i>Centrale Lille</i> Role: Conducted practical sessions for L3/M1 students (18 hours)
02/2022 – 05/2022 Villeneuve d'Ascq, France	<b>Adjunct Lecturer in Optimization and Prescriptive Analysis</b> , <i>Centrale Lille</i> Role: Conducted practical sessions for L3/M1 students (16 hours)
12/2019 – 11/2021 Villeneuve d'Ascq, France	<b>Research Engineer</b> , <i>Centre INRIA de l'Université de Lille (équipe INOCS)</i> - Developed a hybrid genetic algorithm for vehicle routing problems with time windows, multiple depots, and multi-periods (software used by UrbanHub <a href="https://www.urbanhub.fr/">https://www.urbanhub.fr/</a> <input checked="" type="checkbox"/> ). - Designed group testing strategies for COVID-19 in collaboration with CHU de Lille, including software implementation, data analysis, and contributing to the research report. (cf. <a href="https://www.inria.fr/fr/covid-19-quand-des-chercheurs-dinria-optimisent-le-group-testing">https://www.inria.fr/fr/covid-19-quand-des-chercheurs-dinria-optimisent-le-group-testing</a> <input checked="" type="checkbox"/> ).
04/2019 – 09/2019 Metz, France	<b>Research Internship (Master's)</b> , <i>Laboratoire LCOMS, Université de Lorraine</i> Topic: Decomposition algorithms for equity in vehicle routing problems. Supervisors: Prof. Anass Nagih, Prof. Nicolas Jozefowiez
2017 – 2018 Metz, France	<b>Algorithmic Tutor</b> , <i>Université de Lorraine</i> Role: Tutored first-year students in algorithmic concepts (10 heures)
05/2017 – 07/2017 Pont-à-Mousson, France	<b>Web Development Internship (Bachelor's)</b> , <i>Association Les 2 Rives</i> Project: Designed and implemented a showcase website using the WordPress CMS.

## SCIENTIFIC OUTREACH

11/2023 Villeneuve d'Ascq, France	<b>Popular Science Presentation at INRIA's Monthly Meeting</b> , <i>21 November</i> "Group Testing: When Less Equals More!"
10/2023 Villeneuve d'Ascq, France	<b>Rendez-vous des Jeunes Mathématiciennes et Informatiennes (RJMI)</b> , <i>26-27 October</i> Organization of an Operational Research Workshop and a Speed-Meeting for High School Girls
10/2023 Cambrai, France	<b>Filles, maths et informatique : une équation lumineuse</b> , <i>19 October</i> Speed-Meeting
06/2023 Lille, France	<b>Science Communication Session for High School Students</b> , <i>1st June</i> Presentation of My Background, Profession, and PhD Thesis Topic for high school students in Digital and Computer Sciences
03/2023 Villeneuve D'ascq, France	<b>Hosting of Middle School Interns</b> , <i>6 March</i> Introducing Middle School Students to Operations Research and Optimization

11/2022 Villeneuve D'Ascq, France	<b>Rendez-vous des Jeunes Mathématiciennes et Informatiennes (RJMI)</b> , 3-4 November <a href="#"></a> Organization of an Operational Research Workshop and a Speed-Meeting for High School Girls
10/2022 Dunkerque, France	<b>Filles, maths et informatique : une équation lumineuse</b> , 20 October <a href="#"></a> Speed-meeting
10/2021 Arras, France	<b>Filles, maths et informatique : une équation lumineuse</b> , 21 October <a href="#"></a> Speed-meeting

## PUBLICATIONS

**Group design in group testing for COVID-19: A French case-study**   
 Almeftah, T., Brotcorne, L., Cattaruzza, D., Fortz, B., Keita, K., Labbé, M., Ogier, M., et Semet, F. (2020)  
 Research report INRIA

## CONFERENCES

05/2024 Tenerife, Spain	<b>International Symposium on Combinatorial Optimization 2024</b> , 22-24 May <a href="#"></a> Optimal risk-based non-adaptive two-dimensional group testing with equal group size, <b><u>T. Almeftah</u></b> , D. Cattaruzza, M. Labbé, F. Semet
05/2023 Chania, Greece	<b>The 36th Conference of the European Chapter on Combinatorial Optimization</b> , 11-14 Mai <a href="#"></a> A Branch-and-Price-and-Cut algorithm for non-adaptive two-dimensional group testing with equal group size, <b><u>T. Almeftah</u></b> , D. Cattaruzza, M. Labbé, F. Semet
02/2023 Rennes, France	<b>24èmé Congrès de la Société Française de la Recherche Opérationnelle et d'Aide à la Décision</b> , 20-23 février <a href="#"></a> A Branch-and-Price-and-Cut algorithm for non-adaptive two-dimensional group testing with equal group size, <b><u>T. Almeftah</u></b> , D. Cattaruzza, M. Labbé, F. Semet

## TALKS

11/2023 Villeneuve d'Ascq, France	<b>Team Seminar, INRIA de l'Université de Lille</b> , 11 November <b><u>T. Almeftah</u></b> , D. Cattaruzza, M. Labbé, F. Semet
06/2022 Villeneuve d'Ascq, France	<b>OPTIMA CRIStAL Working Group Day</b> , 17 June Advanced Optimization Algorithms for Group Testing

## COMPLEMENTARY EXPERIENCE

03/2024 – 06/2024 Villeneuve d'Ascq, France	<b>Supervision of Ms. Elise Françoise</b> , 3rd year, Centrale Lille Research Immersion Internship: Heuristics for designing two-dimensional groups with equal group size.
03/2022 – 07/2022 Rabat, Morocco	<b>Supervision of Mr. Mehdi El Mhor</b> , CPGE MPSI TIPE Project (Supervised Personal Initiative Work) Group Testing for COVID-19: Heuristics for Group Design.
03/2020 Lille, France	<b>hackAteck 2020</b> , Shake science. Shape innovation. <a href="#"></a> A hackathon in the form of a 54-hour sprint.

## SKILLS

<b>Operations Research</b> — Mathematical programming, combinatorial optimization, algorithm design, exact and heuristic methods, decomposition techniques.	
<b>Programming</b> — C/C++, LaTeX, Git	<b>Commercial Solvers</b> — Cplex, Gurobi

## LANGUAGES

**English** — Professional, **French** — Fluent, **Arabic** — Native, **Amazigh** — Native, **Spanish** — Beginner

## INTERESTS

Documentaries (Science, Aviation, History) | Reading (Science, Philosophy, Psychology, Personal Development) |  
 Swimming | Cooking | Traveling | Dance