



## Siham Al-Arag

Dentist with Ph.D. in fundamental dental sciences

**Nationality :** Jordan

**Date of birth :** 14/10/1991

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## Academic Education

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- 2017 – 2020**      **Ph.D. Health Biology**  
**Specialty in: Dentistry Fundamental Sciences**  
**“Dental Pulp Stem Cells and the Cancer Therapy”**  
Laboratory of Bioengineering and Nanosciences (LBN)  
Research team: Stem cells and maxillofacial bioengineering  
Faculty of Dentistry, Univ. Montpellier UM1, France
- 2018 – 2019**      **Certificate of specialty: Dental Biomaterials**  
**“Choice and Clinical Application”**  
Faculty of Dentistry, Univ. Montpellier UM1, France
- 2017 – 2018**      **Diploma of: Sectional and Surgical Anatomy**  
Faculty of Medicine, Univ. Montpellier UM1, France
- 2015 – 2017**      **Masters of: Digital Sciences and Technology for Health**  
**“Biomedical Physics –PhyMed–”**  
Faculty of Science, Univ. Montpellier UM2, France
- 2009 – 2014**      **Bachelor of: Doctor in Dental Surgery (DDS)**  
Univ. Jordan UJ, Amman, Jordan
- 1995 – 2009**      **Secondary and terminal school: Scientific**  
Rosary Sisters College RSC, Amman, Jordan

## Professional Experience

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- Jan. 2017 - June 2017**      **Practical internship- Research- 8 months**  
«Study for the application of dental stem cells for anticancer drug transport»  
LBN, Faculty of Dentistry, Univ. Montpellier UM1, France
- Apr. 2016 - June 2016**      **Practical internship- Research- 3 months**  
«Imaging of dental stem cells for drug transport by Raman Confocal Microscope»  
LBN, Faculty of Dentistry, Univ. Montpellier UM1, France

- July 2014 - July 2015**     **Practical internship- Dentistry- 12 months**  
Rotations at five multidisciplinary dental departments  
Hospital center of Jordan University, Amman, Jordan
- July 2012 – Sep. 2012**     **Practical internship- Dentistry- 3 months**  
Maxillofacial and dental surgery team  
Hospital center of Jordan University, Amman, Jordan

**Language skills :** Arabic (native), English (C1 TOEFL), French (C1 FLE, B2 DELF).

**Digital skills :** Fiji (ImageJ), Labview, Gwyddion, Witec, Matlab, SigmaStat.  
- Office : Word, Excel, Power point- International Computer Driving License (ICDL)

**Work authorization :** “dental general practitioner” in Jordan obtained in July 2015.

**Research interests :** Dental medicine, innovative stem cell therapy, and cancer research.

## Conferences and Presented work

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1. Al-Arag S, Salehi H, Middendorp E, Gergely C, Cuisinier F, Orti V. Dental pulp stem cells for anti-cancer drug delivery. Translational Control in Cancer TCC, UFR Odontology, Montpellier, 2019
2. Salehi H, Al-Arag S, Middendorp E, Gergely C, Cuisinier F, Orti V. Utilisation des cellules souches de la pulpe dentaire pour le transport des médicaments anti-cancéreux. ADF Paris, 2018
3. Al-Arag S, Vicente M, Gergely C, Cuisinier F, Salehi H. Confocal Raman Microscope for the study of paclitaxel resistance in MCF7 cancer cells. 14th annual meeting Canceropole Journées GSO grand sud-ouest, Montpellier, 2018
4. Salehi H, Al-Arag S, Middendorp E, Gergely C, Cuisinier F, Orti V. Confocal Raman Microscope for the study of anti-cancer drug delivery by dental pulp stem cells. International Conference on BioMedical Photonics. La Grande Motte, 2018
5. Al-Arag S, Middendorp E, Gergely C, Cuisinier F, Orti V, Salehi H. Confocal Raman Microscopy to image targeted chemotherapy. International conference on biomedical photonics, La Grande Motte, 2018
6. Al-Arag S, Middendorp E, Gergely C, Cuisinier F, Orti V, Salehi H. Dental pulp stem cells to deliver the anti-cancer drug Paclitaxel: Flash talk. La Journée Scientifique de CBS2, Montpellier, 2018
7. Al-Arag S, Middendorp E, Gergely C, Cuisinier F, Orti V, Salehi H. Dental pulp stem cells to deliver the anti-cancer drug Paclitaxel. La Journée Scientifique de CBS2, Montpellier, 2018
8. Salehi H, Al-Arag S, Cuisinier F. Confocal Raman microscopy for tracing of the anticancer drug. Oncology Emergence Forum, Montpellier, 2017
9. Salehi H, Al-Arag S, Middendorp E, Orti V, Gergely C, Cuisinier F. Chemotherapy side effect's reduction via targeted stem cells therapy. Raman4Clinics Annual Scientific Meeting, Serbia 2017
10. Salehi H, Al-Arag S, Middendorp E, Gergely C, Cuisinier F. Dental pulp stem cells as anticancer drug delivery system. Nanomedicine and drug delivery, Osaka Japan, 2017
11. Salehi H, Al-Arag S, Middendorp E, Gergely C, Cuisinier F, Orti V. Application of dental pulp stem cells as anticancer drug transporters for chemotherapy. SFnano, Bordeaux, 2017
12. Salehi H, Al-Arag S, Cuisinier F. Confocal Raman microscopy imaging of stem cells as anticancer drug transporter. 3e journée scientifique innovations technologiques, Montpellier, 2017

13. Salehi H, Al-Arag S, Cuisinier F. **Stem cells as anticancer drug transporter: Confocal Raman microscopy imaging.** Canceropole young researcher Nanomedicine in Cancer, from molecules to devices, Montauban, France, 2017
14. Al-Arag S, Salehi H, Middendorp E, Gergely C, Cuisinier F. **Anticancer drug delivery using Dental pulp stem cells.** Forum des Jeunes Chercheurs en Odontologie, Bordeaux, 2017
15. Cuisinier F, Al-Arag S, Gergely C, Middendorp E, Salehi H. **Stem cells as anticancer drug delivery to reduce the chemotherapy side effect: POC.** SPIE BiOS, San Francisco, USA, 2017

## Publications

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Al-Arag S. **Dental Pulp Stem Cells (DPSCs) as Therapeutic Delivery Vectors for the Cancer Therapy.** Thesis dissertation (theses.fr).

Al-Arag S, Gergely C, Cuisinier F, Orti V, Salehi H. **Effect of Priming and Exposure of Dental Pulp Stem Cells (DPSCs) to Anti-Cancer Drugs for Chemotherapy Patients.** Article in progress.

Al-Arag S, Gergely C, Cuisinier F, Orti V, Salehi H. **Method of Quantification of Intracellular Matrix Metallo-Proteinase (MMP1) by Confocal Raman Spectroscopy.** Article in progress.

Al-Arag S, Chouaib B, Pall O, Gergely C, Cuisinier F, Orti V, Salehi H. **Dental Pulp Stem Cells Primed with Paclitaxel Inhibit and Overcome Resistance in Breast Cancer Cells.** Article under submission.

Rauwel E\*, Al-Arag S\*, Salehi H, Amorim C, Lourenço A, Cuisinier F, Guha M, Rosario M, Rauwel P. **Assessing Cobalt Metal Nanoparticles Uptake by Cancer Cells using Live Raman Spectroscopy.** International Journal of Nanomedicine (2020). 15: 7051. <https://doi.org/10.2147/IJN.S258060>.

Salehi H\*, Al-Arag S\*, Middendorp E, Gergely C, Cuisinier F, Orti V. **Dental pulp stem cells used to deliver the anticancer drug paclitaxel.** Stem Cell Research & Therapy (2018) 9: 103. <https://doi.org/10.1186/s13287-018-0831-3>.

Salehi H, Al-Arag S, Middendorp E, Gergely C, Cuisinier F, editors. **Stem cells as anticancer drug delivery to reduce the chemotherapy side effect.** SPIE Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues XV (2017), 10068: 1006805. <https://doi.org/10.1117/12.2251994>.