

# José Alonso Solís-Lemus

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## Education

- 2015–2019 **Ph.D., Biomedical Engineering**, *City, University of London*, collaborating with Randall Centre for Cell & Molecular Biophysics, Kings College London, Awaiting viva examination..
- 2007–2013 **B.Sc., Applied Mathematics (1st class, Hons)**, *Instituto Tecnológico Autónomo de México (ITAM)*, Mexico City.
- 2007–2013 **B.Eng., Telematics Engineering (1st class, Hons)**, *Instituto Tecnológico Autónomo de México (ITAM)*, Mexico City.

## PhD Dissertation

- Title *Segmentation and shape tracking of overlapping macrophages in fluorescent microscopy images*. Supervised by Dr Constantino Carlos Reyes-Aldasoro
- Abstract The thesis investigates the complex movement, shapes and overlapping of migrating objects, with special emphasis on images of fluorescently labelled macrophages.

## Publications

- 2018 **Macrosight: a novel framework to analyse the shape and movement of interacting macrophages**, *Solís-Lemus, Stramer, Slabaugh and Reyes-Aldasoro*, Journal of Imaging. (Submitted)
- 2017 **An objective comparison of cell-tracking algorithms**, *Ulman, Maška, Magnusson, Ronneberger, Haubold, Harder, Matula, Svoboda, Radojevic, Smal, Rohr, Jaldén, Blau, Dzyubachyk, Lelieveldt, Xiao, Li, Cho, Dufour, Olivo-Marin, Reyes-Aldasoro, Solís-Lemus, ... and Ortiz-de-Solorzano*, Nature Methods.
- 2017 **Segmentation and Shape Analysis of Macrophages using Anglegram Analysis**, *Solís-Lemus, Stramer, Slabaugh and Reyes-Aldasoro*, Journal of Imaging.

## Conference papers

- 2018 **Analysis of interactions of migrating macrophages**, *Solís-Lemus, Stramer, Slabaugh and Reyes-Aldasoro*, Medical Image Understanding and Analysis, Southampton, England, CCIS, Springer.
- 2018 **Shape Analysis and Tracking of Migrating Macrophages**, *Solís-Lemus, Stramer, Slabaugh and Reyes-Aldasoro*, IEEE Symposium on Biomedical Imaging, WA, US.
- 2017 **Segmentation of Overlapping Macrophages Using Anglegram Analysis**, *Solís-Lemus, Stramer, Slabaugh and Reyes-Aldasoro*, Medical Image Understanding and Analysis, Edinburgh, Scotland, CCIS, Springer.
- 2015 **Microfluidic environment and tracking analysis for the observation of Artemia Franciscana**, *Solís-Lemus, Huang, Wlodkowic, Reyes-Aldasoro*, British Machine Vision Conference, Swansea, Wales.

## Fellowships and Awards

- 2018 Associate Fellow Higher Education Academy (HEA)
- 2017 City Graduate School Conference Travel Bursary University of London

2015	PhD Studentship	SMCSE. City, University of London
2014	Ex-ITAM Research Award in Technology and Engineering	ITAM
2012/13	Engineering Students Academic Excellence Award	ITAM

## Academic Activities

- 2018 - Present **Sessional Tutor**, *Foundation Mathematics / Statistics*, Kaplan International College London, Dr Radmila Topalovic.
- 2016 - Present **Graduate Teaching Assistant**, *Medical Imaging Modalities (BEng) / Medical Imaging (MEng) / Biosignal and Image Processing (BEng)*, City, University of London, Dr Constantino Carlos Reyes-Aldasoro.
- 2014 **Visiting Lecturer in Mathematics**, *Introduction to Mathematics (BSc)*, ITAM, Prof Cesar Luis García.
- 2010-2012 **Volunteer work**, *High-school teacher for adults*, Courses taught: Mathematics IV and V, Physics I and II, ITAM, Mexico.

## Professional Experience

- 2014 **Software Developer**, *Developer specialising in Java and working on network monitoring*, Eficiencia Informativa (transl. *Information Efficiency*), Carlos Fuentes.
- 2014 **Consulting - Research project assistant**, *Feasibility study for the Puebla ITS Technologies Project with the assessing of the deployment and integration of intelligent transportation system technologies into the Bus Rapid Transit System*, ITAM, Mexico, Dr Andre Possani Espinosa.

### Voluntary

- 2017-Present **Science writer**, *Student Contribution*, Institute of Physics Publishing, Bristol.

## Software development

- 2018 **Macrosight**, MATLAB® package for shape tracking and analysis of interactions in fluorescent images of macrophages., <https://github.com/alonsoJASL/macrosight>.
- 2017 **Anglegram**, MATLAB® package for shape analysis of binary images, <https://github.com/alonsoJASL/matlab.anglegram>.
- 2015 **PhagoSight**, MATLAB® package for segmentation and tracking of fluorescent microscopy time-lapse sequences, Collaboration with CC Reyes-Aldasoro, <https://github.com/phagosight/phagosight>.

## Computer skills

Mathematics	Matlab
Programming	Java, C++, Python, Julia, bash
Statistics	R, SAS, SPSS
Microsoft	Office, Visual Basic

## Languages

Spanish	Native language
English	Proficient level: TOEFL iBT, 2014 (111/120); IELTS, 2014 (7.5/9)
German	Beginner level: A1 Start Deutsch 1 (2008)

**References** - Provided upon request.