

### Personal Data

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|-----------------|--|---------------------------------|-------------------------------|
| <b>Name:</b>    | Walied Othman                              | <b>Date of birth:</b>           | August 6 <sup>th</sup> , 1979 |
| <b>Address:</b> | J. Ectorsstraat 19<br>3400 Landen, Belgium | <b>Nationality:</b>             | Belgian                       |
| <b>Email:</b>   | Walied.Othman@gmail.com                    | <b>Drivers' license:</b>        | A, B                          |
| <b>Phone:</b>   | +32 11 88 15 52                            | <b>Means of transportation:</b> | Public transport              |
| <b>Mobile:</b>  | +32 485 83 09 59<br>+1 702 285 0606        | <b>Languages:</b>               | Dutch, English,<br>French     |

### Training

|             |   |
|-------------|---|
| 2005 - 2009 | Hasselt University<br><b>PhD in Theoretical Computer Science</b><br>Thesis: "Uncertainty Management in Spatio-temporal Databases"<br>(May 19th, 2009) |
| 1997 - 2001 | K.U.Leuven (University)<br><b>Licentiaat Wiskunde (Master in Mathematics)</b><br>Thesis: "The Discrete Log Problem in GF(p)"                          |
| 1993 - 1997 | Sint-Gertrudisinstituut Landen (High school)<br>Mathematics-Sciences  |

### Experience

|                         |   |
|-------------------------|---|
| 11/01/2010 - 10/07/2010 | <b>University of California - Santa Cruz</b> - Research<br>Research on Data Inter-operability via Schema Mappings<br><b>PostDoc</b>   |
| 01/10/2005 - 30/09/2009 | <b>UHasselt</b> - Research/Education<br>Research in Theoretical Computer Science at the WNI<br>department of the UHasselt<br><b>Assistant - Researcher</b>                          |
| 14/02/2005 - 30/06/2005 | <b>Hogeschool West-Vlaanderen</b> - Lector Multimedia and<br>Communication Technology   |
| 01/03/2004 - 14/02/2005 | <b>Department of education</b> - Education<br><b>Teacher</b>  |
| 01/10/2001 - 30/09/2003 | <b>K.U.Leuven</b> - Research/Education<br>Research in Pure and Applied Differential Geometry at the<br>department of mathematics of the KUL<br><b>Assistant - Researcher</b>        |
| 1999 - present          | <b>Triade Systems</b> - Development<br>Development of and maintaining the FGInt and related libraries<br><b><a href="http://www.submanifold.be/">http://www.submanifold.be/</a></b> |

### Publications

#### Accepted for publication: (Author's names are alphabetical)

- Bart Kuijpers and Walied Othman, "Trajectory databases: data models, uncertainty and complete query languages" in Proceedings of 11th International Conference on Database Theory (ICDT'07), Lecture Notes in Computer Science, Vol. 4353, 224--238, Springer-Verlag, 2007.
- Jose Macedo, Christelle Vangenot, Walied Othman, Nikos Pelekis, Elias Frentzos, Bart Kuijpers, Irene Ntoutsis, Stefano Spaccapietra, Yannis Theodoridis, "Trajectory data models", Chapter 5 in Mobility, Data Mining and Privacy -- Geographic Knowledge Discovery, eds. Fosca Giannotti and Dino Pedreschi, 125--149, Springer-Verlag, 2007.

- Bart Kuijpers and Walied Othman, “An analytic solution to the alibi query in the bead model for moving object data”, in the Proceedings of the Dagstuhl seminar 07212 “Constraint Databases, Geometric Elimination and Geographic Information Systems”, 2007.
- Bart Kuijpers, Harvey J. Miller, Tijs Neutens and Walied Othman, “Anchor uncertainty and space-time prisms on road networks”, in the Proceedings of the Dagstuhl seminar 08471 “Geographic Privacy-Aware Knowledge Discovery and Delivery”, 2008.
- Bart Kuijpers, Rafael Grimson and Walied Othman, “An analytic solution to the alibi query in the space-time prisms model for moving object data”, accepted for publication in International Journal of Geographical Information Science, 2009. **(SCI-impactfactor: 1.822)**
- Bart Kuijpers and Walied Othman, “Modeling uncertainty of moving objects on road networks via space-time prisms”, publication in International Journal of Geographical Information Science, Vol. 23, Issue 9, pp 1095--1117, 2009. **(SCI-impactfactor: 1.822)**
- Bart Kuijpers and Walied Othman, “Trajectory databases: data models, uncertainty and complete query languages” published in Journal of Computer and System Sciences, Vol. 76, Issue 7, pp 538--560, 2010. **(SCI-impactfactor: 1.185)**
- Bart Kuijpers, Bart Moelans, Walied Othman and Alejandro Vaisman, "Analyzing Trajectories using Uncertainty and Background Information", in Proceedings of 11th International Symposium on Advances in Spatial and Temporal Databases (SSTD'09), Lecture Notes in Computer Science, Vol. 5644, 135--152, Springer-Verlag, 2009.
- Kristof Ghys, Bart Kuijpers, Bart Moelans, Walied Othman, Dries van Goidsenhoven and Alejandro Vaisman, "Map Matching and Uncertainty: an Algorithm and Real-World Experiments", in 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS 2009) ACM, 2009
- Bart Kuijpers, Harvey J. Miller, Tijs Neutens and Walied Othman, “Anchor uncertainty and space-time prisms on road networks”, manuscript 26pp, accepted for publication in International Journal of Geographical Information Science, Vol. 24, Issue 10, 2010. **(SCI-impactfactor: 1.822)**
- Tetsuo Kobayashi, Harvey J. Miller, Walied Othman, "Analytical methods for error propagation in planar space-time prisms", manuscript 36pp, accepted for publication in Journal of Geographical Systems, 2010. **(SCI-impactfactor: 1.25)**
- Miller, H.J., Kobayashi, T. and Othman, W. (2010) “Error propagation in space-time prisms,” in N. J. Tate and P. F. Fisher (eds.) Accuracy 2010: Proceedings of the Ninth International Symposium on Spatial Accuracy Assessment in the Natural Resources and Environmental Sciences, International Spatial Accuracy Research Association, pp. 37-40.

**Submitted for publication:**

- Rafael Grimson, Bart Kuijpers and Walied Othman, “Quantifier elimination for elementary geometry and elementary affine geometry”, manuscript 31pp, submitted to Archive for Mathematical Logic, 2009. **(SCI-impactfactor: 0.552)**

**In preparation:**

- Phokion Kolaitis, Walied Othman, Balder ten Cate, “Data Exchange with Arithmetical Constraints”

### **Research visits**

|                   |  |
|-------------------|--|
| 04/2008 - 09/2008 | University of Utah<br>Department of Geography - Prof. dr. Harvey J. Miller   |
| 01/2010 - 07/2010 | University of California - Santa Cruz<br>Department of Computer Science<br>Prof. dr. Phokion G. Kolaitis, Prof. dr. Wang-Chiew Tan |

### **About me**

Though I 'm an abstract mathematician, my strong point is the ability to switch fluently between abstract concepts and ideas from reality, and thus ensue the best setting to manipulate the given objects.  
Areas of interest include discrete mathematics, number theory, graph theory, information theory, combinatorics, public key cryptography, mathematical analysis, topology and differential geometry.

### **Triade Systems**

In 1999 I single handed created a library for FreePascal And Delphi called FGInt to manipulate extremely large integers in a time when there existed none. Using this library I implemented classic public key algorithms like RSA, ElGamal, DSA and GOSTDSA. I also implemented state of the art public key algorithms like Elliptic Curve ElGamal and Elliptic Curve DSA. The very algorithms used to secure virtually all secured communications worldwide.

Besides ongoing development and maintenance, I also provide help with the integration of my libraries. Some examples of these projects are:

- The use of FGInt by GS-soft Switzerland to provide asymmetric encryption systems for several Swiss army projects. Details about these projects are not available for public access but Mr Günther Schoch (see references below) could be contacted as a reference for my work.
- And then there is CEPTTEST. CEPTTEST is an application, which is used by developers of the ep2-protocol. The ep2-protocol is used to communicate between payment terminals and acquiring institutions in Switzerland. CEPTTEST simulates this communication line. And the RSA-encryption is done by FGInt.

I also created gKnjOn and gSpamCop, which is a python script that forwards gmail's spam to KnjOn.com and spamcop.net respectively. After the demise of bluefrog KnjOn stepped in, but lacked the tools for their clients to submit their spam, this also applied to spamcop. I created these scripts to fill that need by choosing python I ensured this was not platform specific.

### **Hobbies**

Rock climbing, mathematics, travelling, backpacking, experimenting with a computer, movies, music, playing music (flute), language

### **References**

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