

## LAURENT ALQUIER, Ph.D.

### SUMMARY OF EXPERIENCE:

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- Over six years of experience in Pharmaceutical and IT Industry, with five plus years of solid software engineering, research and development experience in the areas of Data Manipulation, Data Analysis and Knowledge Management
- Extensive experience in Information Visualization techniques, Data Mining and Knowledge Discovery tools.
- Solid experience in the Analysis, Design, Development and Testing of client / server and web based applications.
- Significant experience in User Interface Design and Application Usability concepts.

### TECHNICAL SKILLS:

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<b>Information Visualization</b>	Computer Graphics, Modeling and Rendering Techniques, OpenGL, Data Mining, Knowledge Representation
<b>Image Processing</b>	Cameras, Filtering, Segmentation and Early Processing, Computer Vision, Pattern Matching, 3D Reconstruction
<b>Artificial Intelligence</b>	Object-Oriented Methods, Evolutionary Programming, Neural Networks, Combinatorial Optimization techniques
<b>Internet/Scripting</b>	HTML/DHTML, Cold Fusion, JavaScript, VBScript, Jscript
<b>Other Technologies</b>	EJB, JSP, JDBC, Servlets, Pipeline Pilot
<b>App. Servers</b>	Web logic 8.0, Jakarta Tomcat 4.1
<b>Web Servers</b>	Apache, IIS v4.0
<b>Tools/Utilities</b>	Dreamweaver, Eclipse, SQL Navigator, Toad, Borland JBuilder, Erwin
<b>Mathematics</b>	Statistics, Signal Processing, Filtering, Linear Algebra
<b>Industrial Computer Science</b>	Real-Time programming, Petri Networks, CAD

### PROFESSIONAL EXPERIENCE / ACCOMPLISHMENTS

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**Johnson and Johnson Pharmaceutical Research and Development, L.L.C., Raritan**      **2001-present**  
**Project Lead**

*Project Lead, GIS Drug Discovery*      *2004-present*

- Analyzed, designed, directed and delivered solutions to significantly improve the support of key Drug Discovery systems, such as the Compound Ordering and Tracking System (COATS), US Compound Fulfillment applications and Health & Safety Laboratory Inspection database.
- Designed and implemented a Project Portfolio Tracking system to standardize project review and delivery processes in GIS Drug Discovery.
- Coordinated activities of a team of 5 to 7 consultants across multiple projects.

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*Project Manager, Drug Discovery Solutions Center*

2002-2003

- Analyzed, designed, directed and delivered 13 web based applications for Drug Discovery scientific teams in the areas of Data Manipulation, Data Analysis and Collaborative Environments.
- Coordinated activities of a four-developer team across multiple projects.
- Designed and implemented a Knowledge Base to facilitate support and documentation of Discovery applications.
- As acting director for the Drug Discovery Solutions Center (July-December 03), assisted the DDSC management team with day to day activities, prioritized support activities and planned transition of the team into a new structure.

*Consultant, GIS Drug Discovery*

2001

- Developed web based Data Visualization applications and ChemoInformatics website for the CADD team.
- Developed web based reports for Discovery team leads
- Evaluated the validity of Spotfire Decision Site as a Data Retrieval and Analysis platform
- Received an IMPACT award for contributions to the PRI Similarity Miner (PRISM), a similarity search engine and web interface developed for the CADD team in Raritan (12/2001)

**Johnson and Johnson Pharmaceutical Research and Development, L.L.C., Raritan  
Consultant, IT Research and Development.**

2000

- Reviewed / implemented Data Mining, Information Visualization for IM&T and Drug Discovery.
- Evaluated technology and developed web applications for IT Research and Development.

**Laboratoire de Genie Informatique et d'Ingenierie de Production, Nimes, France**

1994-1998

*Ph.D. thesis - Recursive Perceptual Grouping of objects for 3D Scene Description*

- Generalized a technique of perceptual grouping of complex objects from a method previously developed for the grouping of pixels. This segmentation is used to automatically annotate 2D scenes and reconstruct them in 3D using projective methods.

*Research Assistant*

- Assisted in the preparation of research proposals to obtain funding for research projects.
- Worked with students on an individual basis to assist them on special projects and coached others on practical and theoretical projects.
- Teaching responsibilities included conducting labs and seminars: approximately 280 hours of classes in C programming, computer vision, web design, and HTML coding.

*Web server administrator*

- Responsible for the creation, installation and daily administration of the faculty web site.
- Assisted in system administration of a heterogeneous computer network (Windows NT/SUN Workstations, Intel-Linux).
- Created award winning sites featured on local television shows as well as magazine and newspaper articles.

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- Routinely conducted seminars instructing high school and college students about web server administration, web page construction and internet use.

### Laboratoire [ONERA](#)-Ecole de l'air. Base aerienne 701, Salon de Provence, France

(June-September 1993 - Advisor : Mr. Alain Lesain)

#### [3D Visualization of Flight: Simulations and Real Data.](#)

- Designed a tool for the visualization in 3 dimensions of flight data obtained from simulation or real flights.
- The tool had to handle multiple aircrafts, and featured smooth animation, a VCR like interface to display the flights and multiple points of view. The program was developed in C++, with Motif and GL libraries on a SGI RS6000.

## PUBLICATIONS

### Manuscripts

- [Recursive Perceptual Grouping of objects for 3D Scene Description](#)  
*PhD. Thesis*, University of Montpellier II, Nimes France (September 30<sup>th</sup>, 1999)

### Abstracts

- [Perceptual Organization of Thin Networks with Active Contour Functions Applied to Medical and Aerial Images](#) – session A82.3  
*13<sup>th</sup> Int'l Conference on Pattern Recognition*  
ICPR 96, Technical University of Vienna , Austria (August 25 – 30, 1996)

## PROFESSIONAL PRESENTATIONS

### Internal Presentations

- Perceptually Enhanced Data Visualizations – *Raritan Science Day 2005* (October 16, 2005)
- Compound Navigator: A Proof of Principle Towards a Drug Discovery Workspace – Poster 140  
*Spring House Science Day 2003*  
Gwynedd Mercy College (June 06, 2003)

### External Presentations

1. [Representation of Linear Structures Using Perceptual Grouping.](#)  
*First IEEE Computer Society Workshop on Perceptual Organization in Computer Vision*,  
Santa Barbara, California (June 26, 1998)
2. [Recursive Perceptual Grouping for 3d Object Reconstruction from 2d Scenes](#)  
*10th Scandinavian Conference on Image Analysis*,  
SCIA 97, Lappeenranta, Finland (June 09-11, 1997)
3. [Segmentation of Thin Networks Using Perceptual Organization with Active Contour Functions](#)  
PHOTONICS CHINA 96, Beijing, China (November 02-07, 1996)
4. [Perceptual Grouping and Active Contour Functions for the Extraction of Roads in Satellite Pictures](#)  
*III European Symposium on Satellite Remote Sensing*  
EUROPTO 96, Taormina, Sicilia (September 23 - 27, 1996)

**EDUCATION**

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**"Thèse de doctorat" (Ph.D.)** **1994 - 1998**

*Recursive Perceptual Grouping of objects for 3D Scene Description*  
Computer Science Department.  
L.G.I2.P (Laboratory of Computer Science Engineering)  
Nîmes, France.

**"D.E.A" ( Advanced Studies Diploma in Complex Discrete Systems and Artificial Intelligence )** **1993-1994**

*Perceptual Grouping applied to Road Extraction from Satellite Pictures.*  
University of Montpellier, FRANCE

**Engineering Diploma in Computer Science** **1991-1994**

(equivalent to M.S in Computer and Electrical Engineering ) at the  
" Ecole pour les Etudes et la Recherche en Informatique et  
Electronique (EERIE)" (School of Engineering and Research in  
Computer Science and Electronics) in Nîmes, FRANCE.