

## Pablo G Guerenstein - Abridged CV

### Education

- 1999 **Ph.D.** in Zoology (Sensory Physiology and Chemical Ecology). Institute of Zoology, University of Neuchâtel, Switzerland.
- 1992 **Diploma** in Biology (Animal Physiology and Behavioral Physiology). School of Exact and Natural Sciences, University of Buenos Aires, Argentina

### **Ph.D. Thesis**

**Guerenstein, P.** (1999) Sensory and behavioural responses of *Triatoma infestans* to host and conspecific odours. Laboratoire de Physiologie Animale, Université de Neuchâtel, **Switzerland.**

### **Diploma Thesis**

**Guerenstein, P.** (1992) Factors governing ingestion in triatomines (Hemiptera: Reduviidae): Responses to saline solutions. Laboratorio de Fisiología de Insectos, Universidad de Buenos Aires, **Argentina.**

### Employment as Researcher

#### **Scholarships and Fellowships**

- 1998-1999 *Postgraduate Fellowship* from the **World Health Organisation** (TDR research grant).
- 1994-1996 *Postgraduate Fellowship* from the **Swiss Federal Commission for Foreign Students.**
- 1992-1994 *Postgraduate Fellowship* from the **Argentine National Council of Scientific and Technical Investigations**, CONICET.
- 1991-1992 *Undergraduate Scholarship for outstanding students* (**University of Buenos Aires**) to carry out research for a Diploma Thesis.

#### **Honors, awards and other employment as Researcher**

- 2006- present *Co-Principal Investigator (Co-PI)* de facto in project “Collaborative Research: Detection, Perception and Use of Floral CO<sub>2</sub> in Nectar-Feeding by *Manduca sexta*” funded by **National Science Foundation (NSF) – USA**. PIs: Dr. John Hildebrand and Dr. Robert Raguso.
- 2006- present *Senior Research Associate* at the **Arizona Research Laboratories Div. of Neurobiology** (Tucson, Arizona), Dr. John Hildebrand laboratory.
- 2006 Award by the Foreign Travel Grant Committee (International Affairs) of the Univ. of Arizona to finance a trip to Spain to present work at the Annual Meeting of the International Society of Chemical Ecology
- 2004 Award by the Foreign Travel Grant Committee (International Affairs) of the Univ. of Arizona to finance a trip to Denmark to speak in a Symposium in the International Congress of Neuroethology
- 2002-2004 *Co-Principal Investigator (Co-PI)* in project “Sensory Processing of Environmental -CO<sub>2</sub> Information in the Insect Brain” (included training in lab management, supervision of work of others) funded by **National Science Foundation (NSF) - USA**. PI: Dr. John Hildebrand.
- 2000-2005 *Research Associate* at the **Arizona Research Laboratories Div. of Neurobiology** (Tucson, Arizona), Dr. John Hildebrand laboratory.
- 1999 Appointed *Senior Scientist* at the NRI (Natural Resources Institute), **University of**

**Greenwich**, UK (competitive position). Position not taken.

1994 *Teacher-Researcher* status, **University of Buenos Aires**.

#### **Projects carried out for private laboratories** (confidential data)

1999 Wirkung von Parapic<sup>®</sup> Spray auf die Festheftung von Zecken. (Effect of Parapic<sup>®</sup> repellent spray on attached ticks -larvae and adult *Ixodes ricinus*). For a prominent **European private laboratory** (name remains confidential).

1997 Effet répulsif de certaines huiles essentielles envers les moustiques *Aedes aegypti*, *Culex pipiens* et *Anopheles gambiae*. (Repellency of certain essential oils to mosquitoes) (2 projects). For a prominent **European private laboratory** (name remains confidential).

1995 Evaluation of methods for the control of mites (*Dermatophagoides pteronyssinus*). For a **European private laboratory** (name remains confidential).

#### **Employment as Teacher**

1996-1998 Postgraduate Teaching Assistant for ‘*Sensory Physiology*’ (**University of Neuchâtel**), teaching sensory and behavioral physiology to senior undergraduates – in French - [including laboratory].

1995 Postgraduate Student-Assistant for course ‘*Biology of Ectoparasites*’ (**Univ. of Neuchâtel**), teaching to junior and senior undergraduates – in French.

1992-1994 Postgraduate Teaching Assistant for ‘*Behavioral Physiology*’ (**University of Buenos Aires**), teaching to senior undergraduates – in Spanish - [including discussions on research papers].

1992-1994 Postgraduate Teaching Assistant for ‘*Insect Physiology*’ (**University of Buenos Aires**), teaching to senior undergraduates – in Spanish - [including laboratory and discussions on research papers].

1990-1991 Undergraduate Teaching Assistant for ‘*General Biology*’ (**University of Buenos Aires**), teaching to junior undergraduates – in Spanish -.

#### **Student evaluations available**

Sensory Physiology: “Very good” (to confirm)

Behavioral Physiology: “Very good”

Insect Physiology: “Very good”

#### **Mentoring of students/postdocs**

##### **Experience as mentor/advisor**

2006 **Undergraduate student level**: Katherine Leitner (**Univ. of Arizona**)

##### **Experience as co-mentor/advisor**

2006-present **Research technician level**: Teresa Gregory (**Univ. of Arizona**)

2005 **Graduate student level** (rotation): Alex Eaton-Mordas (**Univ. of Arizona**)

2003-2005 **Postdoctoral (junior) level**: Dr. Corinna Thom, Research Training Fellow, **Deutsche Akademische Austauschdienst** and **Alexander von Humboldt Stiftung, Germany**.

## Publications

### Peer-reviewed research articles, reviews and book chapters

- Guerenstein PG**, Núñez JA (1994) Feeding response of the haematophagous bugs *Rhodnius prolixus* and *Triatoma infestans* to saline solutions: a comparative study. *Journal of Insect Physiology* **40**: 747-752.
- Guerenstein PG**, Lorenzo MG, Núñez JA, Lazzari CR (1995) Baker's yeast, an attractant for baiting traps for Chagas' disease vectors. *Experientia* **51**: 834 - 837.
- Lazzari CR, Schilman P, **Guerenstein PG**, Ianowski J (1998) Nervous Integration. Chapter 23 B in: Carcavallo, Galindez-Giron, Jurberg & Lent (eds.) Atlas of Chagas disease vectors in America, Vol. III, Ed. Fiocruz, Brazil.
- Guerin PM, Kroeber T, McMahon C, **Guerenstein PG**, Grenacher S, Vlimant M, Diehl P-A, Steullet P, Syed Z (2000) Chemosensory and behavioural adaptations of ectoparasitic arthropods. *Nova Acta Leopoldina NF* **83**: 213-229, Germany.
- Guerenstein PG**, Guerin PM (2001) Olfactory and behavioural responses of the blood-sucking bug *Triatoma infestans* to odours of vertebrate hosts. *Journal of Experimental Biology* **204**: 585-597.
- Diehl P-A, Vlimant M, **Guerenstein PG**, Guerin PM (2003) Ultrastructure and receptor cell responses of the antennal grooved peg sensilla of *Triatoma infestans* (Hemiptera: Reduviidae). *Arthropod Structure and Development* **31**: 271-285.
- Guerenstein PG**, Guerin PM (2004) A comparison of volatiles emitted by adults of three triatomine species. *Entomologia Experimentalis et Applicata* **111**: 151-155.
- Guerenstein PG**, Yopez EA, van Haren J, Williams DG, Hildebrand JG (2004) Floral CO<sub>2</sub> emission may indicate food abundance to nectar-feeding moths. *Naturwissenschaften* **91**: 329-333.
- Thom C, **Guerenstein PG**, Mechaber WL, Hildebrand JG (2004) Floral CO<sub>2</sub> reveals flower profitability to moths. *Journal of Chemical Ecology* **30**: 1285-1288 (erratum: 1477). (Recommended paper by "Faculty of 1000")
- Guerenstein PG**, Christensen TA, Hildebrand JG (2004) Sensory processing of ambient-CO<sub>2</sub> information in the brain of the moth *Manduca sexta*. *Journal of Comparative Physiology A* **190**: 707-725
- Abrell L, **Guerenstein PG**, Mechaber WL, Stange G, Christensen TA, Nakanishi K, Hildebrand JG (2005) Effect of elevated atmospheric CO<sub>2</sub> on oviposition behavior in *Manduca sexta* moths. *Global Change Biology* **11**: 1272-1282
- Dacks A., **Guerenstein P**, Reisenman C., Martin J., Lei H., Hildebrand J. (2007) Olfaction: Invertebrates — *Manduca*. Encyclopedia of Neuroscience (Sr. Editors: Larry Squire, Tom Albright, Floyd Bloom, Fred Gage and Nick Spitzer) Elsevier, Oxford, UK (accepted)

### In preparation

- Lopez-Riquelme GO, **Guerenstein PG**, Hildebrand JG (2008) Detection and processing of olfactory information. Chapter 2 in Tovar J.C. & Rojas Leon J.C. (eds.) Pheromones and insect attractants –in Spanish-, Ed. CP Universidad Autonoma de Chapingo, Texcoco, Mexico
- Guerenstein P.G.**, Hildebrand J.G. (2008) "Roles and Effects of Environmental CO<sub>2</sub> on Insect Life". *Annual Review of Entomology*.

### Selected abstracts for Congresses (Total: 23)

- Guerenstein PG**, Lorenzo Figueiras AN, Lorenzo MG, Núñez JA, Lazzari CR (1993) Natural attractants for Chagas' disease vectors. *Medicina Buenos Aires* **53**: 66.
- Guerin PM, McMahon C, **Guerenstein PG** (1996) Improving tsetse fly trapping. 1<sup>st</sup> Research Coordination Meeting of the Coordinated Research Programme on "Improved Attractants for Enhancing the Efficiency of Tsetse Fly Suppression Operations and Barrier Systems Used in Tsetse Control/Eradication Campaigns". Kenia's government -FAO/IAEA. Nairobi, Kenya.
- Thom C, **Guerenstein PG**, Yopez EA, Mechaber WL, van Haren J, Hildebrand JG, Williams DG (2003) CO<sub>2</sub> emission by *Datura* flowers and its significance for foraging *Manduca sexta* moths. *Chemical Senses* **28**: A25
- Guerenstein PG**, Thom C., Pawlowski V., Paulk A., Christensen TA, Hildebrand JG (2005) Is there a functional rationale for the glomerular spatial map in an insect's olfactory lobe? *Society for Neuroscience Abstracts*, 614-20.
- Guerenstein PG**, Beyerlein A, Eaton-Mordas A, Christensen TA, Hildebrand JG (2006) The role of CO<sub>2</sub> cues from plants in the moth-plant interaction and in the processing of odor information in the moth's CNS. Annual Meeting of the International Society for Chemical Ecology, S5-P34.

### Articles published in the press as a result of my research

Article based on "Guerenstein et al. (1995) Baker's yeast, an attractant for baiting traps for Chagas' disease vectors": "*Bäckerhefe gegen Raubwanzen: Eine Falle für die Überträger der Chagas-Krankheit*". (*Baker's yeast against assassin bugs: a trap for the vectors of Chagas' disease*). **Frankfurter Allgemeine Zeitung**, n° 225, 27/9/95, page N2 (Germany).

"Two University of Arizona researchers embracing work to keep kissing bugs from loving you." Interview. **Arizona Daily Star**, June 9 2006 (Arizona, USA).

"University of Arizona scientists work to keep kissing bugs away." Interview. **The Arizona Republic**. June 14 2006 (Arizona, USA)

### Teaching publications

Co-author of "BIOLOGIA, de los átomos a la vida - Guía de Estudio 1991" (Guide to study "General Biology", **University of Buenos Aires**).

### Symposia

#### International

**Guerenstein PG**, Thom C, Christensen TA, Hildebrand JG (2004) Symposium: Chemical Cues in Context -- How CO<sub>2</sub> and Volatile Organic Compounds Influence Insect-Plant Interactions. Talk: CO<sub>2</sub> cues from plants: multiple roles in moth-plant interaction and primary processing in the brain. **International Congress of Neuroethology**, Nyborg, Denmark.

**Guerenstein PG** (1996) Invitation by Prof. Hermann Levinson (Max-Planck Institute for Behavior Physiology, Seewiesen, Germany) to talk at Symposium: Nutrition, food attractants and repellents of storage and urban insect species. **International Cong. of**

**Entomology**, Florence, **Italy** (talk not delivered for personal reasons).

### **National**

**Guerenstein PG**, Reisenman C, Gregory T, Hildebrand JG (2007) Symposium: Kissing bugs and Chagas Disease. Talk: TBA. **Vector-Borne and Zoonotic Diseases Conference**, Phoenix, AZ, **USA**. Conference organized by the Arizona Department of Health Services.

### **Invitations to referee/review**

#### **For international scientific journals**

Chemical Senses (2 invitations)

European Journal of Neuroscience

Journal of Neuroscience (2 invitations: principal reviewer in co-review and co-reviewer)

PLoS One

#### **For funding agencies (grant proposals)**

National Agency of Science and Technology, Argentina

### **Languages**

Spanish (mother tongue)

English (spoken and written well)

French (spoken and written well)