

## Abdelraheim Attaai

Department of anatomy and Histology  
Assiut University, Assiut, Egypt  
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### Education & Qualification:

| Year             | Qualification   | Institution  |
|------------------|---|--|
| 2014-Jan<br>2018 | PhD of neuroimmunology, (Analysis of Microglial Functions in the Developing Nigrostriatal System)       | Institute of anatomy and cell biology, Freiburg University, Germany                      |
| 2006-<br>2010    | Masters of neuroanatomy, (The Comparative Morphological Studies on the Cerebellum in Some Bird Species) | Dept. of Anatomy and Histology, Faculty of veterinary medicine, Assiut University, Egypt |
| 2002             | Bachelor's degree of veterinary medicine and animal surgery.  | Faculty of veterinary medicine, Assiut University, Egypt                                 |

### Positions & Academic Degrees:

- Demonstrator, Dept. of Anatomy and Histology, Assiut University 2004-2010.
- Assistant lecturer, Dept. of Anatomy and Histology, Assiut University 2010- 2013.
- Lecturer of Anatomy, Dept. Anatomy and Histology, Assiut University 2018- present.

### Academic & Teaching Experience:

- 10 years experience in teaching anatomy courses, Assiut University, Egypt.
- Assistance in teaching of histokurs for 2 semester, Freiburg University, Germany.

### Adminstrative and Managerial Experience:

- Coordinator of the National Bank for Scientific laboratories and Equipments.
- Coordinator of veterinary anatomy on the Online Learning Management System.
- Coordinator of the upgrading process of the Assiut Veterinary Medical Journal to the blinded online submission system.
- Member of Assiut University Scientific Equipment Scraping Committee
- Member of Environment affairs Committee at Faculty of Veterinary Medicine

## **Research experience:**

- Bachelor of veterinary medicine and animal surgery + master and finally the lab animal course (FELASA-Freiburg) make me perfect in anatomy, histopathology, embryology, surgery and handling of lab animals.
- Conventional molecular biology techniques (RNA and DNA isolation, RT-RNA, PCR, western blot, cell culture....ETC).
- Transcardial perfusion for fixation of lab animals (after anesthesia), and dissection of animal bodies, CNS and PNS.
- Preparation of thin/thick histological slides using microtome and vibratome for the whole brains, staining it with general, specific stains and immunostaining.
- Using different microscopes (conventional fluorescent, apotome, confocal and light sheet) attend 2 advanced workshops in most common imaging and analyzing systems such as Axioimage, Zeiss and Leica (see the workshops).
- Performing 3D reconstruction using Imaris software.
- Collection and analysis of biological data using graph pad prism and excel.
- Photo managing using the Photoshop program.
- Flow cytometry and the responsible person for the flow machine BD-Accuri6 in the institute of anatomy and cell biology, Freiburg.
- Analysis of microarray data after affometrics; clustering and gene ontology using, DAVID or BINGO.
- Clearing tissues using X-clarity and imaging using the light sheet microscope.
- Could work both independently and in teamwork
- Helping my colleagues (Acknowledged in many thesis and papers)
- Could meet the deadline by enough time

## **Scientific Appreciations (awards, honors & scholarships):**

- PhD scholarship from the Egyptian government to conduct the PhD in Germany.
- Leaders Preparation Workshop at Leaders Preparation Academy in Helwan - Egypt (10 – 15 / 4 / 2009).

## **Conference Proceedings:**

Talk presentation in the 111th Annual Meeting of the German Anatomical Society (Anatomisches Gesellschaft) held in Gottingen 21-24 / 9 / 2016- Germany.

## **Skills**

### **Lab animals:**

Laboratory Animal Handling, transcordial perfusion, dissection of all organs and tissues of embryo and adult lab animals, domestic animals, birds and fish

### **Conventional histopathological lab techniques:**

Tissue processing, imbedding, sectioning (at thick or thin thickness) using vibratome and microtome, conventional staining and immunohistochemistry

### **Molecular biology techniques:**

#### **In vivo:**

genotyping, IHC , RNA and DNA Isolation & purification , Reverse Transcription, PCR, Electrophoresis, Flow Cytometry, Embryos.

#### **In vitro:**

Cell Culture, Primary cell culture, mixed neuron/glia cell culture, cell harvesting, immunocytochemistry

### **Microscopes:**

Most microscopes from Axioimage, Zeiss and Leica such as light, stereo, conventional fluorescent, apotome, confocal and light sheet

### **Tools & Softwares:**

Imagej, Imaris, Graphpad Prism, Zen-Blue and Zen-Black, Photoshop, KNIME, clustering and gene ontology using DAVID or BINGO, End Note, Zotero, Huygens, Image Tools, Scion Image, microsoft office

## **Certificates & academic achievement:**

- Advanced imaging Techniques in Microscopy
- Image analysis using ZEN blue software
- Course on Laboratory animal science (FELASA, Category B)
- Good scientific research
- International Toefl (score 83 point IBT test).
- IELTS test (score 6.5)
- ICDL (International Computer Driving License).

## **Workshops:**

- Bioimage Analysis Workshop, 31/01/2017/ 02.02.2017, at the Center for Biological Systems Analysis (ZBSA), Freiburg University, Germany.
- 
- Advanced imaging Techniques in Microscopy from MIAP (Microscopy And Imaging Platform) , 28/11/2016/ 02.12.2016, Life Imaging Center, Freiburg University, Germany
- Image analysis using ZEN blue software from MIAP (Microscopy And Imaging Platform) , 25-26/10/2016, Life Imaging Center, Freiburg University, Germany
- Course on Laboratory animal science (FELASA, Category B) which accredited by the German society for laboratory animal science, 7-9/10/2015 theoretical part and 13-15/01/2016 practical part, Freiburg University, Germany
- Good scientific practice, 6-7 / 7 / 2015, Freiburg University, Germany
- Protein analysis and applications, Center of Molecular Biology, Assiut University 24 - 25 / 10 / 2010
- Basic Principles and Laboratory Techniques on DNA cloning. Center of Molecular Biology, Assiut University 11 - 13 / 4 / 2006
- Attendance of a number of Faculty and Leadership Development workshops in Assiut University:
  - E-Learning 13 – 15 / 6 / 2009
  - Teaching Preparation Workshop 28 / 6 – 9 / 7 / 2008.
  - Methods of Scientific Research 14 – 16 / 7 / 2007
  - Teaching Using Technology 22 – 24 / 1 / 2007
  - Effective Presentation Skills 19 – 21 / 12 / 2006
  - Upgrading Thinking Skills 2 – 4 / 9 / 2006
  - Effective Teaching 16 - 19 / 7 / 2005
- Attendance a series of lectures about basics of molecular biology.

## **Supervision**

Supervision of 4 different master students on different topics and projects.  
Data available upon request

## **Training**

Training postgraduates, master, PhD and postdoctoral researcher on different methods and software through coordination and presenting different workshops such as:

1. Investigating and Presenting Transmission Electron Microscopic Pictures
2. Fundamentals of Immunohistochemical Staining
3. Image Analysis Using ImageJ Software
4. Image Processing Using Photoshop Software

## Puplications:

Ahmed Hussein, **Abdelraheim Attaai** & Asmaa Zahran (2021). Genistein antitumor potential on DMBA-induced buccal pouch carcinogenesis in hamster: an experimental study based on flow cytometric analysis coupled with histopathology. "Journal of the Egyptian National Cancer Institute". Under review

**Abdelraheim H. Attaai**, Manal T. Hussein, Khaled H. Ali & Fatma M. Abdel-Maksoud (2021). *Morphological, Immunohistochemical and Ultrastructural studies of the donkey eye's with special reference to the AFGF and ACE expression*. Microscopy and Microanalysis. Under review

1. Manal T. Hussein, **Abdelraheim Attaai**, Gamal Kamel & Doaa M. Mokhtar (2021). *Spatiotemporal expression of sonic hedgehog signalling molecules in the embryonic mesencephalic dopaminergic neurons*. Gene Expression Pattern. In Press
2. Khadija Boukholda, Brahim Gargouri, Bakhta Aouey, **Abdelraheim Attaai**, Mohamed Abd Elkodous, Mohamed Najimi, Bernd L. Fiebich, Michèle Bouchard, Hamadi Fetoui, (2021). *Subacute silica nanoparticle exposure induced oxidative stress and inflammation in rat hippocampus combined with disruption of cholinergic system and behavioral functions*. NanoImpact, Volume 24, <https://doi.org/10.1016/j.impact.2021.100358>.
3. Abd-Elhafeez, H. H., Soliman, S. A., **Attaai, A. H.**, Abdel-Hakeem, S. S., El-Sayed, A. M., & Abou-Elhamd, A. S. (2021). *Endocrine, Stemness, Proliferative, and Proteolytic Properties of Alarm Cells in Ruby-Red-Fin Shark (Rainbow Shark), Epalzeorhynchus frenatum (Teleostei: Cyprinidae)*. Microscopy and Microanalysis, 1-14
4. Aouey, B., Boukholda, K., Gargouri, B., Bhatia, H. S., **Attaai, A.**, Kebieche, M., ... & Fetoui, H. (2021). *Silica Nanoparticles Induce Hepatotoxicity by Triggering Oxidative Damage, Apoptosis, and Bax-Bcl2 Signaling Pathway*. Biological Trace Element Research, 1-11.
5. Bakr, A. A., Misk, N. A., Ibrahim, A., & **Attaai, A.** (2021). *Surgical Anatomy for Desmotomy of the Superior and Inferior Check Ligaments in Donkeys*. Journal of Advanced Veterinary Research, 11(3), 127-135.
6. **Attaai, A. H.**, Noreldin, A. E., Abdel-Maksoud, F. M., & Hussein, M. T. (2020). *An updated investigation on the dromedary camel cerebellum (Camelus dromedarius) with special insight into the distribution of calcium-binding proteins*. Scientific reports, 10(1), 1-17
7. Von Ehr, A., **Attaai, A.**, Neidert, N., Potru, P. S., Ruß, T., Zöller, T., & Spittau, B. (2020). *Inhibition of Microglial TGFβ Signaling Increases Expression of Mrc1*. Frontiers in cellular neuroscience, 14, 66.
8. Fatma M. Abdel-Maksoud, Manal T Hussein, **Abdelraheim Attaai**, 2019. "Seasonal variation of the intraepithelial gland in the camel epididymis with special reference to autophagosome." microscopy and microanalysis journal.

9. Brahim Gargouri, Nizar M.Yousif, **Abdelraheim Attaai**, Michèle Bouchard, Yassine Chtourou, Bernd L. Fiebich, Hamadi Fetoui, 2018 “*Pyrethroid bifenthrin induces oxidative stress, neuroinflammation, and neuronal damage, associated with cognitive and memory impairment in murine hippocampus.*” Volume 120, November 2018, Pages 121-133. Doi:10.1016/j.neuint.2018.08.004.
10. **Abdelraheim Attaai**, Nicolas Neidert, Alexander von Ehr, Phani Potru, Tanja Zöllner, Björn Spittau, “*Postnatal Maturation of Microglia is Associated with Alternative Activation and Activated Tgβ Signaling.*” March 2018 *Glia*. Doi: 10.1002/glia.23332
11. Tanja Zöllner, **Abdelraheim Attaai**, Phani Potru, Tamara Ruß, Björn Spittau, 2018 “*Aged Mouse Cortical Microglia Display an Activation Profile Suggesting Immunotolerogenic Functions.*” *International Journal of Molecular Sciences*, Mar 1;19(3). Doi: 10.3390/ijms19030706.
12. Analysis of Microglial Functions in the Developing Nigrostriatal System. PhD Thesis. Freiburg University, January 2018
13. Machado, Venissa, Tanja Zöllner, **Abdelraheim Attaai**, Björn Spittau. 2016. “*Microglia-Mediated Neuroinflammation and Neurotrophic Factor-Induced Protection in the MPTP Mouse Model of Parkinson’s Disease-Lessons from Transgenic Mice.*” *International Journal of Molecular Sciences* 17 (2): 151. Doi:10.3390/ijms17020151.
14. Mohammed, A. A., & **Attaai, A. H.** (2011). *Effects of dietary urea on timing of embryo cleavages and blood components in mice.* *Veterinary World*, 4(8), 360
15. Comparative Morphological Studies on the Cerebellum in Some Bird Species. Master Thesis Assiut University, April 2010

#### **Preparing 4 manuscripts for publication within 2022:**

1. Enhancement of the sexual productivity of mall quail after natural food supplementation leads to more than 30% economic saving.
2. Effects of natural food supplementation on the immunity of quail.
3. Effect of Ivabradine on Cognitive Functions of Rats with Scopolamine-induced Dementia.
4. Effect of nictitans gland and third eyelid excisions on ocular surface integrity, pH, and tear production in dogs.

**Supervision:** 6 master thesis

**Languages:**

| Language            | Reading   | Written   | Verbal    |
|---------------------|-----------|-----------|-----------|
| English (ILETS 6.5) | Excellent | Very good | Very good |
| German (B1/1)       | Good      | Good      | fair      |

**Recreation:**

- Traveling
- Learning computer software and programs
- Photographing and photo-managing

**References:**

For more details you can contact:

**Prof. Dr. med. Björn Spittau,**  
Institute of Anatomy,  
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# URKUNDE

## Die Fakultät für Biologie der Albert-Ludwigs-Universität Freiburg

verleiht unter dem Rektorat von Professor Dr. Dr. h.c. Hans-Jochen Schiewer  
und unter dem Dekanat von Professorin Dr. Bettina Warscheid

Herrn Abdelraheim Hassan Hussein Ali Attaai

geboren am 10.08.1980 in Qena, Ägypten

Titel und Würde eines

Doctor rerum naturalium

Herr Abdelraheim Hassan Hussein Ali Attaai  
hat im ordnungsgemäßen Prüfungsverfahren durch die Abhandlung  
„Analysis of Microglial Functions in the Developing Nigrostriatal System“  
sowie durch die mündliche Prüfung vom 24.01.2018  
seine wissenschaftliche Befähigung erwiesen.

Die Dissertation hat die Note  
**SEHR GUT, MAGNA CUM LAUDE**  
erhalten.

Die Gesamtbeurteilung lautet  
**GUT, CUM LAUDE.**

Freiburg, den 24.01.2018

Die Übereinstimmung dieser Kopie  
mit dem Original wird bestätigt.  
Freiburg i. Br., den 24.1.2018  
*Bettina Warscheid*

*H. Schiewer*  
Der Rektor



*B. Warscheid*  
Die Dekanin



Translation

**Certificate**

The Faculty of Biology  
of the Albert-Ludwigs Universität Freiburg

under the President Professor Dr. Dr. h. c. Hans-Jochen Schiewer  
and under the Dean Professor Dr. Bettina Warscheid

awards to

**Abdelraheim Hassan Hussein Ali Attaai**  
born 10 August 1980 in Qena, Egypt

the title and honour of  
**Doctor rerum naturalium (Dr. rer. nat., equivalent to PhD)**

by completion of the thesis:  
"Analysis of Microglial Functions in the Developing Nigrostriatal System"

and by oral defence on 24 January 2018.

Grading of the dissertation: very good, magna cum laude.  
Overall assessment: good, cum laude.

Freiburg, 24 January 2018.



Signature on the left, President of the University of Freiburg  
Signature on the right, Dean of the Faculty of Biology

Die Übereinstimmung dieser Kopie  
mit dem Original wird bestätigt.  
Freiburg i. Br., den 24.1.2018  
*Bettina Warscheid*

**Für die Richtigkeit**

*I. A. Mona Kasab*

7-2-2018

Kulturabteilung und Studienmission  
der Ägyptischen Botschaft









## Certificate

**Abdelraheim Attaai**, born on 10.08.1980 in Qena / Egypt,  
regularly attended and successfully completed the

“**Course on Laboratory Animal Science**” held by the Deanery of the  
Faculty of Medicine of the University of Freiburg /Germany from  
**07.-09.10.2015** (theory) and from **13.-15.01.16** (practice).

Education and training were carried out according to the recommendations  
of the Federation of European Laboratory Animal Science Associations for  
the education and training of persons carrying out animal experiments  
**(FELASA, Category B)**. The course is accredited by the German Society for  
Laboratory Animal Science – “Gesellschaft für Versuchstierkunde”,  
**GV-SOLAS**.

### **Contents (40 hours; theory and practice, 50% each):**

- Introduction to ethics and history of animal experiments, animal welfare act
- Alternatives to animal experiments, „3 R”
- Introduction to biology of laboratory animals, nutrition, husbandry, anaesthesia, euthanasia, recognition of pain, surgical techniques, genetics, genetic techniques, standardization of laboratory animals, engineering of genetically modified animals, embryonic transfer, cryopreservation, microbiological management, immunization, infections and zoonotic diseases, allergies
- Practice: handling mouse/rat, sampling techniques, marking of animals, administration of substances, anaesthesia, euthanasia, dissection, suture techniques, handling and examination on rabbits
- Exam

Freiburg, 2015

Medizinische Fakultät der  
Albert-Ludwigs-Universität Freiburg  
Dr. med. vet. Rita Sanchez-Brandelik  
Elsässer Straße 2m  
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Dr. med. vet. Rita Sanchez-Brandelik  
(DVM, specialist in lab animal medicine)

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Bearbeitet von:  
Dr. med. vet. Rita Sanchez-Brandelik



# Zertifikat



## Abdelraheim Attaai

has successfully completed the graduate workshop

### Good Scientific Practice

conducted by Dr. Michael Gommel, [www.scientificintegrity.de](http://www.scientificintegrity.de),  
on July 6<sup>th</sup> and 7<sup>th</sup> 2015.

**Workload: 14 hours**

Topics covered in the workshop:

- Definitions of good scientific practice and scientific misconduct
- Degrees and extent of scientific misconduct
- Examples for responsible and irresponsible conduct of research
- Data management
- Authorship and the process of publication
- Mentoring and supervision
- Conflict management: how to deal with scientific misconduct
- Reactions to scientific misconduct
- Local, national and international guidelines and regulations

Freiburg, July 7<sup>th</sup> 2015

A handwritten signature in blue ink, appearing to read 'Michael Gommel', is written over the printed name.

IGA

A handwritten signature in blue ink, appearing to read 'Michael Gommel', is written over the printed name.

Dozent/in

The logo for the University of Freiburg, consisting of the words 'UNI' and 'FREIBURG' stacked vertically in a bold, sans-serif font, with a red horizontal bar passing behind the text.

# Zertifikat

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## Abdelraheim Attaai

has successfully completed the graduate workshop

## How to Give Successful Scientific Talks

conducted by Dr. Matthias Mayer on April 20th and 21th 2016

### Workload: 18 hours

Topics covered in the workshop:

#### 1) Create Clear Content

- Brainstorm: How could I serve my audience most effectively? What could I say?
- Reduce: What exactly do I want to say? What not?  
Set a clear goal and up to three core messages.
- Structure your talk appropriately.
- Exemplify: find great examples, metaphors, comparisons, images, etc.

#### 2) Design Proper Slides


- Reduce your content and your visuals as much as possible.  
Focus on illustrations and images instead of bullets.
- Apply six important design principles to your slides.
- Know how to deal with fonts, sizes, and an underlying grid.

#### 3) Be Convincing on Stage

- Body language: where to put your hands – and other questions
- Creating contact: eye contact and body movement
- How to speak properly
- How to involve your audience by including interaction.

Freiburg, 21.04.2016

  
FRS-IGA

  
Dozent/in

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