

Adel DRISS, Ph.D.

Email Address: adel.driss@gmail.com

Work Address in the U.S

Morehouse School of Medicine,
720 Westview Dr. HG207,
Atlanta, GA 30310, USA.
Tel: (+1)404-752-1849

Home Address:

PO Box 115419,
Atlanta, GA 30310, USA.
Mobile: (+1)404-751-7850

STATUS: Permanent Resident (Green Card holder) in the **U.S.A.** & Citizen of **Croatia (E.U.)** and of **Tunisia**.

EDUCATION

- **Ph.D. in Biology.** Faculty of Sciences of Tunis, Tunisia. **2003.**
- **M.Sc. in Genetics and Molecular Biology.** Faculty of Sciences of Tunis, Tunisia. **1998.**
- **B.Sc. in Natural Sciences.** Faculty of Sciences of Tunis, Tunisia. **1996.**
- **A.Sc. in General Sciences.** Faculty of Sciences of Tunis, Tunisia. **1994.**

LANGUAGES

Excellent understanding, writing and speaking of French (Mother's tongue), English, and Arabic. Good understanding and speaking of Italian. Notions of Spanish, Croatian and Japanese.

EXPERIENCE

* Research Associate, Morehouse School of Medicine, Atlanta GA. Present.

- **Public Health in women:** Establishment of a tissue bank for a Woman Health Center at Morehouse School of Medicine.
- Actual Mentor advisor for an MPH-epidemiology student at Emory's Prestigious Rollins School of Public Health.
- Grant consultant for the Public Health School and Noguchi Memorial Institute for Medical Research at University of Ghana.
- Research: Deep sequencing of MicroRNA extracted from cell exosomes in relation to endometriosis.
- Study the role of targeted microRNAs on angiogenesis in endometriosis.

* Fogarty Global Health Fellow, Noguchi Memorial Institute for Biomedical Research, Accra, Ghana. 2014.

- Consortium of UNC-CH, Johns Hopkins University, Morehouse School of Medicine and Tulane University.
- **Public Health Involvement:** international interdisciplinary collaborations, IRB writing, diplomacy in science, epidemiology studies, disease prevention committee in Tunisia and Ghana (Africa), health promotion through community and individual awareness in rural Ghana. Actively assisted campaigns to improve health and quality of life of rural villages in Ghana through the prevention and treatment of disease (Mainly Malaria but also Buruli Ulcer and Schistosomiasis). Promotion of healthy behaviors and practices such as hand washing with soap and water or alcohol-based hand sanitizer and avoid contact with blood and body fluids to avoid EBOLA virus contamination in Ghana.
- **Research Involvement:** Understand the molecular pathogenesis underlying disparities of malaria severity in sickle cell patients.
- Epidemiological studies in Malaria incidence on sickle cell trait asymptomatic patients.
- MicroRNA polymorphism involvement in malaria protection in Sickle Cell trait individuals.
- MicroRNA studies in Buruli Ulcer early diagnostics and on the Hook worm drug resistance.
- Establish a long term partnership between Morehouse School of Medicine (Atlanta), Noguchi Memorial Institute for Medical Research (Accra) and Korle-Bu Teaching Hospital (Accra).
- Create a capacity building for a bio-molecular diagnostics laboratory aimed at genotyping and genetic studies.
- Teaching several grad students on microRNA extraction and techniques.

* Co-founder and academic consultant in Via Globe, Intelligent touring company in Zagreb, Croatia. 2013 ~ Present.

- Ambassador in Ghana and the USA.
- Public relations of the agency. International inter-agencies collaborations.
- Website design and French-Arabic-English translations and proof correction.

* Senior Postdoctoral Associate & Research Instructor, Morehouse School of Medicine, Atlanta GA. 2007 ~ 2014.

- Actual ongoing project: deep sequencing of MicroRNA extracted from cell exosomes in relation to endometriosis.
- Established several international collaborations to acquire clinical data and biological samples from Sickle Cell Disease (SCD) patients.

- Applied high-throughput technologies such as the ABI SNaPshot Multiplex System for SNP genotyping and Luminex assay for serum protein expression profiles.
- Performed genetic association studies to identify risk variants, on different populations, associated with different SCD phenotypes including vaso-occlusive crisis, stroke, acute splenic sequestration and chronic hypersplenism.
- Investigated genetic polymorphisms linked with susceptibility and/or severity to malaria parasite outcomes.
- Taught several biochemistry, genetics, critical thinking and infectious diseases modules at the Morehouse School of Medicine's Post-Graduate in Biomedical research program. Mentored students in lab research techniques.
- Submitted several federal, local and international grants and IRB applications and authorization reports.

*** Committee Director Member of the Tunisian Independent Regional Authority for Elections (IRIE) for the Americas and Europe (except France, Italy and Germany). June ~ December 2011**

- The Committee organized the first “real” democratic & independent Tunisian elections in history in 25 countries.
- Group leader and senior organizer of 6 voting stations teams throughout the USA (Washington DC, New York, Miami, Denver, San Francisco & Los Angeles).

*** Postdoctoral fellow in Molecular and Cell Biology, Emory University School of Medicine, Atlanta, GA. 2004 ~ 2007.**

- Studied selective estrogen receptor (ER) modulators as a neoadjuvant therapy for hormone-dependent breast cancer.
- Investigated the resistance/sensitivity of endocrine therapy on ER-positive and ER-negative breast cancer cells lines and explored ER co-activators and other signal transduction pathways to understand the causes of resistance to hormone therapy and suggested new targeted therapeutic approaches and solutions.
- Characterized the Utrophin/Dystroglycans complex in the intestinal epithelial cells and indicated, for the first time, its important role in the regulation of interactions between intestinal epithelial cells and the attachment to the extracellular matrix.
- Functional studies to Inflammatory Bowel Disease (Crohn disease and ulcerative colitis): Performed several molecular, cellular, biochemical and biophysiological methods to study the function of the NOD2/Card15 protein in IBD.
- Cloned hPepT1 (H+ coupled peptide transporter) gene promoter region (NCBI: [ABD33994](#)) and investigated the effect of leptin stimulation on hPepT1 expression activity in Caco2-BBE cells in a dose and time dependence.
- Designed site mutated hPEPT1 promoter plasmid constructs and analyzed the luciferase activity using different treatments and over-expression experiments.

*** Research Scientist, National Center of Neurology and Psychiatry, Tokyo, Japan. 2000 ~ 2003.**

- Cloned and identified the gene responsible for limb-girdle muscular dystrophy 2I (LGMD 2I) encoding for Fukutin related protein (FKRP).
- Investigated several other genes mutated in muscular dystrophies, like Dysferlin, Titin, GNE, Collagen VI and Selenoproteins. Studied dystroglycans interactions with laminin alfa-2 protein among several others.

*** Research Geneticist, National Institute of Neurology, Tunis, Tunisia. 1997 ~ 2000.**

- Localized the gene responsible for LGMD 2I on chromosome 19q13.3 by genetic linkage analysis (OMIM [*606596](#)).
- Worked on other genes responsible for different muscular dystrophies including HIBM and LGMD 2C.

*** Research collaborator and consultant, Department of Hematology, Aziza Othmana Hospital, Tunisia. 2008 ~ Present.**

- Established collaborations between Morehouse School of Medicine, the Aziza Othmana hospital and the Pasteur Institute of Tunis.
- Initiated sickle cell patients' recruitment, National Ethics Committee authorizations and informed consent procedures. Managed clinical data and blood sample collection as well as DNA extraction and samples transfer to the U.S.A. Wrote and submitted a local Tunisian grant application.
- Screened several candidate genes involved in vaso-occlusive crisis in sickle cell disease.

TECHNICAL SKILLS

- **Group leader and mentoring:** Served as a Committee Director Member of several NGOs and associations. Team leader of numerous scientific research teams as well as pro-democracy and environmental protection missions. Teacher, mentor and instructor for different scientific projects. Actively participated in several pro Democracy and Healthcare NGOs throughout the world;
- **Bioinformatics and statistical tools:** dbSNP, Hapmap, DNAsis, Genetix, Haploview. Widely manipulated statistical programs such as: STATA, Sigmaplot and Sigmastat, SPSS;
- **Grant and reports writing:** Wrote and submitted numerous local, federal and international grants. Submitted local and international IRB authorizations reports and established several international partnership contracts;
- **Molecular biology:** SOLiD-Seq microRNA library construction, microRNA extraction and deep sequencing from micro-particles (exosomes), PCR and RT-PCR, positional cloning, sequencing on ABI 3100, ABI 377 and ABI 310, real-time and

quantitative PCR, gene cloning, gene expression microarray analysis, phage and BAC Library screening, mutagenesis assay, RACE and promoter characterization;

- **Cell biology:** Cell culture, real-time cell spreading and attachment experiments, real-time cell scratch assay, gene transfections, gene promoter studies, confocal microscopy, Immunohistochemistry, cell anoikis, flow cytometry studies, Luciferase assay, gene over-expression, XTT cell proliferation assay, biotinylation, cell uptake assay, cell monolayer permeability and cellular electrophysiology, Lymphocyte and PBMCs culture;
- **Biochemistry and proteins:** Immuno-precipitation, protein binding assay, Western blot, rabbit polyclonal antibody construction and immunization, antibody characterization, affinity chromatography;
- **Computer:** MS Office (Word, Excel, PowerPoint, Publisher, Access, Outlook), web design software (Adobe Dreamweaver), Photography edition (Adobe Photoshop & Illustrator); computer hardware expert;
- **Commercial:** Co-founder, commercial representative, sales manager and networking marketing since 1998 at ORIS (www.weboris.com) and since 2013 at Via Globe touristic company (www.viaglobe.net);
- **Art:** Photography and acrylic painting.

TEACHING & MENTORING

- Taught Master Degree students in Biomedical Sciences Program at Morehouse School of Medicine from **2007 to present**, the following courses: **Genetic susceptibility - Gene mapping - Genetic diseases - Protein Biosynthesis (Biochemistry) - Malaria in the post-genomics era - Article Review & critical thinking**
- Mentored, supervised and instructed several postdocs and graduate student research projects at Emory & Morehouse School of Medicine. **2007~Present.**
- Taught all levels of Biology & Geology Classes, Avicenne and Nabil High Schools, Tunis. **1997 ~2000.**
- Actual Mentor advisor for an MPH-epidemiology student at Emory's Prestigious Rollins School of Public Health. **2014~2015.**
- French Tutoring.

PROFESSIONAL DEVELOPMENT AND TRAININGS

- Sickle cell awareness and data collection training. Mandeville Regional Hospital, Jamaica. **2008 - 2011.**
- Basic molecular diagnostic training in Sickle Cell Disease and hemoglobinopathies. Medical College of Georgia Sickle Cell Center, Augusta, GA. **2007.**
- Training in positional cloning and DNA sequencing. Keio University School of Medicine, Tokyo, Japan. **2000 ~ 2002.**
- Biochemistry lab methods applied to Muscular dystrophies. Pitié-Salpêtrière hospital, Paris, France. **1999.**
- Pedagogy in science teaching training summer camp. Nabeul, Tunisia. **1997.**
- Submarine Photography camp. Tabarka, Tunisia. **1996.**
- Marine Biology training camp. Haouaria, Tunisia. **1995.**
- Scuba-archeology camps. Cap Zbib, Tunisia. **1994.**

VOLUNTEERING & AWARDS

- Fogarty Global Health Award 2013-2014 for an 11 month Fellowship and research funds in Ghana.
- Editorial board member of the ScienceJet journal, an international, multi-disciplinary open access journal publishing the peer-reviewed research in all fields of science (physical sciences, medical sciences and biological sciences). **2012.**
- CUB-ATL, 50 years of Cuban Art, show, exhibit, design and events planning and grant writing. **2013.**
- Scholarship award for the Conference on Effect of DNA Sequence and Structure on the Generation of Variation and Genome Evolution, New Jersey. **2011.**
- Peer reviewer for several high impact journals including: Brain, histology& histopathology, Neurology, Am.J.Physiology, International Journal of Tropical Disease & Health, Clinical Genetics, Postgraduate Medical Journal, Journal prep and much more. **2003 - 2012.**
- President Jimmy Carter and First Lady Rosaline Award for **2009, 2011 and 2014** for exceptional volunteer at the Jimmy Carter Presidential Center, Atlanta. Editor in chief of the Center's Newsletter. **2006 ~ Present.**
- Travel award to attend the ASBMB annual conference **2005.**
- Vice President of the Morehouse School of Medicine Postdoctoral Association, **2010 - 2011.**
- Official scientific judge, Annual Research Symposium, Morehouse School of Medicine. Atlanta, **2011 - 2012.**
- Helped raising sickle cell awareness and performed data collection for the sickle cell trust and the Manchester project, Mandeville Regional Hospital. Mandeville, Jamaica, **2008 - 2011.**
- Official scientific judge, Spelman College's Research Day. Atlanta, GA, **2006 ~ 2013.**
- Young researcher award - The 4th World Muscle Society Congress, Antalya, Turkey, **1999.**
- Featured in national and international news articles for the newly found muscular dystrophy gene, **1999.**
- Webmaster, designer, founder, photograph of surfingcarpet.com, a travel experience and ecology blog. **2006 ~ Present.**
- Member of the board director of the ORIS Company (weboris.com) specialized in selling hardware, software, networking solutions and design services. **1996 ~ Present.** As well as ViaGLOBE (viaglobe.net). **2013**

- Co-founder, Vice-President and Ambassador in Ghana/USA of the Non-Profit association CroGlobal (croglobal.net). **2013 ~ Present.**
- Active member in several non-profit associations aiming for sports and charity.
- French-English-Arabic translations.

OTHER INTERESTS: Surfing, wind-surfing, snowboarding, scuba diving, reading, painting, ecology.

PRESENTATIONS: Had over 51 oral and poster presentations at multiple conferences and congresses in the USA, Tunisia, Turkey, France, Japan, Canada and Jamaica from 1998 to 2012.

PUBLICATIONS: Participated in **20 peer reviewed publications** with **8 as first author**.

My articles were cited **548** times (Google Scholar).

- 1- [Wilson N, Driss A, Solomon W, Dickinson-Copeland C, Salifu H, Jain V, Singh N, Stiles JK](#). XCL10 Gene Promoter Polymorphism - 1447A>G Correlates with Plasma CXCL10 Levels and is Associated with Male Susceptibility to Cerebral Malaria. *PLoS ONE* 8(12): e81329. doi:10.1371/journal.pone.0081329.
- 2- [Driss A](#). Comments on Impact of iron overload in IL-10 levels, biochemical parameters and oxidative stress in patients with sickle cell anemia. *Revista Brasileira de Hematologia e Hemoterapia*. **2013**, 35(1): 7–8. PMID: PMC3621625.
- 3- [Wilson N, Ceesay F, Hibbert J, Driss A, Obed S, Adjei A, Gyasi R, Anderson W, Stiles J](#). Pregnancy Outcomes among Patients with Sickle Cell Disease at Korle-Bu Teaching Hospital, Accra, Ghana: Retrospective Cohort Study. *American Journal of Tropical Medicine and Hygiene*. **2012** June; 86(6):936-42. PMID:22665597.
- 4- [Driss A, Wilson NO, Serjeant GR, Hibbert JM, Hyacinth HI, Stiles JK](#). Elevated IL-1A and CXCL-10 serum levels occur in patients with Homozygous Sickle Cell Disease and a history of Acute Splenic Sequestration. *Disease Markers*. **2012** May 1; 32(5):295-300. PMID:22674409.
- 5- [Iqbal S, Zhang S, Driss A, Liu ZR, Zhau HE, Chung LWK, Wu D](#). Platelet-Derived Growth Factor Upregulates Myeloid Cell Leukemia-1 Through Activation of β -catenin and Hypoxia-Inducible Factor-1 α -Dependent Signaling in Human Bone Metastatic Prostate Cancer Cells. *PLoS ONE*. **2012** January, 7(1): e30764. PMID:PMC3262835.
- 6- [Driss A, Hibbert JM, Wilson N, Iqbal AS, Adamkiewicz TV, Stiles JK](#). Genetic polymorphisms linked to susceptibility to malaria. *Malaria Journal*. **2011**, 10:271. PMID:PMC3184115.
- 7- [Asare K, Gee BE, Stiles JK, Wilson NO, Driss A, Quarshie A, Adams RJ, Kutlar A, Hibbert JM](#). Plasma interleukin-1-beta concentration is associated with stroke in sickle cell disease. *Cytokine*. **2010** January; 49(1):39-44. PMID:PMC2808442.
- 8- [Driss A, Asare KO, Hibbert JM, Gee BE, Adamkiewicz TV, Stiles JK](#). Sickle cell disease in the post genomic era: a monogenic disease with a polygenic phenotype. *Genomics Insights*. **2009**; 2 23–48. PMID:PMC2855197.
- 9- [Driss A](#). Limb-Girdle Muscular Dystrophy, Autosomal Recessive (21). *Encyclopedia of Molecular Mechanisms of Disease*. (Chapter). **2008** Edition. ISBN: 978-3-540-67136-7
- 10- [Gee BE, Manlove-Simmons JJ, Huang Y, Asare K, Driss A, Wang C, Anderson LM, Gibbons GH](#). “Gene Expression Profiling of Human Endothelial Progenitor Cells Differentiated From Peripheral Blood Mononuclear Cells”. *Blood*. **2007**, 110 (11):46b.
- 11- [Nduati V, Yan Y, Dalmasso C, Driss A, Sitaraman S, Merlin D](#). Leptin transcriptionally enhances peptide transporter (hPepT1) expression and activity via the CREB and Cdx2 transcription factors. *The Journal of Biological Chemistry*. **2007** Jan 12; 282(2):1359-73. PMID:16963449.
- 12- [Charrier L, Driss A, Yan Y, Nduati V, Klapproth JM, Sitaraman SV, Merlin D](#). hPepT1 mediates bacterial tripeptide fMLP uptake in human monocytes. *Laboratory Investigation*. **2006** May; 86(5):490-503. PMID:16568107.
- 13- [Driss A, Charrier L, Yan Y, Nduati V and Merlin D](#). Dystroglycan Receptor is Involved in Integrin Activation in Intestinal Epithelia. *American Journal of Physiology, AJP - Gastrointestinal and Liver Physiology*. **2006**; 290: G1228–G1242. PMID:PMC2738938.
- 14- [Kucharzik T, Luger A, Yan Y, Driss A, Charrier L, Sitaraman S and Merlin D](#). Activation of Epithelial CD98 Glycoprotein Enhances Colonic Inflammation. *Laboratory Investigation*. **2005**; 85(7): 932-41. PMID:15880135.
- 15- [Amouri R, Driss A, Murayama K, Kefi M, Nishino I, Hentati F](#). Allelic heterogeneity of GNE gene mutation in two Tunisian families with autosomal recessive inclusion body myopathy. *Neuromuscular Disorders*. **2005**; 15: 361–363. PMID:15833430.
- 16- [Charrier L, Yan Y, Driss A, Labois CL, Sitaraman SV, Merlin D](#). ADAM-15 Inhibits Wound Healing in Human Intestinal Epithelial Cell Monolayers. *American Journal of Physiology, AJP - Gastrointestinal and Liver Physiology*. **2005** Feb; 288(2):G346-53. PMID:15358598.
- 17- [Kefi M, Amouri R, Driss A, Ben Hamida C, Ben Hamida M, Kunkel LM, Hentati F](#). Phenotype and sarcoglycan expression in Tunisian LGMD 2C patients sharing the same del521-T mutation. *Neuromuscular Disorders*. **2003** Dec; 13(10):779-87. PMID:14678800.
- 18- [Driss A, Noguchi S, Sasaki T, Amouri R, Sugie K, Hayashi Y, Shimizu N, Minoshima S, Kudoh J, Hentati F and Nishino I](#). Fukutin-related protein gene mutations in the original limb- girdle muscular dystrophy 21. *Neurology*. **2003**; 60: 1341-1344. PMID:12707439.
- 19- [Nishino I, Noguchi S, Murayama K, Driss A, Sugie K, Oya Y, Nagata T, Chida K, Takahashi T, Takusa Y, Ohi T, Nishimiya J, Sunohara N, Ciafaloni E, Kawai M, Aoki M, Nonaka I](#). Distal myopathy with rimmed vacuoles is allelic to hereditary inclusion body myopathy. *Neurology*. **2002**; 59: 1689-1693. PMID:12473753.

20- [Driss A, Amouri R, Ben Hamida C, Souilem S, Gouider-Khouja N, Ben Hamida M, Hentati F](#). A new locus for autosomal recessive limb-girdle muscular dystrophy in a large consanguineous Tunisian family maps to chromosome 19q13.3. *Neuromuscular Disorders*. **2000**; 10(4-5): 240-246 PMID:10838249.

Major Published Abstracts:

- 1- [Adamkiewicz T, Driss A, Hyacinth HI, Hibbert J, Stiles JK](#). Determinants Of Mortality and Survival In Children With Sickle Cell Disease (SCD) In Sub Saharan Africa. *Blood*. **In press**.
- 2- [Driss A, Kacem K, Wilson NO, Hibbert JM, Adamkiewicz TV, Gee BE, Meddeb B, Stiles JK](#). Human Platelet Alloantigens (HPA)₁, HPA₂ and HPA₃ SNPs in Tunisian Sickle Cell Disease Patients. *Blood*, **2011**; 118 (4852).

Publications in Preparation:

- 1- **Driss A**. Rapid diagnostic tests as a public health tool for better containment of HIV and Hepatitis B in Ghana. *Journal of Public Health*.
- 2- **Driss A**, Kacem K, Wilson NO, Rezig D, Hibbert JM, Adamkiewicz TV, Meddeb B, Stiles JK. Human Platelet Alloantigens (HPA)₃ SNP associated with cardiac problems in Tunisian Sickle Cell Disease Patients.
- 3- **Driss A**, Wilson NO, Mason K, Hibbert JM, Serjeant GR, Stiles JK. *Serum levels of soluble TNFR1 and soluble IL-1R1 significantly associated with splenic complications of sickle cell anemia patients*.
- 4- Dickinson CM, **Driss A**, Wilson NO, Liu M, Botchway F, Adjei A, Macanamwo M, Singh S, Stiles JK. Cell depletion is mediated by Heme-induced apoptosis via activation of Toll-Like Receptor 4. *Malaria Journal*.
- 5- Botchway F, Wilson N, **Driss A**, Dickinson-Copeland C, Salifu H, Stiles JK. CXCL10 Gene Promoter Polymorphism -1447A>G is Associated with Severe Malaria in Ghanaian Children
- 6- Keizer Z, **Driss A**, Hyacinth HI, Hibbert JM. Stroke biomarkers in sickle cell disease.
- 7- **Driss A**, MicroRNA and hemoglobinopathies.
- 8- Iqbal SA, **Driss A**. microRNA advances in Buruli Ulcer diagnosis.
- 9- **Driss A**. Polymorphism study on microRNA mir-451 shows association with malaria in sickle cell trait patients in Ghana.

Non Peer reviewed articles:

- 1- **Driss A**. *Etude du littoral dans la zone de l'île de Kerkennah*. (Study in the coastal zone of Kerkennah Island) Rapport scientifique du Groupe d'Etudes et d'Explorations Subaquatiques (GEXS), **1998**.
- 2- **Driss A**. *Etude biologique sous-marine d'une épave sur la plage de Haouaria*. (Biological Study in an underwater Shipwreck off the Haouaria beach) Rapport scientifique du Groupe d'Etudes et d'Explorations Subaquatiques (GEXS), **1997**.
- 3- **Driss A**. *Recueil détaillé écologique de la faune et flore du littoral de la Corniche (la Marsa)*. (Detailed miscellany of the ecological flora and fauna of the coastal Corniche (Marsa). Rapport scientifique du Groupe d'Etudes et d'Explorations Subaquatiques (GEXS), **1996**.
- 4- **Driss A**. *Le phoque moine de Méditerranée*. (The Mediterranean monk seal). Sciences and Arts Fun Club magazine (SAF club Mag), **1995**.

References:

1- Jacqueline Hibbert, Ph.D. (former co-mentor)

Associate Professor, Department of Microbiology, Biochemistry and Immunology,
Morehouse School of Medicine, HGB B-309C, 720 Westview Drive, Atlanta GA 30310, United States

jhibbert@msm.edu

Phone: (404)752-1537

2- Shareen Iqbal, Ph.D. (Former co-worker)

Research Fellow, Gastroenterology, Hepatology and Nutrition

Emory University Rollins School of Public Health, 1518 Clifton Rd NE, Atlanta, GA 30322, United States

saiqbal@emory.edu

Cell: (505)406-6677

3- Michael Wilson, Ph.D. (Actual Mentor in Ghana)

Professor, Department of Parasitology

Noguchi Memorial Institute for Medical Research, P.O.Box GP4236 Accra, Ghana

MWilson@noguchi.ug.edu.gh

Cell: (+233)27-601-8892