

Issa Coulibaly, Ph.D.

Department of Biostatistics/ School of Public Health
University of Alabama at Birmingham
327 Ryals Public Health Building
1665 University Boulevard
Birmingham, AL 35294, USA
Tel: 205 975 9223
Fax: 205 975 2540
E-mail: : issacoul@uab.edu

Key-words: Molecular and Quantitative Genetics – Genomics – Statistics

EDUCATION

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| 2002 | Ph.D. in Genetics, Ecole Nationale Supérieure Agronomique (ENSA) de Montpellier, France |
| 1997 | M.S., Biotechnology and Plant Breeding, Faculté des Sciences, University of Abidjan, Côte-d'Ivoire |

RESEARCH EXPERIENCE

03/2006 to present: Post doctoral fellow, School of Public Health, Department of Biostatistics, University of Alabama at Birmingham

- ◆ Microarray quality control and data analysis
- ◆ Characterization of genes involved in obesity and fat storage, Association studies between human SDC4 and several metabolic traits

06/2003 – 02/2006: Post doctoral fellow, Division of Animal and Veterinary Science, Morgantown, West Virginia University - USDA/ARS National Center for Cool and Cold Water Aquaculture, Kearneysville, WV. Advisor: Dr. Caird Rexroad III

- ◆ Development of molecular markers for mapping in rainbow trout (*Oncorhynchus mykiss*): Isolation and characterization of microsatellites from repeat-enriched libraries and ESTs ; phylogeny analysis among the salmonids using genotyping data from translated and untranslated regions of the genome.
- ◆ Gene characterization: Molecular characterization, expression pattern and mapping of uncoupling proteins and activin receptor genes in rainbow trout with potential to affect nutrition/energy expenditure and development, respectively.

2002 : Thesis Dissertation, Ecole Nationale Supérieure Agronomique (ENSA) de Montpellier, IRD (Institut de Recherche pour le Développement) Montpellier, France
Advisor: Dr. Michel Noirot

Dissertation Title: "*Autogamy inheritance and fertility restoration in Coffea canephora and C. heterocalyx interspecific hybrids. QTL identification and consequences for breeding*".

Construction of an interspecific AFLP-based molecular linkage map, determination of the inheritance of the self-compatibility gene and its potential locus, identification of QTLs impacting the fertility of interspecific hybrids, statistical description of morphological and reproductive traits discriminating both parental species

1997: M.S. Dissertation, University of Abidjan, Côte-d'Ivoire, IRD (Institut de Recherche pour le Développement), Man, Côte-d'Ivoire

Advisor: Dr. Fanja Mondeil

Dissertation Title: *"Breeding of cultivated Coffea canephora: Reproductive biology of doubled haploids lines and analysis of their offspring"*.

Expression of heterosis in vegetative and yield traits among offspring of doubled haploid, Variation in the level of heterosis in relation to the clonal origin of doubled haploids parents, Confirmation of the monogenic inheritance of the S-locus

TECHNICAL SKILLS

Molecular Biology

Working knowledge of:

- ◆ standard molecular biological protocols including PCR, DNA, RNA extraction, cDNA synthesis, DNA electrophoresis, cloning, sequencing and sequence analysis, genotyping, BAC library screening, BAC fingerprinting, BAC shotgun sequencing, Plasmid DNA purification (minipreps and large constructs), Quantitative real-time PCR, linkage mapping, Rapid Amplification of cDNA Ends (RACE)
- ◆ common laboratory instrumentation including ABI3100/3730 Genetic Analyzers, Qiagen BioRobot, ABI Sequence Detection System (SDS) 7900HT, Thermal Cyclers, NanoDrop and other spectrophotometers, centrifuges, Chemilmager and Typhoon imaging systems

Cell Biology

Working knowledge of:

- ◆ Fluorescence microscopy: Analysis of pollen-pistil compatibility status
- ◆ Flow cytometry: nuclear DNA content estimation

Statistics

Parametric and non-parametric statistics – Anova – Factorial analyses – Multiple regression – Classification – Inferential statistics

Application Software

Microsoft Office (Word, Excel, PowerPoint, Access)

Statistical data analysis (SAS, STATISTICA)

Genotyping and Molecular mapping (ABI GeneMapper, MAPMAKER, MAPMAKER/QTL)

Biological Sequence Analysis (Vector NTI, Sequencher, MEGA, BLAST)

Programming languages

Java – Database Management (SQL) – C++

LANGUAGES

- ◆ English: fluent
- ◆ French: fluent
- ◆ Jula: fluent (mother language)
- ◆ Spanish: basics

AWARDS AND HONORS

- ◆ Fellowship from the Institut de Recherche pour le Développement (IRD), Paris, France for the Doctorate
- ◆ Travel Award to the 19th International Conference on Coffee Science, May 14–18, 2001- Trieste, Italy
- ◆ IRD fellowship for the Master of Science

TRAININGS

- ◆ 2nd Annual Frontiers in Statistical Genetics, March 6-7 2006, Atlanta, Georgia, USA
- ◆ Java Developer Certificate, August-October 2006, University of Alabama at Birmingham, Birmingham, USA
- ◆ SQL Development Certificate, January-March 2007, University of Alabama at Birmingham, Birmingham, USA
- ◆ Auditor in Statistical Genetics, School of Public health, University of Alabama at Birmingham, Birmingham, USA

Miscellaneous

Member of the Executive Board of the Post Doctoral Association at the University of Alabama at Birmingham

PUBLICATIONS

- I. **Coulibaly**, S.A. Gahr, Y. Palti, J. Yao, C.E. Rexroad III (2006). Genomic structure and expression of uncoupling protein-2 genes in rainbow trout (*Oncorhynchus mykiss*). *BMC Genomics*, 7:203
- I. **Coulibaly**, S. A. Gahr, J. Yao, C. E. Rexroad III (2006). Embryonic expression of UCP2 in rainbow trout (*Oncorhynchus mykiss*). *Fish Physiology and Biochemistry*, 32:249-253
- I. **Coulibaly**, R.G. Danzmann, Y. Palti, R. Vallejo, S.A. Gahr, J. Yao and C.E. Rexroad III (2006). Mapping of genes in a region associated with upper temperature tolerance in rainbow trout. *Animal Genetics*. *In Press*.
- C.E. Rexroad, R. Vallejo, **I. Coulibaly**, M. Westerman and C. Sullivan (2006) Identification and Characterization of Microsatellites for Striped Bass from Repeat-Enriched Libraries. *Conservation Genetics*. *In Press*.
- I. **Coulibaly**, K. Gharbi, R.G. Danzmann, J. Yao, C.E. Rexroad III (2005) Characterization and comparison of microsatellites derived from repeat-enriched libraries and expressed sequence tags. *Animal Genetics* 36:309-15.
- C.E. Rexroad 3rd, M.F. Rodriguez, **I. Coulibaly**, K. Gharbi, R.G. Danzmann, J. Dekoning, R. Phillips, Y. Palti (2005) Comparative mapping of expressed sequence tags containing microsatellites in rainbow trout (*Oncorhynchus mykiss*). *BMC Genomics*. 6:54

- I. Coulibaly, B. Revol, M. Noirot, V. Poncet, M. Lorieux, C. Carasco-Lacombe, J. Minier, M. Dufour, P. Hamon (2003) AFLP and SSR polymorphism in a *Coffea* interspecific backcross progeny ((*C. heterocalyx* x *C. canephora*)x *C. canephora*). *Theoretical and Applied Genetics* 107:1148-55.
- I. Coulibaly, J. Louarn, M. Lorieux, S. Hamon, A. Charrier, M. Noirot (2003) Pollen viability restoration in a *Coffea canephora* P. and *C.heterocalyx* Stoffelen backcross. QTL identification for marker-assisted selection. *Theoretical and Applied Genetics* 106:311-316.
- I. Coulibaly, M. Noirot, M. Lorieux, A. Charrier, S. Hamon, J. Louarn (2002) Introgression of self-compatibility from *Coffea heterocalyx* to *C. canephora*. *Theoretical and Applied Genetics* 105:994-999.

POSTER AND ORAL PRESENTATIONS

- I. Coulibaly (2006) Molecular characterization and expression pattern of uncoupling protein 2 in rainbow trout. Oral presentation at Plant and Animal Genome XIV, January 14-18, San Diego, CA, USA
- S. A. Gahr, G. M. Weber, B. S. Shepherd, J. Silverstein, R. L. Vallejo, I. Coulibaly, C. E. Rexroad III (2006) Effects Of Recombinant Bovine Somatotropin (rbST) On The Liver And Muscle Transcriptomes Of High Growth Rate Rainbow Trout (*Oncorhynchus mykiss*). Poster at Plant and Animal Genome XIV, January 14-18, San Diego, CA, USA
- C. E Rexroad, I. Coulibaly, C. Couch, A. Garber, M. Westerman, C. Sullivan (2006) Microsatellite Markers For Population Genetics And Genome Mapping In Striped Bass. Poster at Plant and Animal Genome XIV, January 14-18, San Diego, CA, USA
- I. Coulibaly (2005) Characterization of molecular markers and candidate genes in rainbow trout. Oral presentation at the NCCCWA Cooperators Conference, May 11-12, Morgantown, WV, USA
- I. Coulibaly, J. J. Yao, C.E. Rexroad (2005) Comparisons of microsatellites derived from repeat-enriched libraries and ESTs in rainbow trout. Poster at Plant and Animal Genome XIII, January 15-19, San Diego, CA, USA
- I. Coulibaly, J, R.L. Athey, C.E. Rexroad (2004) Identification of anonymous microsatellites for mapping in rainbow trout. Poster at Plant and Animal Genome XII, January 10-14, San Diego, CA, USA
- I. Coulibaly (2001) Genetic linkage map of a backcross between *C. canephora* P. and *C. heterocalyx* and autogamy gene location. Oral presentation at the 19th International Conference on Coffee Science, May 14-18, 2001- Trieste, Italy.