
Monique Coles

Scientist

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SUMMARY

I'm excited to get back into science with a technical twist! I have recently graduated from the full-time software development course at Eleven Fifty Academy. I also have a BS in Biology and Psychology from Purdue University. I have experience as a scientist at several companies. During my break from employment to raise my two children I maintained all the bookkeeping and accounting for my husband's business. I have enjoyed raising my kids and now I'm ready to hit the workforce again. I am interested in using my new software development skills with my science background.

EDUCATION

Bachelor of Science in Biology and Psychology -- Purdue University (1996)

Software Development Full-Time Bootcamp -- Eleven Fifty Academy (2020)

EXPERIENCE

Control Shark, Inc.

Co-Owner, Vice President

2008-2015

- Documented and tracked all business information
- Managed the company's financial statements
- Complied with federal and state policies and regulations
- Paid quarterly taxes and collected end of year tax documentation
- Ensured bills were paid in a timely manner and performed general office duties

Roche Diagnostics

Technical Manufacturing Scientist

2002-2004

- Worked with the developers of the Linear Array mtDNA HVI/HVII Region-Sequence Typing Kit to take the product to manufacturing
- Ran the production of the Linear Array strips on the striping machine in the clean room following full clean practice with clean suits
- Held meetings to share my production project with my peers
- Attended the Forensics Conference in Chicago

Beckman Coulter/Sagian Operations - Applications

Development Scientist

2000-2002

- Adapted NA prep and sequencing methods/protocols to the Biomek 2000 and Biomek FX automated platforms
- Analyzed data for validation of these automated methods
- Communicated results from developing applications by both internal and external publications and poster engagements
- Acted as a “molecular biology” resource for engineering and marketing departments
- Provided input to both hardware and software engineers for product development
- Acted as a group representative for the safety and auditing teams

Dow AgroSciences (Previously DowElanco) - Biotechnology-Monocot Development

Associate Biologist

1999

- Worked on team projects screening microsatellites with fluorescently labeled primers for amplification ability and polymorphic qualities on an ABI3700
- Completed an entire project evaluating 96 commercially important maize inbred lines with 167 SSR marker loci resulting in 1,533 alleles identified for characterization of the inbred lines

Mycogen (Now Owned by Dow AgroSciences) - Applied Genetics

Research Assistant

1996-1999

- Microsatellites—Used Joinmap and Drawmap computer programs along with manual statistical mapping calculations to map simple sequence repeats (SSRs) across the entire maize genome for microsatellite marker-assisted breeding
- AFLP—Maize tissue samples were isolated, digested, and ligated followed by radio-labeled PCR pre-amplifications and amplifications and scoring of the amplified fragments
- RFLP—Isolated DNA samples using the CTAB protocol that were then quantified, digested, and electrophoresed on agarose gels followed by southern blotting and radiolabeled probing for mapping purposes
- Made and transformed competent cells
- Used the spectrophotometer for DNA quantification
- Maintained the RFLP probes
- Purified very low-copy DNA plasmid
- Ran zygosity assays and DNA mini-preps
- Designed primers

DowElanco (Now known as Dow AgroSciences) - Biotechnology-Cell Biology

Research Assistant

1994-1996

- Silicon Carbide Whisker-mediated Transformation—A gene transfer technology developed by Zeneca for suspension cultures using silicon carbide whiskers was adapted for use with Type II maize callus for transformation
- Prepared media and stock solutions
- Ran experiments using the biolistic particle gun (helium blasting)
- Autoclave trained
- Regenerated transgenic maize plants
- Maintained maize plants in the greenhouse
- Cross-pollinated selective maize plants

POSTERS AND PUBLICATIONS

First author on an application information bulletin titled High Quality Plasmid Purification Using Wizard MagneSil Reagents and the Biomek 2000 Automated Laboratory Workstation

Second author on an application information bulletin titled High-Throughput Generation of Quality Plasmid DNA on the Biomek FX Using the Wizard SV96 Plasmid DNA Purification System from Beckman Coulter, Inc.

First author on an application information bulletin titled A Wizard Approach to Generating High-Quality Plasmid DNA on the Biomek FX Using the Wizard SV96 Plasmid DNA Purification System from Beckman Coulter, Inc.

First author on an application information bulletin titled Sequence Reaction Setup Using the Biomek FX Automated Workstation

First author on a poster titled High-Throughput, Automated Plasmid Purification Using the Biomek Platforms and Promega's Wizard SV96 Plasmid Purification Kit (presented at the 2001 Lab Automation Conference)

First author on a poster titled Automated, High-Throughput Plasmid Purification Methods on Beckman Coulter's Biomek 2000 Laboratory Automation Workstation Using the Promega Wizard MagneSil System (presented at the 2001 Genome Sequencing and Analysis Conference)

First author on a poster titled A Complete Plasmid Purification System Using Promega Wizard SV96 Reagents and Beckman Coulter's Automated Laboratory Workstations (presented at the 2001 Drug Discovery Technology Conference)

First author on a poster titled An Automated Wizard Approach to Generating High Quality Plasmid DNA Using Wizard SV96 Plasmid Preparation Kits and the Biomek FX Liquid handling System from Beckman Coulter, Inc. (presented at the 2001 High-Throughput Technologies Expo)

Second author on a poster titled Utilization of SSR Markers to Determine Genetic Similarity and Heterotic Associations in *Zea Mays* (presented at the 2001 Plant & Animal Genome IX Conference)

Author on a poster titled Whisker-Mediated Transformation of Maize and Similar Distribution and Coverage of AFLP Markers on the Corn Genome Generated Using Two Restriction Enzyme Combinations (presented at the Dow AgroSciences Global Symposium)

Author of a flip chart titled Biomek FX Plasmid DNA Purification Wizard (displayed at the 2000 Genome Sequencing and Analysis Conference)

Author of a thesis titled Construction of a Near Full-Length Clone of PsPK5 (Bachelor of Science thesis, 1996)

TECHNICAL SKILLS

C#	ABI Genotyper 3.0 software
.NET	ABI Genescan 2.1 software
HTML	CEQ sequencing software
CSS	Bioworks robotic software
Software Development	Biomek FX robotic software
Bootstrap	Joinmap programs (DOS)
Microsoft Office	Drawmap programs (DOS)

CERTIFICATIONS

Radiation safety certification by Indiana University at Indianapolis (1995)

Radiation safety certification by Dow AgroSciences (1996)