



**CASE STUDY:**

MARKET NICHE

**Biotechnology**

POSITIONS NICHE

**R&D**

JOB TITLE

**Business Analytics  
Group Leader**

CLIENT

**Dow Agrosciences**



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COMPANY

**Dow AgroSciences**

POSITION

**Business Analytics Group  
Leader**

LOCATION

**Indianapolis, IN**

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Chairman and CEO

The Ropella Group

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**Company Information**

## Dow AgroSciences

**More Information:**  
[www.dowagro.com](http://www.dowagro.com)

### The Company

Dow AgroSciences, a wholly owned subsidiary of The Dow Chemical Company, began in 1989 as DowElanco, a joint venture between the plant sciences businesses of The Dow Chemical Company and Eli Lilly and Company. In 1997, DowElanco was renamed Dow AgroSciences when Dow acquired 100 percent ownership of the business from Lilly. In 2011, sales revenues topped \$5.7 billion.

The products and services of Dow AgroSciences are designed to solve problems for customers, boosting agricultural productivity to maximum sustainable levels to meet the needs of our world's expanding population. Their research focus is on game-changing technologies to provide better crops, better plant nutrition, and more effective pest management solutions. The goal of their research efforts is faster, better, more efficient, more productive, and more viable agriculture long-term, because our world's future depends upon crop production technology.

### Innovation & Collaboration

At Dow AgroSciences, Research and Development is focused on developing the next generation of scientific breakthroughs in agricultural science. Dow AgroSciences continues to invest in developing crop protection chemicals, and at the same time, they are intensely focused on advancing science in plant genetics and biotechnology as well as new platforms such as Healthier Oils. They are increasing their investment in research, selling and capital to build long-term competitiveness through differentiated technology tailored to customers' needs around the world.

Dow AgroSciences Research and Development (R&D) is headquartered in Indianapolis, Indiana. Worldwide, they have approximately 1,800 researchers and 7,000 employees at work in more than 40 countries, and they also conduct research in cooperation with scientists external to Dow AgroSciences – universities, government-sponsored research institutes, and private companies around the world.



### Sustainability

By 2050, the world's food production systems must support an estimated 9 billion people, with a shrinking base of agricultural land and limited water resources. Dow AgroSciences combines the power of science and technology with the "human element" to discover and develop innovative agricultural solutions for a more sustainable world. They are committed to increasing crop productivity through higher yields, better varieties, and more targeted pest management. They develop innovative chemical and biotechnology solutions to meet the food, feed, and fiber needs of the world.

### Product Information

## Products & Solutions

Dow AgroSciences has a diverse portfolio of leading-edge insecticide, herbicide, fungicide, fumigant, and seed technologies for customers around the world.

From their SmartStax® all-in-one corn seed trait platform to their four award-winning insecticides (EPA Presidential Green Chemistry Challenge Award), Dow AgroSciences is providing sustainable solutions to some of the world's most challenging agricultural issues.



Their product pipeline is full, and Dow AgroSciences will continue developing customer-focused products by linking real customer problems with innovative, technology-based solutions.

### Crop Protection

Dow AgroSciences offers crop protection products that give growers the tools they need to produce crops productively and help keep fields free of weeds, insects, and diseases.

### Seeds, Traits, & Oils

Their research effort is designed to bring customers top-performing seeds containing the most productive and resilient traits in agronomic crops. Their healthier oils business also develops seed to produce canola oils with zero trans fat and the lowest saturated fat on the market today.

**Vegetation Management**

They offer products to help protect utility, railroad, and roadways from weeds and brush that can threaten reliable transportation and a dependable supply of electrical power. They can also boost the productive value of range and pastureland for livestock by controlling poisonous, noxious, invasive and other hard-to-control weeds and brush.

**Turf & Ornamentals**

Dow AgroSciences offers products to help keep turf grass and ornamental plants healthy and vigorous for golf courses, lawns, landscapes, greenhouses, and nurseries.

**Pest Management**

Their pest management business provides products that protect homes, commercial buildings and historical structures from insect, grub and termite infestations.

**Post-Harvest Protection**

They offer post-harvest products that give processors effective and efficient protection of stored-grain products in grain silos and related areas.

**AgroFresh**

The innovative products and services offered by AgroFresh help fruit, vegetables, and flowers maintain their fresh-picked quality, enhancing productivity and increasing their availability worldwide. Visit the AgroFresh website ([www.agrofresh.com](http://www.agrofresh.com)) to learn more about its innovative products for post-harvest treatments.



## Corporate Culture

## Corporate Values

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**Mission**

The mission of Dow AgroSciences is to passionately innovate what is essential to human progress by providing sustainable solutions to customers.

**Values**

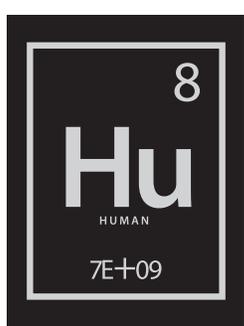
Dow AgroSciences' values clearly articulate what their expectations are as an organization — what they hold to be fundamental to their culture. It is imperative that all, as employees at Dow AgroSciences, ensure these values are maintained and are constantly made real to everyone at Dow AgroSciences.

- Integrity
- Respect for People
- Protecting Our Planet



Parent Company

# DOW



**More Information:**  
[www.dow.com](http://www.dow.com)  
[www.dow.com/hu](http://www.dow.com/hu)

DOW is a diversified chemical company that combines the power of science and technology with the “Human Element” to constantly improve what is essential to human progress. The company delivers a broad range of products and services to customers in 160 countries, connecting chemistry and innovation with the principles of sustainability to help provide everything from fresh water, food and pharmaceuticals to paints, packaging and personal care products. In 2008, DOW had annual sales of \$57.5 billion and employed 46,000 people worldwide. The company has 150 manufacturing sites in 35 countries and produces over 3,000 products. On April 1, 2009, DOW acquired Rohm and Haas Company, a global specialty materials company with sales of \$10 billion in 2008, 98 manufacturing sites in 30 countries, and approximately 15,000 employees worldwide. This acquisition further solidifies its dominance in the chemical and materials market.

### DOW’s Essential Elements

Taken together, DOW’s essential elements of mission, vision, values, and strategy describe why the company exists, who they are, what they intend to do, and how they intend to do it. These essential elements provide insight, offer motivation, and point the way forward as they seek to grow and achieve their goals.



**Mission:** To constantly improve what is essential to human progress by mastering science and technology.

**Vision:** To be the largest, most profitable, and most respected chemical company in the world.

**Values:** Integrity and Respect for People.

**Corporate Strategy:** Strengthen their franchise basics businesses and preferentially invest in our performance businesses.



*Hiring Manager***Daniel Caraviello, Data Analysis Leader**

Daniel received a degree in veterinary medicine from the University of São Paulo State in 1996 and worked for 3 years as dairy cattle veterinarian in Brazil. During these 3 years Daniel focused on dairy cattle nutrition, reproduction, genetics, surgery, and clinics. He then joined the University of Wisconsin – Madison where he completed a Masters in quantitative genetics with focus on survival analyses, a Ph.D. in quantitative genetics with focus on machine learning and a graduate certificate in bioinformatics.

In 2005, Daniel joined Dow AgroSciences working in the area of quantitative genetics. He later became the leader of the Computational Biology group and is currently the leader of the Data Analysis group. The Data Analysis group has a R&D and business-wide scope with focus on the disciplines of statistics, mathematics, machine learning, operations research, computational biology, systems biology and protein data analyses. Daniel's publication record spans the fields of animal sciences, plant sciences, quantitative genetics, computational biology, and machine learning.

Daniel is a people person, considered by many to be a friendly and approachable servant-leader. He removes hurdles for his people and empowers them for success. He is an open-book personality, and always provides feedback in a timely and constructive manner. Personal hobbies include fitness, salsa dancing, soccer, table tennis, reading The New York Times and The Economist, and road biking.

## Position Information

## Business Analytics Group Leader

**Scope:**

The successful candidate will interact with employees across Dow AgroSciences' business functions.

**Key Responsibilities:**

- People management
- Interaction with business stakeholders
- Strategy setting
- Proactively driving project identification and software capability development to mine business datasets

**Topics of Interest Include:**

- Manufacturing
- Supply chain
- Marketing
- Purchasing
- Forecasting
- Game theory
- Discrete event simulation
- Monte Carlo simulation
- Mathematical programming
- Optimization
- Risk analyses
- Neural networks
- Decision trees
- Support vector machines
- Regression
- Prediction
- Clustering

**Qualifications:**

- Applicants should have a Ph.D. in mathematics, applied mathematics, statistics, machine learning, operations research or closely related field.
- Familiarity with applications in business.
- Strong communication skills are essential along with an ability to collaborate effectively with business partners.

**Other opportunities with Dow AgroSciences include:**

- **Statistics & Mathematics Group Leader**
- **Computational Biology Group Leader**
- **Senior Cheminformatics Leader**

**Location Information****Indianapolis, IN**

Indianapolis is the capital of Indiana, and the county seat of Marion County. This city is home to over 800,000 residents. It is Indiana's largest city and is the 14th largest city in the U.S. and one of the fastest growing regions in the Midwest. An artificial city laid down on the swampy marshes of a non-navigable river, Indy should have been a sleepy, small-town state capital. But with humility and competitive spirit, a quietly determined people created a great city from the ground up. Now Indianapolis is a rapidly growing city that is rich in history.



The city is second only to Washington, D.C., for number of monuments inside city limits. Today you can find a five-block plaza at the intersection of Meridian and Vermont surrounding a large memorial dedicated to Hoosiers who have fought in American wars. Other monuments found with the city include the Indiana World War Memorial Plaza, the Medal of Honor Memorial, USS Indianapolis Memorial and the Landmark for Peace Memorial. But history doesn't stop there. Indianapolis is also home to James Whitcomb Riley Museum Home, Lockerbie Square and Madame Walker Theatre Center, which add to the abundance of history within Indianapolis.



Moreover, Indianapolis is home to a wealth of venues for the performing arts and has a wide variety of museums and galleries open to the public. The theaters offer plays, Broadway hits, comedy, musicals, concerts, and other live performances to Indy theater goers. Some of the most well known theaters are American Cabaret Theatre at the Athenæum (Das Deutsche Haus), Madame Walker Theatre Center, Murat Centre, and the Phoenix Theatre (Indianapolis). Indianapolis boasts of many different venues that appeal to art lovers, car enthusiasts, sports fans, history channel addicts, and science and technology junkies in their many museums and art galleries. The most well know museums are the Children's Museum of Indianapolis, Indianapolis Motor Speedway Hall of Fame Museum, and the Indianapolis Museum of Art.



Indianapolis also has an extensive municipal park system with nearly 200 parks occupying over 10,000 acres. The flagship Eagle Creek Park is the largest municipal park in the city, and ranks among the largest urban parks in the United States. Additionally, Indianapolis has an urban forestry program that is recognized by the National Arbor Day Foundation's Tree City USA standards. Aside from their wide variety of parks Indianapolis is also home to the Indianapolis Zoo, which is the largest zoo in the state. It has 360 species of animals, and is known for its dolphin exhibit, which includes the only underwater viewing dome in the Midwest. With plenty of beautiful sites and animals it is not hard to find a way to spend time outside in Indianapolis.



The labels of The Amateur Sports Capital of the World and The Racing Capital of the World have both been applied to Indianapolis. The headquarters of the National Collegiate Athletic Association (NCAA), the main governing body for U.S. collegiate sports, is located in Indianapolis, as is the National Federation of State High School Associations. Since 1911 the Indianapolis 500 has been the premier event in the National Championship of open wheel car racing, the IndyCar Series. Indianapolis is home to two major league-level sports teams: The Indianapolis Colts of the National Football League (NFL) and Indiana Pacers of the National Basketball Association (NBA). A number of minor league-level teams also play in the city. The Indiana Fever Women's National Basketball Association (WNBA) started play in 2000, and are the sister team to the Pacers NBA team. The Indianapolis Indians are the second oldest minor league baseball team, having played in the city since 1902, and are currently members of the Triple-A International League. The Indiana Ice ice hockey team began play in the United States Hockey League (USHL) in 2004.

Indianapolis offers a variety of shopping opportunities. There are three well know districts in this city; Broad Ripple Village, Fountain Square Merchants Association, and Mass Ave Arts District, which provide food, events, and shopping everyone can enjoy. If it's malls you want, the Circle Centre is anchored by Nordstrom on its southern end and Carson Pirie Scott to the north, and it is downtown Indianapolis' foremost shopping, dining, and entertainment complex, offering shoppers more than 100 specialty stores, plus a vast array of dining options. Edinburgh Premium Outlets is home to a collection of shops that is well worth a short drive to the south end of town. As central Indiana's largest outlet center, Edinburgh Premium Outlets' 80 plus stores offer deep savings on such brands as Adidas, Banana Republic, Coach, Guess, J.Crew, Nike, and Tommy Hilfiger. Lafayette Square Mall is conveniently located and has over 90 specialty stores. Indianapolis has shopping opportunities for everyone.

When shopping for schools, Indianapolis has a lot to offer. Indianapolis has eleven unified public school districts, each of which provide primary, secondary, and adult education services within its boundaries. If it is higher education you are looking for, Indianapolis is the home of Ball State University Indianapolis Center, Butler University, Indiana University-Purdue University Indianapolis (IUPUI), Ivy Tech Community College of Indiana, Marian University, Martin University, Oakland City University Indianapolis campus, The Art Institute of Indianapolis, Vincennes University Aviation Technology Center, and the University of Indianapolis. From food to fun to education, Indianapolis has it all!

Location Links

## Indianapolis, IN

### Area Links

City of Indianapolis  
[www.indy.gov](http://www.indy.gov)

Visit Indianapolis  
[www.visitindy.com](http://www.visitindy.com)

### Shopping

Fountain Square Merchants  
[www.discoverfountainsquare.com](http://www.discoverfountainsquare.com)

Mass Ave Arts District  
[www.discovermassave.com](http://www.discovermassave.com)

Edinburgh Premium Outlets  
[www.premiumoutlets.com](http://www.premiumoutlets.com)

### Activities & Culture

American Cabaret Theatre  
[www.thecabaret.org](http://www.thecabaret.org)

Soldiers' and Sailors' Monument  
[www.soldiersandsailors.com](http://www.soldiersandsailors.com)

Indianapolis Motor Speedway  
[www.indianapolismotorspeedway.com](http://www.indianapolismotorspeedway.com)

Indianapolis Symphony Orchestra  
[www.indianapolissymphony.org](http://www.indianapolissymphony.org)

Colonel Eli Lilly Civil War Museum  
[www.in.gov/iwm/2335.htm](http://www.in.gov/iwm/2335.htm)

### News

The Indianapolis Star  
[www.indystar.com](http://www.indystar.com)

WishTV 8  
[www.wishtv.com](http://www.wishtv.com)

### Sports

Indianapolis Colts  
[www.colts.com](http://www.colts.com)

Indiana Ice  
[www.indianaice.com](http://www.indianaice.com)

### Education

Indianapolis Public Schools  
[www.ips.k12.in.us](http://www.ips.k12.in.us)

University of Indianapolis  
[www.uindy.edu](http://www.uindy.edu)

Marian University  
[www.marian.edu](http://www.marian.edu)

### Realty

Prudential Indiana Realty  
[www.prudentialindiana.com](http://www.prudentialindiana.com)

The Hawkins Team  
[www.indianapolisrealty.com](http://www.indianapolisrealty.com)



**Other opportunities with Dow AgroSciences include:**

- **Statistics & Mathematics Group Leader**
- **Computational Biology Group Leader**
- **Senior Cheminformatics Leader**

**For more information contact:**

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If you have open positions in your organization,  
give us a call and put our people and our process  
to work for you.

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**Dow AgroSciences**

## Skills Survey for: Business Analytics Group Leader

**Name:**

**Date:**

1. Outline University Degree(s) with date(s):  
(Please provide the Name, the Location and the Phone # of each Institution  
& **YOUR BIRTHDATE** – so we can conduct degree confirmation check.)  
**Note: This date is required by colleges/universities in degree confirmation checks and will only be used for that purpose. Your birth date will not be supplied to the client.**
2. Outline the key areas in which you have experience applying your business analytics skills to. (For example: manufacturing/supply chain, sales/marketing, risk analysis, etc.)
3. Describe your experience proactively driving project identification and software capability development to mine business datasets.
4. Describe your experience partnering with business managers, marketing managers, and other business stakeholders to incorporate analytics in the business effectively.
5. Describe your experience recruiting, growing & training a high performance team and any success you might have achieved.
6. Are you a US Citizen? If no, what is your Visa status and provide the type of Visa that you are currently working under and any restrictions/issues our client will have to deal with.
7. Tell us about any non-compete and/or employer restrictions that you may have. Please provide these documents for our review.

8. If asked one of the following questions during an interview, how would you answer?  
Why are you considering this opportunity? (or)

What's motivated you to consider a job change at this time?

9. Please attach a list of peer reviewed publications and/or books/chapters you have authored or co-authored.

### Relocation Acknowledge Agreement

I \_\_\_\_\_, acknowledge the condition to relocate to Indianapolis, IN, for the specific opportunity with Dow AgroSciences, and am willing to do so if hired.

As evidenced by my initials below, I fully understand that this acknowledgment is a requirement for the interview process and states that I have already spoken with any parties (i.e. spouse, significant other, children, parents, etc.) who may directly be impacted by my final decision to relocate.

Print Name \_\_\_\_\_

Initials \_\_\_\_\_

### References

Please provide at least three references. The first priority is past bosses, then employees, and then peers.

**Example:** Bob Smith, currently – VP of Analytics at ABC Chem 412-123-4567, Email: bob.smith@abcchem.com.

Was Director of Analytics, my direct boss, while I was Analytics Manager at ABC Chem.

**We will NOT contact any references until after completing the interview process and not without notifying you first.**

1)

2)

3)

Our score card is a form you complete on every candidate you have now screened as a potential fit. If you can tell that some of the candidate's are probably C level in a superficial overview in comparison to others you set those aside now and grade the rest. The score card will help you objectively weigh all the Must Haves and even the preferences in such a way that at the end of using the score card process you can be pretty sure who the A plus candidates are, who the A candidates are, and who the B candidates are. Then we focus on scheduling for the A's.



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**Dow AgroSciences**

**Candidate Comparison-Scorecard**

Grade: \_\_\_\_\_

Grader's Name: \_\_\_\_\_

Candidate Name:

Client Name: Dow AgroSciences

Hiring Mgr's Name: Daniel Caraviello

Position: Business Analytics Group Leader HR Rep's Name: Jay Kilgore

Attribute	A/B/C	Comment
1. Education A = PhD in Mathematics, app. Mathematics, statistics, machine learning, operations research B = PhD in a closely related field C = PhD in something other than above		
2. Exp applying bus analytics skills in any of these areas: manufacturing/supply chain, sales/mkting, risk analysis, etc. A = Yes B = Somewhat C = No		
3. Exp proactively driving project identification and software capability dev to mine business datasets. A = Yes B = Somewhat C = No		
4. Exp partnering with bus managers, mkting managers, and bus stakeholders to incorporate analytics effectively. A = Yes B = Somewhat C = No		
5. Exp recruiting, growing & training a high performance team with success. A = Yes B = Somewhat C = None or very little		

Our score card is a form you complete on every candidate you have now screened as a potential fit. If you can tell that some of the candidate's are probably C level in a superficial overview in comparison to others you set those aside now and grade the rest. The score card will help you objectively weigh all the Must Haves and even the preferences in such a way that at the end of using the score card process you can be pretty sure who the A plus candidates are, who the A candidates are, and who the B candidates are. Then we focus on scheduling for the A's.

<p>6. Exp coordinating forecasting inputs and delivery of sales plans to the business for assigned territories, markets and customers.                  A = Yes                  B = Somewhat                  C = No</p>		
<p>7. Available to relocate to Indianapolis, IN                  A = Yes                  B = Somewhat                  C = No</p>		
<p>8.Compensation: 150K to 170K with bonus 15%                  A = 130K to 150K                  B = 100K to 120K or 140K to 160K                  C = below 100K or over 160K</p>		
<p>9.Job Changes/Stability                  Total Number of Job changes:                  Total number of yrs working:                  Average number of yrs at each job:                  A=Avg. yrs = 5-10                  B=Avg. yrs = 3-5                  C=Avg. yrs &gt;3</p>		
<p>Grading Point System:                  A's = 4                  B's = 3                  C's = 2                  Bonus Points = 1                  Now add up the numerical value of each grade and then divide by the total number of grades</p>		<p>Total Points                   Divided by __ grades =                   Avg. Grade</p>