2019 CAREER HANDBOOK

The Employer Sourcebook for Scientists

ScienceCareers
FROM THE JOURNAL SCIENCE

SCIENCECAREERS.ORG
Thanks for picking up a copy of the 2019 Career Handbook. Our goal, with this booklet as well as all the career resources from Science, is to bring you useful, relevant information to help you navigate the job search process and manage your development in a way that leads you to a truly rewarding career.

To that end, we have teamed up with some great organizations to bring you information about their latest career opportunities. The profiles shown here give you a sense of the kinds of positions they offer. We’ve also included some articles with some general tips and advice on job searching.

In addition to the companies featured in this booklet, you can search thousands of additional job postings on our website ScienceCareers.org - all for free.
ADVICE FROM RESEARCHERS-TURNED-CAREER-COUNSELORS FOR THEIR YOUNGER SELVES— AND TODAY’S TRAINEES

Be open-minded. That’s one of the messages that career consultant Michelle Frank has for scientific job seekers. When contemplating nonacademic careers, “many young academic scientists have a tendency to think, ‘I was a research scientist in academia, so I’ll look for a research scientist position [in industry],’” she says. But if you limit yourself that way, “you might miss a career opportunity that, despite not being exactly what you envisioned, could be a perfect fit.”

It may sound easier said than done. But Frank isn’t just offering empty words. She’s been through it herself, completing a Ph.D. in physiology followed by a postdoc and working as an industry recruiter before establishing her own consulting company focused on grantsmanship and career coaching.

Frank is one of a handful of scientists-turned-career-counselors whose experiences put them in a unique position to offer particularly useful insight. Science Careers asked Frank and two other counselors what career advice they would give to their younger selves.

NOTE CHECKPOINTS

Above all, junior researchers need to track how their careers are developing and how external factors may influence their progress, Frank advises. “I learned to keep my eyes open for changes that could have far-reaching effects and possibly threaten my current position or future prospects,” she says.

“My career path has been circuitous, punctuated by checkpoints,” Frank reflects. The key to satisfaction and success has been recognizing these checkpoints as triggers to evaluate her professional goals and to consider whether it is time to change direction, she explains.

One of these checkpoints occurred in 2013. After 3 years as a postdoc in cellular biology, she was preparing to apply for a National Institutes of Health K99/R00 Pathway to Independence Award when federal funding was cut. Realizing that her chances of getting the grant were suddenly even less than she had anticipated, Frank decided “to take a step back and perform an honest, uncomfortable self-assessment,” she says. At that point, “I decided that my publication record was not what it needed to be in order to secure the kind of funding … that I’d need to sustain myself in academia.” Seeing better career prospects in industry, she started looking for jobs at biotech companies.
She quickly found herself at another crossroads when she discovered that some aspects of the job she had secured—as a recruiter in a staffing agency servicing the biotech industry—had little to do with what had been discussed during her interviews. It turned out that part of Frank’s role required her to frequently cold call local biotech companies whose managers and executives she had previously networked with—a tactic she feared could harm her reputation within the industry. “It could easily have been damaging to my career,” she says.

Despite her dissatisfaction, she chose to stay in the job for a little while and use it as a growth opportunity. She learned about the array of characteristics that hiring managers want in their job candidates, and how those candidates should present themselves and communicate to win the position. This experience, along with her blogging about the career challenges that postdoctoral researchers face, inspired her to launch her consulting firm.

If Frank could start her career over again, she would try to anticipate and prepare for changes before running into checkpoints. Doing so would have helped broaden her options and made the transition smoother, she says. Through networking and requesting informational interviews, “I would begin looking for opportunities outside of academia … much sooner.”

HONE YOUR PEOPLE SKILLS

When Mike Moss started an R&D position at a consumer goods multinational more than 25 years ago, he was “a very introverted scientist with few social skills,” he says. Yet, just 1 month after joining, Moss had a technician to supervise. Two years later, he had a whole research team to manage.

Initially, Moss—who was coming straight from a Ph.D. and postdoc in chemistry—felt unprepared for the management aspect of his role. He also sometimes locked heads with colleagues who he felt were keener on maintaining the status quo than helping his team push ahead with innovations, he says.

If he could do it over, he would handle the disagreements with more flexibility, says Moss, who today is a career adviser and manager of the alumni careers program at the University of Oxford in the United Kingdom. “In the early days, I had too many arguments and made too many enemies. I should have taken people down to the pub more,” he says. While working on projects across multiple departments, he learned that “having a friendly relationship is critical in any difficult endeavour,” Moss says. And when leading an existing team, building long-lasting trust is crucial. “You need interdependence, deep collaboration, and loyalty if a team is going to face tough times and get through them,” he says.

Moss ultimately honed his people management and negotiating skills with the help of Daniel Goleman’s books about emotional intelligence—as well as a healthy dose of trial and error. Over time, Moss also learned the value of developing a broad, strong network before you run into trouble. With each of his colleagues—even the ones he didn’t interact with daily—he made the effort to discover which football club they support, a key hobby, or some other personal detail that would help them connect. “Taking the time to get to know people as individuals provides a foundation [so] that if at some point you formally join the same team, or you know they can help you with a problem, you can pull them in and get advice,” he says. “Or one can go further and give gifts of time or effort, creating a network of reciprocal assistance, helping others in time of need so they can help you in a time of need.”
DON’T MAKE ASSUMPTIONS

Sharon Maguire was 3 years into her second postdoc in reproductive biology when she suddenly realized that she needed to rethink her plans. She had always thought that she would pursue an academic career, but she had come to see that becoming a principal investigator (PI) would take her away from the bench work that she loved. “The idea of competing for funding, trying to get published, leading my own research group, and constantly marketing myself doesn’t motivate me,” she says. But “I hadn’t thought about any of that before.”

That was more than 20 years ago. Yet it’s still a common experience among trainees today, notes Maguire, who is now a career consultant at the University of Edinburgh. To avoid finding yourself in a similar situation, take ownership of your career early on, she advises. One key, Maguire highlights, is not making assumptions.

If you think you may be interested in pursuing an academic career, get a feel for what lies ahead by talking to more senior scientists about their work and responsibilities and how these evolved over time. Only with this information will you be able to decide whether this is the career you really want, Maguire emphasizes.

For those who decide that they want to pursue nonacademic careers, don’t assume that leaving academia means throwing away years of training. “I can clearly see how I am using the skills and experience I developed as a researcher—for example, being analytical, managing projects, and communicating to large audiences—while working as a careers consultant,” Maguire says.

Finally, don’t make assumptions about how others will take your decision. When Maguire decided to leave academic research, one of her greatest concerns was how other people would react. To her surprise, she found that most people were supportive, including her PI. She empathizes with current early-career researchers who are worried that they might not receive as positive a response from their PIs or colleagues, but she encourages them to not let that concern—which could end up being unfounded—sway their decision. “There may be some people who might be disappointed,” she acknowledges. “But you can’t make your careers decisions based on what somebody else expects of you.”
TOP EMPLOYERS EMBRACE CHANGE BASED ON A STABLE FOUNDATION

LIKE THE BIOTECH AND PHARMA INDUSTRY ITSELF, THE ANNUAL SCIENCE CAREERS TOP EMPLOYERS SURVEY CONTINUES TO CHANGE AND GROW. THIS YEAR, MORE THAN 8,000 RESPONDED, THE MOST IN THE HISTORY OF THE SURVEY, UP FROM 6,950 LAST YEAR. OF MORE THAN 180 COMPANIES MENTIONED FREQUENTLY BY SURVEY PARTICIPANTS, 20 EMERGED AS TOP EMPLOYERS.

Survey respondents were mainly from North America (63%), followed by Europe (24%) and the Asia/Pacific Rim (9%). Most were industry employees; 93% work in a biotech, biopharma, or pharmaceutical company. Although 80% were age 30 or older, and two-thirds reported 10 or more years of work experience, 76% said they had not yet reached their career peak.

Innovation was the leading driver for top employers. Work culture, respect for employees, and social responsibility were also highly valued. An unusual feature in this year’s survey compared to recent years was the emergence of “top leadership that successfully makes changes needed to keep the organization moving in the right direction” as a characteristic of top employers.

Comments from respondents reflected a year of prominent political news, impactful elections worldwide, and heated public discussions about health care reform, drug pricing, and industry regulations. The announcement by Amazon, JPMorgan Chase, and Berkshire Hathaway of a joint venture to create a technology-based health care company may have been on survey respondents’ minds when they noted new data sources, analytic methods, and automation as industry changes. Other comments covered market trends, including mergers and acquisitions and the rise of biosimilars and generic drugs, and new R&D avenues such as gene editing.

Against that backdrop, representatives from top companies explain how their organizations respond to an ever-changing industry while holding to “true north.” A common theme was making rational, data-driven decisions and taking actions that reflect their company’s location, employee base, and foundational values.
STABILITY AT THE TOP

For the third straight year and the sixth time since 2011, Regeneron Pharmaceuticals in Tarrytown, New York, was chosen as the No. 1 employer. Chief Scientific Officer and President George Yancopoulos is enthusiastic about the top ranking, saying, “It never gets old.” He attributes the continuing recognition to two major factors: “We’re the only major biopharma company started by and still run by scientists after 30 years, and we continue to build on our innovation, particularly in genetics.”

Citing the company principle of “doing well by doing good,” Yancopoulos adds, “We believe that if we do the right thing based on our science, then we’ll do fine from the business standpoint.” He names Dupixent, an atopic dermatitis drug from Regeneron and developmental partner Sanofi, based in Paris, France, as an example. It wasn’t initially predicted to be profitable, but is becoming a success, and its clinical trial data shows promise for asthma and other allergic diseases as well.

Moreover, Regeneron’s leadership is not averse to change. “One of our strengths,” Yancopoulos says, “is that we’re willing to adapt or die. That’s how we survived for 20 years before our first product approval.” The company previously focused on in-house discoveries, many of which were later developed or commercialized with other companies, but is now increasingly engaged in external partnerships.

Brian Zambrowicz, Regeneron’s vice president of functional genomics and chief of its VelociGene Operations, says the company was one of the first to work with transgenic mice and continues to build on that technology. Recent expansions in other areas include CRISPR-based gene-editing therapies through a partnership with Intellia; RNA-interference therapeutics with Alnylam; and treatments for hearing loss with Decibel Therapeutics.

Company leaders expect future discoveries from the Regeneron Genetics Center (RGC), a company subsidiary focused on genotype–phenotype data, which Yancopoulos describes as “taking human genetics to the space-age level.” RGC partners with health organizations that use clinical data or biobanks with tissue samples.

RGC’s activities align with survey respondents’ comments about automation and industry trends in artificial intelligence and machine learning. These methods require big data in order to train algorithms to detect patterns, Yancopoulos says, and generating those large datasets is an RGC goal. To expand RGC’s database of exome sequences linked to over 300,000 individual health records, the center is leading a consortium of pharmaceutical companies, including AbbVie, AstraZeneca, Biogen, and Pfizer, to perform exome sequencing on half a million samples from UK Biobank by 2019. Each company provides USD 10 million to sequence samples linked to clinical and imaging data from study participants. Consortium members will have access to the data six to 12 months before public release.
# TOP 20 EMPLOYERS

<table>
<thead>
<tr>
<th>2018 Rank</th>
<th>2017 Rank</th>
<th>Employer (global headquarters)</th>
<th>Innovative leader in the industry</th>
<th>Work culture values aligned</th>
<th>Treats employees with respect</th>
<th>Is socially responsible</th>
<th>Makes changes needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Regeneron (Tarrytown, NY)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>Incyte (Wilmington, DE)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Novozymes (Copenhagen, Denmark)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>Moderna (Cambridge, MA)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>Merck KGaA (Darmstadt, Germany)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>Vertex Pharmaceuticals (Boston, MA)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>Biocon (Bengaluru, India)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>Novo Nordisk (Bagsvaerd, Denmark)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>9</td>
<td>7</td>
<td>Genentech (South San Francisco, CA)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>AbbVie (North Chicago, IL)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>AstraZeneca/Medimmune (Cambridge, UK)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>Roche - excluding Genentech (Basel, Switzerland)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>Novartis (Basel, Switzerland)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>14</td>
<td>12</td>
<td>Syngenta (Basel, Switzerland)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>Boehringer Ingelheim (Ingelheim, Germany)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>16</td>
<td>8</td>
<td>Eli Lilly and Company (Indianapolis, IN)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>17</td>
<td>19</td>
<td>Celgene Corporation (Summit, NJ)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>18</td>
<td>15</td>
<td>Abbott (Abbott Park, IL)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>19</td>
<td>-</td>
<td>Bayer (Leverkusen, Germany)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>20</td>
<td>17</td>
<td>Merck &amp; Company (Kenilworth, NJ)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

The 20 companies with the best reputations as employers and the top three driving characteristics for each company, according to respondents in the 2018 survey undertaken for the Science/AAAS Custom Publishing Office. The companies without a 2017 rank did not receive enough mentions to qualify or did not receive a high enough ranking during 2017.
At the No. 2 spot is a newcomer to the top employer rankings—Delaware-based pharmaceutical company Incyte, which also earned high marks for innovation. To CEO Hervé Hoppenot, the company’s main innovation is its model: “We’re a large research center with a small company on top of it. We do discovery and basic science and have a track record of developing our own medicines.” Incyte’s drugs focus on unmet patient needs in cancer and other conditions such as rheumatoid arthritis. The company is unique, Hoppenot says, because of its large, diverse portfolio of projects addressing different diseases, stages, mechanisms, targets, and therapeutic areas. “We have multiple ways to get to where we want to go. We don’t rely on one idea about what Incyte will be in the future.”

Incyte’s leaders say its business decisions are rooted in scientific results. “The foundation of Incyte is medicinal chemistry and biology,” says Group Vice President for U.S. Medical Affairs Peg Squier. Adds Hoppenot, “We love our chemists and biologists. They make the difference at our company. At our town halls, we have chemists give presentations, and while it’s sometimes outside of some people’s expertise, we think it’s important that everybody knows how our projects begin.”

Another unique aspect of Incyte is its collaborations, says Squier. For example, it offers drugs for investigator-initiated clinical trials earlier than other companies—right after a molecule has undergone preliminary safety profiling rather than at first regulatory approval. Squier also cites single-trial collaborations with other companies that test the effectiveness of combined treatments. “The biology is telling us we need to look at combining therapies,” she says, “so we open partnerships with other companies, sometimes just for one clinical trial to test combining our molecules.”

Incyte is followed in the survey by No. 3 Novozymes, a global biotechnology company headquartered in Bagsværd outside of Copenhagen, Denmark. Moving from sixth place in 2017 to fourth in 2018 is Massachusetts-based Moderna Therapeutics, which also scored high in innovation. Moderna is developing a new class of medicines using messenger RNAs (mRNAs) instead of proteins, peptides, or small molecules—so the anticipated products themselves are the innovation. “Our science is inherently novel,” says President Stephen Hoge. “There’s no roadmap for how to build an mRNA company. We have to invent as we go.”

Innovation is in the eye of the beholder and doesn’t necessarily equate with drug discovery. A notable contrast to what other companies feel makes them innovative is found at Biocon in Bangalore, India, which was No. 7 after Merck KGaA and Vertex Pharmaceuticals. Biocon is known for success in generic drugs and biosimilars.

“Innovation means many things to many people,” says Head of R&D Narendra Chirmule. “For mature companies, it means new targets and new therapies. But it can also mean finding new ways to do drug development and be efficient.” Biocon focuses on process innovation, he says, and is moving into molecule discovery.

Process innovation at Biocon stems from its employees’ broad knowledge. “If a process requires cells to increase yield,” Chirmule says, “then our chemical engineers know enough cell biology to make changes through biological processes.”
**CULTURE: CONTEXT MATTERS**

Respect for employees and a work culture aligned with employee values are consistently endorsed characteristics in the top employer surveys. Comparing companies illustrates how these features are intertwined and how company culture influences the workforce and vice versa.

Chirmule describes Biocon as having “a culture of youth,” with many R&D employees under 35. In addition, he says, “India’s culture is about diversity.” In that environment, Biocon encourages individual expression. At an annual company talent show, 80% of employees participate. “It invigorates the company and emphasizes our diversity,” Chirmule says. “It shows that people have ability in both science and arts, and have diverse experiences, and it encourages a culture of innovation.”

At Biocon, work–life balance means “the intermixing of science and creative arts and work and life,” Chirmule says. “That’s what a human being is, so we’re creating a culture that lets people express all aspects of themselves.” He adds, “In this day and age it’s not about working from 9 to 5 and going home. Work–life balance mixes throughout the day.” To stay inspired and add some fun to the workday, Chirmule keeps band equipment, including a drum set, in his office.

At Incyte, respect for individuals and work–life balance is tailored to a different employee population. Executive Vice President of Human Resources Paula Swain is not surprised that the 2018 survey found only 17% of respondents planning to seek a new job in the next year. Incyte tends to hire mid-career employees and has a stable workforce, she says. Of about 60 people who started the company in 2002, including Swain, more than 50 are still there.

Like Biocon, Incyte strives for a work culture that treats employees as individuals. At Incyte, work–life balance translates into good pay, benefits, and flexibility in accommodating individual needs. The company covers 100% of medical insurance for employees. Based on employee input, Incyte initiated paid maternity and paternity leave, including for adoption. It subsidizes a concierge service for employees for tasks such as running errands, planning vacations, and walking dogs.

“We have guidelines instead of being driven by strict rules, regulations, and policies that restrict how we handle situations,” Swain says. “We focus on people as individuals.” An example is offering part-time employment to people approaching retirement who aren’t ready to stop working altogether. One way that Swain and Hoppenot keep in touch with employee needs is having lunch with all new employees six months after they are hired, to hear what they like and don’t like about their jobs. “We’re responsive to employee needs about what would make their work more pleasant, but sometimes we say no,” Swain says. “We buck the trend on working from home. We want people to have flexibility but like having them interact.”

---

**2018 SCIENCE CAREERS TOP EMPLOYERS SURVEY METHODOLOGY**

As was done last year, a white sheet promoting participation in the survey was again sent to both public relations and human resources contacts in the biotech and pharma industry from the AAAS database.

This annual web-based survey was conducted from March 14 through April 15, 2018. A mixed methodology was used again to recruit participants for this year’s survey. The first part of this methodology included emailed invitations to roughly 26,000 individuals who were located worldwide; these individuals were AAAS members, Science website registrants, Science Careers registrants, and past survey respondents who opted in to be contacted regarding this year’s survey. An email burst was also sent to 10,000 individuals using a third-party email list. The second part of the methodology included several email blasts to approximately 400 human resource contacts at industry firms that were pulled from the Science Careers sales database.

The total number of surveys submitted this year was similar to last year. This report is based on a total sample of approximately 8,000 completed surveys.
Moderna’s 2018 survey findings indicate that innovation unquestionably drove its employer ranking. This emphasis shapes the corporate culture. Hoge names four core company values as “bold, curious, relentless, and collaborative,” and sees some combination of these traits in every employee. Being located in Cambridge, Massachusetts, also shapes Moderna’s work culture. “We’re pioneering something,” Hoge says. “There’s a bit of self-selection for people who are drawn to that kind of challenge, for which there’s no guarantee of success—people who want to do things that have never been done before.”

**DEMOGRAPHICS**

**GENDER:**
50% Male, 45% Female, 5% No response

**EXPERIENCE:**
67% have 10 or more years work experience

**HIGHEST DEGREE EarnED:**
28% Doctorate, 31% Master’s, 33% Bachelor’s, 8% Other

**COMPANY TYPE:**
24% Pharma, 27% Biotech, 42% Biopharma, 2% University, 5% Other; More than 9 out of 10 work in private industry

**NATURE OF WORK:**
24% Development, 16% Applied Research, 11% Basic Research, 9% Administration/Executive, 12% QA/QC/Regulatory Affairs, 10% Production, 18% Other (respondents were able to choose more than one response)

**GEOGRAPHY:**
63% from North America, 24% from Europe, 9% from Asia/Pacific, 4% from rest of world
SOCIAL RESPONSIBILITY: AN EXPECTATION

A consistent message from the survey is that employees value and expect social responsibility at their workplace. This trait has driven selection as a top employer for more than 10 years. As with work culture and innovation, corporate responsibility programs reflect a company’s location, employee characteristics, and ethos.

Social responsibility was one factor that made Regeneron the most highly regarded employer in 2018. Vice President of Corporate Communications and Citizenship Hala Mirza says corporate responsibility needs to be an authentic extension of how a company operates. “Companies can’t run the commercial side of their business unethically and tack on social responsibility as a mitigating factor,” she says. In other words, “You can’t behave one way in business and another in corporate citizenship.”

Regeneron integrates citizenship with its business and science, for example, applying its VelociSuite technologies for generating human antibodies to develop medicines for infectious diseases, including Zika and Middle East Respiratory Syndrome, with support from U.S. government agencies. On the business side, Regeneron’s Ebola drug, developed using VelociSuite, earned orphan drug designation from the U.S. Food and Drug Administration.

The Regeneron priorities for corporate citizenship are supporting STEM (science, technology, engineering, and mathematics) education by developing top scientific talent, improving scientific teaching, and building awareness of scientific careers at all levels, Mirza says. “Our overall goal is elevating science in society. We envision a world in which scientists are heroes. We believe if we support them, they will solve the great problems of our time.”

A keystone project is the national Regeneron Science Talent Search, which honors 300 top high school students every year, supported by an annual USD 10 million contribution from the company. Nationally and regionally, Regeneron promotes science education, especially in underprivileged communities, with mentorship, teacher training, and programs for hands-on science exploration. In 2017, Regeneron launched a company-wide Day for Doing Good, on which more than 50% of employees used their workday to participate in corporate service projects “from STEM programs to rebuilding bridges,” says Mirza. Part of the employee benefit package, she adds, is paid leave for volunteering.
In addition to a paid volunteer day every year, Incyte gives employees a matching gift account, Swain says. The company matches employee donations to a charity dollar-for-dollar, up to USD 1,000 a year. Corporate giving through the Incyte Charitable Giving Foundation supports organizations in Delaware, Incyte’s home state.

Biocon’s corporate responsibility policies also stem from the company’s vision and location, says Head of Human Resources Amitava Saha. “The cost of long-term therapy is incredibly high in most countries,” he says, “particularly in a third-world economy where government support is limited. It’s almost prohibitive for some patients. If you can make it affordable, it can save a lot of lives.”

The Biocon Foundation helps people in remote areas by providing free or low-cost medical care, primary education, and community-infrastructure building. Employees are encouraged to take part in foundation initiatives and can use a workday for community service.

Biocon social responsibility efforts focus on education to build the talent pool in India for the biotech industry, Saha says. The company trains university graduates at the Biocon Academy, which he calls “a finishing school for biotech grads.” They get classroom training and experiential learning in an industry setting. More than 300 students have been through the program, with fees subsidized up to 75% by Biocon. The academy has a 100% placement record, with graduates employed at Biocon and across the industry, Saha says. To reach a larger population of students, the academy also has refresher courses for instructors at biotech colleges.

Social responsibility boosted **Boehringer Ingelheim** to No. 15, above other organizations with similar survey rankings. Karen Iannella, president of the BI Cares Foundation, the company’s philanthropic arm, says the foundation’s programs focus on underserved communities. Two programs provide company medicines to people in need. A patient-assistance program gives Boehringer Ingelheim medicines for free to uninsured and underinsured U.S. patients. A product donation program does the same internationally through nonprofit partners, as part of disaster relief, for example. The foundation also contributes to community STEM education programs.

**CHANGE: A CONSTANT**

The 2018 survey results represent an important cultural moment. One of the top five criteria for employers was “has top leadership that successfully makes changes.” This has not been a top priority in recent years. Chirmule understands why this feature might be valued by Biocon’s employees. “I interact with a lot of younger and junior staff whose role models are creators of disruptive technologies like Facebook, Tesla, or Uber,” he says. “Maybe an element of the younger staff is asking, ‘What is our company doing to become that innovative?’”

At Moderna, Chief Digital Officer Marcello Damiani heads a team that is digitizing all company operations. He started from scratch about three years ago with an executive-level mandate to make digitization “part and parcel of our strategy,” he says. His team developed a cloud-based platform that integrates purchased software with in-house programs and links all departments, from finances to legal to R&D.

“Data entered in one system flows to all others,” Damiani says, which creates efficiency. Users don’t need to manage their data in individual spreadsheets. Fewer people are needed to oversee a centralized database compared to a siloed information system, he says, and researchers can easily access data across projects or clinical trials. His team has responsibility for all informatics, automation, and traditional information technology services.
The company’s digitized operations include the Moderna Drug Design Studio, which supports company scientists in designing and ordering mRNA for their research. The studio suggests the best mRNA to make desired proteins, and a fully automated central lab generates the mRNA, Damiani explains. “We collect data at each step,” he says, “to learn the best way to design mRNA so the next iteration learns from the previous one.” His team is now working at the company’s recently opened manufacturing facility on developing digital and technical innovations that will help advance clinical programs.

One reason that survey respondents commented on mergers and acquisitions, biosimilars and generics, and big data, may be high-profile recent news—much of it involving Roche, this year at No. 12. Patents on three of the company’s highest-earning drugs expire in the next few years, and earlier this year the company acquired Flatiron Health and Foundation Medicine.

Flatiron Health’s comprehensive cancer-care software services, including electronic health records, collect patient data from hundreds of U.S. cancer-care practices. Foundation Medicine focuses on cancer gene profiling. A partnership between the two companies created the Clinico-Genomic Database, holding anonymized longitudinal clinical data on more than 20,000 cancer patients linked to their genomic profiles.

William Pao, Roche’s Head of Pharma Research and Early Development and a member of its executive committee, says the company will use Flatiron Health and Foundation Medicine data in multiple ways. Applications include analyzing treatments that patients are currently getting and the resulting clinical outcomes. Roche scientists are testing how their R&D analyses compare to results using real-world clinical data from patients getting standard care.

Researchers in Pao’s unit are developing digital biomarkers via a smartphone app, for patients with neuromuscular disorders such as Parkinson’s disease. The app tracks symptoms over time, including development of tremors and changes in gait and voice, to gather quantitative data on how patients respond to experimental treatments, says Pao.

The focus on digital development is part of continuous learning by Roche, notes Pao. The company is 120 years old, still family owned, and has a reputation for traditional drug-and-diagnostics development. Although Roche strives for a friendly work environment and has low employee turnover, says Pao, he emphasizes that “change is our only constant.”
In these turbulent times, employees seem to value companies that address uncertainties head-on. Regeneron’s answer to rising drug prices was a deal with a pharmacy benefit manager to reduce the prices of its cholesterol-lowering drug in exchange for simplified patient access and physician reimbursement processes. As long as high-level decisions are consistent with a company’s stated mission and its work culture, employees will understand, says Zambrowicz. Regeneron founders Yancopoulos and Len Schleifer “set the scientific focus and ethical standards and are outspoken about doing the right thing and leading by example. They set the course long ago and maintain it, so people have confidence in their leadership,” he says.

Communicating decisions quickly and effectively is arguably as important to employees as making needed changes. Top employers will try to present the data and reasoning behind tough executive decisions. Especially in a science-driven industry, employees can appreciate that approach. “Focusing on science and data eliminates a lot of politics,” Zambrowicz says. “If decisions are made in a rational way and driven by science, it’s clear why they’re made. People are comfortable with decisions based on data.”

Incyte was highly rated as an employer with a work culture that respects employees, despite a setback with a melanoma drug that happened while the survey was in the field. Hoppenot attributes this outcome to the company’s long-term view. “The sequence of success and failure is inherently part of the scientific process,” he says. “We create a culture that accepts a level of uncertainty and organize our activities knowing that some of our projects will not work as we hoped, but that others will succeed.” The strategy of running multiple, varied projects simultaneously is a way to increase the chances of success, adds Hoppenot.

Squier notes that as Incyte monitors their data, its leaders are thinking of how to respond. They aim to keep organizational bureaucracy low, to facilitate efficient decision-making. “We have contingency plans,” Squier says, “so when we get a result, we don’t slow down, but can change lanes if we need to. People feel that we are ready to handle whatever results come.” The goal, she says, is for leaders to be straightforward with employees, so they feel like they are part of whatever decisions are made.

Yancopoulos acknowledges the uniqueness of this particular time in history: “I understand why people are concerned,” he says, “We live in an uncertain time regarding political, business, and other points of view. Our answer is to continue to do the right thing, operating our business as ethically as possible and knowing the system should appropriately reward innovative companies like us.”
10 ways that Science Careers can help advance your career

1. Register for a free online account on ScienceCareers.org.
2. Search thousands of job postings and find your perfect job.
3. Sign up to receive e-mail alerts about job postings that match your criteria.
4. Upload your resume into our database and connect with employers.
5. Watch one of our many webinars on different career topics such as job searching, networking, and more.
6. Download our career booklets, including Career Basics, Careers Beyond the Bench, and Developing Your Skills.
7. Complete an interactive, personalized career plan at “my IDP.”
8. Visit our Employer Profiles to learn more about prospective employers.
9. Research graduate program information and find a program right for you.
10. Read relevant career advice articles from our library of thousands.

Visit ScienceCareers.org today — all resources are free

Visit ScienceCareers.org
today — all resources are free
Questions to Ask Yourself

- What do you like to do? What energizes you?
- Do you want to do lab work/research?
- Where do you want to work?
- What do you want to wear to work?
- How often do you want to change projects?
- What sorts of hours do you want to work?
- Are you willing to travel?
- What sort of funding situation do you want to be in?
- What nonscience interests or skills do you want to use?
- How important is your income level? Job security?
- What sort of stress levels do you want to deal with?
- Would you like to work independently or as part of a team?

Questions to Ask in an Informational Interview

- What attracted you to this field?
- What do you like most or least about this position or field?
- Describe a typical day or week.
- What steps did you take to break into this field?
- What skills are most helpful in your job? How can I develop them?
- To what professional associations do you belong?
- What advice would you give somebody interested in your line of work?

Questions You Might Be Asked at an Interview

- Tell me about yourself.
- What are your strengths?
- What are your weaknesses?
- Why this organization? Why this job?
- What can you do for us?
- Why are you leaving research? (if applicable)

Questions to Ask at an Interview

- What does the job entail?
- What are the opportunities for advancement?
- How will you help with my professional development?
- What are the future goals for the organization?
- What are the roles of different team members?
- Tell me about the culture of the organization.
The AAAS Mass Media Science & Engineering Fellowship seeks to increase communication skills in students and scientists. From grant writing to interacting with their community, these skills will benefit a fellow’s career and increase public understanding of science and technology.

The Fellowship places advanced undergraduate, graduate, and postgraduate scientists, engineers, and mathematicians at media sites nationwide to work as science reporters for 10 weeks. Past sites have included the *Los Angeles Times, Wired, National Geographic*, and NPR. Fellows use their academic training in the sciences as they research, write, and report today’s headlines, sharpening their abilities to communicate complex scientific and technical issues to the public.

Write for the *Los Angeles Times*
Publish in *Wired*
Work with teams at *NPR*
Join the science desk at *National Geographic*

**Spanish Language Fellowship**

AAAS initiated the Spanish Language Fellowship in 2014 to focus on serving the growing Spanish-speaking populations of the U.S. Once again, we are recruiting fluent Spanish-speakers who will expand the work with mainstream Spanish language news outlets to bring science news to Spanish-speaking communities.
WWW.AAAS.ORG/MMFELLOWSHIP

LOCATION
Various cities across the United States

PRIMARY CONTACT DETAILS
AAAS Mass Media Science & Engineering Fellows Program
1200 New York Ave, NW | Washington, DC 20005
Email: MMFellowship@aaas.org

ABOUT US
This highly competitive program strengthens the connections between scientists and journalists by placing advanced undergraduate, graduate, and postgraduate level scientists, engineers and mathematicians at media organizations nationwide for 10 weeks during the summer. Fellows have worked as reporters, editors, researchers, and production assistants at such media outlets as the Los Angeles Times, WIRED, National Public Radio, National Geographic and Scientific American. The AAAS Mass Media Fellows use their academic training in the sciences as they research, write and report today’s headlines, sharpening their abilities to communicate complex scientific issues to nonspecialists. Participants come in knowing the importance of translating their work for the public, but they leave with the tools and the know-how to accomplish this important goal. Over its 44 year history, the program has supported over 700 Fellows.

Criteria:
1. Applicants must be enrolled as students (upper-level undergraduate or graduate) or postdoctoral trainees at a university—or be within one year of a completed degree—in the life, physical, health, engineering, computer, social sciences or mathematics and related fields. If you have questions about your eligibility, email MMFellowship@aaas.org.
2. Students enrolled in English, journalism, science journalism, or other nontechnical fields are not eligible for the AAAS Mass Media Fellowship, BUT these students may be eligible for the Minority Science Writers Internship.
3. Applicants must be U.S. citizens or already hold visas that allow them to receive payment for work during the summer. AAAS cannot assist in obtaining/retaining visas.
4. Successful applicants are required to attend an orientation at AAAS headquarters at the beginning of the summer (early June) and a wrap-up session at the end of the summer (late August). They will prepare reports on the progress of their fellowships throughout their placement.

KEY RECRUITING AREAS
Agriculture
Animal Studies
Anthropology
Applied Mathematics
Astronomy and Planetary Sciences
Atmospheric Science
Biochemistry
Biology (Cell, Molecular, Developmental)
Chemistry
Climate Science
Computer Sciences
Ecology
Engineering
Environmental Sciences
Genetics
Geosciences/Earth Sciences
Material Sciences
Mathematics
Medical Studies
Microbiology/Immunology/Virology
Nanoscience
Neuroscience
Oceanography/Marine Sciences
Pharmacology/Toxicology
Physical Chemistry
Physics
Physiology
Plant Biology/Physiology
Statistics
Any Scientific Field
WHERE SCIENCE AND POLICY CHANGE THE WORLD. AND YOU.

With assignments in federal agencies, on Capitol Hill and in the judicial branch, you are on the front line of important societal issues.

AAAS Science & Technology Policy Fellowships offer the premier opportunity for outstanding scientists and engineers to learn first-hand about policymaking while contributing their knowledge and analytical skills to address some of today’s most pressing societal challenges. Enhance your career while engaging with policy administrators and thought leaders.

Fellows serve yearlong assignments in the federal government and represent a broad range of backgrounds, disciplines and career stages. Join a growing corps of over 3,200 strong, policy-savvy leaders working across academia, government, nonprofits and industry to serve the nation and citizens around the world.

Apply and make a difference! To learn more visit go.stpf-aaas.org/SC

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
WWW.STPF-AAAS.ORG

LOCATION
Washington, DC

PRIMARY CONTACT DETAILS:
AAAS Science & Technology Fellowships
1200 New York Ave, NW | Washington, DC 20005
Email: fellowships@aaas.org | Phone: 202.326.6700

ABOUT US
Enhancing Policy, Transforming Careers
AAAS Science & Technology Policy Fellowships (STPF) pursue a vision of public policy informed by science and technology for the benefit of society. Fellows bring a common interest in learning about science policy and willingness to apply their training in new arenas while contributing to policy at the national and international levels. Fellows serve yearlong assignments in one of the three branches of the federal government. Learn how you can contribute to public service while developing valuable career-enhancing skills and networks!

Application Deadline: November 1
Fellowship Year: September 1 – August 31

KEY RECRUITING AREAS
Doctoral-level degree (Ph.D., M.D., D.V.M., D.Sc., etc.) in any of the following:
- Social and Behavioral Sciences
- Medical and Health Sciences
- Biological, Physical and Earth Sciences
- Computational Sciences and Mathematics
- Engineering disciplines (applicants with a Master’s in engineering with three years of engineering-related professional experience are also eligible to apply)
U.S. citizenship is required to apply.
Everything that makes us unique makes us uniquely good at the work we do together.

WE ARE THE MANY DARING, DIFFERENT PEOPLE OF PFIZER

ALL DRIVEN TO DISCOVER THE CURE.

Come and discover what we are all about at pfizer.com/diversity
WWW.PFIZER.COM/CAREERS

LOCATIONS
Cambridge, MA, La Jolla, CA, Pearl River, NY, Andover, MA, Groton, CT, Collegeville, PA, St. Louis, MO, Peapack, NJ, Lake Forest, IL, and Raleigh-Durham, NC

PRIMARY CONTACT DETAILS
Shawn Tang
Global Talent Acquisition Lead, Global Science
610 Main St. | Cambridge, MA 02139
E-mail: shawn.tang@pfizer.com

ABOUT US
Pfizer’s Worldwide Research, Development and Medical organization works from pipeline to patient to deliver on the promise of science for life-changing impact. Our scientists excel in transformational therapeutic areas, including oncology, inflammation and immunology, rare disease, vaccines, and internal medicine. Our research has a global reach, spanning sites across the United States, including California, Missouri, New York, Massachusetts, Connecticut, and North Carolina, as well as international footprints in the United Kingdom and China. Across all our sites and research areas, our Research & Development community brings together scientists with diverse backgrounds and expertise and a singular dedication to advancing breakthroughs that change patients’ lives. The future of medicine is happening at Pfizer—join us in the journey.

KEY RECRUITING AREAS
Global Sciences: Biology in various diseases areas, such as Metabolic Diseases, Cancer Biology, Immunology and Inflammation, Gene Therapy, and Vaccines. Other key areas include: Small Molecule and Biologic Pharmaceutical Sciences, Medicinal Chemistry, Clinical Development and Safety, Clinical Pharmacology and Modeling, Biostatistics, and Regulatory Affairs.
Have you ever wondered what we could achieve if we bring together the best expertise in molecular biology, modern diagnostics and smart analytics? How might patients’ lives be changed for the better?

Let yourself be inspired by Lisa’s story:

In addition to our existing strengths in oncology, immunology, inflammation, infectious diseases, ophthalmology, neuroscience and rare diseases, we are investing into cutting-edge applications of artificial intelligence and data science to make truly Personalised Healthcare a reality.

Explore your future career in Personalised Healthcare at Roche.

The next step is yours.

code4life.roche.com

careers.roche.ch
CAREERS.ROCHE.CH

LOCATIONS
Basel/Kaiseraugst (Headquarters), Rotkreuz, Schlieren, and Reinach in Switzerland, affiliates in more than 100 countries.

PRIMARY CONTACT DETAILS
F. Hoffmann-La Roche Ltd.
Grenzacherstrasse 124  |  CH-4070 Basel  |  Switzerland

ABOUT US
Roche is a global pioneer in pharmaceuticals and diagnostics focused on advancing science to improve people’s lives. The combined strengths of pharmaceuticals and diagnostics under one roof have made Roche the leader in personalised healthcare – a strategy that aims to fit the right treatment to each patient in the best way possible.

Roche is the world’s largest biotech company, with truly differentiated medicines in oncology, immunology, infectious diseases, ophthalmology and diseases of the central nervous system. Roche is also the world leader in in vitro diagnostics and tissue-based cancer diagnostics, and a frontrunner in diabetes management.

Founded in 1896, Roche continues to search for better ways to prevent, diagnose and treat diseases and make a sustainable contribution to society. The company also aims to improve patient access to medical innovations by working with all relevant stakeholders. Thirty medicines developed by Roche are included in the World Health Organization Model Lists of Essential Medicines, among them life-saving antibiotics, antimalarials and cancer medicines. Roche has been recognised as the Group Leader in sustainability within the Pharmaceuticals, Biotechnology & Life Sciences Industry nine years in a row by the Dow Jones Sustainability Indices (DJSI).

The Roche Group, headquartered in Basel, Switzerland, is active in over 100 countries and in 2018 employed about 94,000 people worldwide. In 2018, Roche invested CHF 11.0 billion in R&D and posted sales of CHF 56.8 billion. Genentech, in the United States, is a wholly owned member of the Roche Group. Roche is the majority shareholder in Chugai Pharmaceutical, Japan. For more information, please visit www.roche.com.

KEY RECRUITING AREAS
- Biology
- Biochemistry
- Bioinformatics
- Biostatistics
- Biotechnology
- Data Sciences
- Digital Sciences
- Chemical Engineering
- Chemistry
- Computer Science
- Life Sciences
- Medicine
- Molecular Information
- Personalized Healthcare (PHC)
- Pharmacy
- Pharmacology
- Physics
- Regulatory Affairs
- Stem Cell Research
- Toxicology
- Translational Medicine

DISEASE AREAS
- Immunology
- Infectious Disease
- Inflammation
- Neuroscience
- Oncology
- Ophthalmology
- Rare Diseases
TO ADVERTISE IN SCIENCE OR NEXT YEAR'S CAREER HANDBOOK, PLEASE CONTACT:

Science Headquarters
1200 New York Avenue, NW
Washington, DC 20005 USA

Science International
Clarendon House
Clarendon Road
Cambridge CB2 8FH
United Kingdom

Science China
Room 1004, Cultural Plaza
Jia No. 59, Zhongguancun Road
Haidian District
Beijing 100872
People's Republic of China

Contact Us

Contact Us

AMERICAS
+1 202 326-6209
science_advertising@aaas.org

EUROPE, INDIA, AUSTRALIA,
NEW ZEALAND, REST OF WORLD
+41 43 243-1358
+44 (0) 1223 326527
science_advertising@aaas.org

CHINA, KOREA, SINGAPORE,
TAIWAN, THAILAND
+86 131 4114-0012
science_advertising@aaas.org

JAPAN
+81 03-6459-4174
science_advertising@aaas.org
Doing now what patients need next

Go for purpose!

Because it’s not just a job. It’s a responsibility. A big one.

The next step is yours.

careers.roche.ch