Avenues and Career Options in Biotechnology

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Outline

Career options in Biotechnology
- Academic
- Industry

Discussion
- Tips to increase general awareness
- Q & A session
Biotechnology is primarily a research oriented science and draws concepts from

- Biochemistry
- Molecular Biology
- Microbiology
- Genetics
- Immunology
- Cell Biology

- Chemical Engineering
- Process control
- Physics & Mathematics
- Computer Science
- Law

Biology

Science, Engineering and Arts
## Career options

<table>
<thead>
<tr>
<th>Undergraduate (B. Sc, B. Tech)</th>
<th>3-4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate (M. Sc, M. Tech)</td>
<td>2 years</td>
</tr>
<tr>
<td>PhD (Specialization)</td>
<td>4-6 years</td>
</tr>
</tbody>
</table>

### Academic options

### Industry options

### Other options
Academic options

Undergraduate (B. Sc, B. Tech) → Teaching (Lecturer) Technical assistant

Postgraduate (M. Sc, M. Tech) → Research assistant Associate scientist

PhD (Specialization) → Post-doctoral scientist Senior Scientist Assistant Professor Associate Professor Professor

Salary + Time + Experience
Information about PhD programs

Post-graduation is almost a must
B. Sc graduates may be considered under exceptional circumstances.
  B. Tech students can apply only for an integrated PhD program.
  M. Sc students can apply for a direct PhD program

Must identify area of interest
  Identify problems for research
  Identify people working on such problems and the research institute

Places to do a PhD
  India, USA, UK and Europe

More information
  www.google.com
Requirements for PhD programs

American Universities
Graduate Record Examination (GRE)
Test Of English as a Foreign Language (TOEFL)
Test of Spoken English (TSE)
Academic Graduate Record Examination (AGRE)
Research Experience

UK and Europe Universities
Test Of English as a Foreign Language (TOEFL)
Strong Research Experience

Indian Universities
Written entrance examination and discussion with faculty
MEDICAL INFORMATICS
BIOINFORMATICS
Graduate School Programs - Master's, Ph.D.

Programs Available in the USA:
- Eastern United States
- Western United States
- Outside the USA

Distance / Online Programs
Certificate Programs
Click here for information on becoming a sponsoring institution

General Listings:

Bioinformatics Institute of India
Bioinformatics
Bheemas Institute of Education and Technology
B- 15 Sector 3 Noida
201301 India
Click to send E-mail to: info@bioinformaticscentre.org
Phone: 011-4020 2442815

The aim of this one year Post graduate Diploma in Bioinformatics is to provide individuals / Professionals from biological / Computer Sciences / Marketing / Research and Development / Engineering and Academic fields a basic to advance level of expertise in Bioinformatics and its usage in the industry.

degrees offered:
Post Graduate Diploma-Bioinformatics
Research Areas: Developing software products for Indian Companies; Developing professionals to work on overseas projects, Taking up overseas projects in bioinformatics / cheminformatics / Biomedicalinformatics, Developing R and D base and expertise in bioinformatics / cheminformatics / Biomedicalinformatics, Developing educational kits for government bodies and private organisations regarding bioinformatics / biotechnology information usage and scope in their respective areas.

Done
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ACRES STUDENT SCHOLARSHIP

David Forbush
American Council for Rural Special Education
Utah State University
2865 Old Main Hill
Logan, Utah 84322-2865

Phone: 1-435-797-0697
Fax: 1-435-797-3572
Email: davidf@cc.usu.edu

Fellowship Overview:
The American Council on Rural Special Education (ACRES) is offering a scholarship of up to $1,000 to give a practicing rural teacher an opportunity to pursue education and training that would not otherwise be affordable within his/her district. Creativity in gaining and sharing information with others will be considered in awarding the scholarship. The scholarship will be awarded through ACRES to a rural educator who works with students with disabilities or who is currently "retooling" from a regular education career to work with students with disabilities.

Amount Offered: Up to $1,000 dollars
Length of Fellowship: One Year
Welcome to GrantsNet, your one-stop resource to find funds for training in the sciences and undergraduate science education. Through the support of HHMI and AAAS, this service is completely free.

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The GrantDoctor wants your funding questions! Send your query to grantdoctor@saas.org, with "QDR" in the subject line. Be sure to check his column at Science's Next Wave to see if he answers your question.

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- WELLCOME TRUST
- UNIVERSITY OF EDINBURGH
- THE UNIVERSITY OF WARWICK

Imperial College London
- Faculty of Medicine
- Institute of Reproductive & Developmental Biology

Imperial College London
recommended links

For general information on postgraduate study in the UK:
- The UK GRAD Programme
- National Postgraduate Committee

For details on postgraduate funding:
- Biotechnology and Biological Sciences Research Council (BBSRC)
- Engineering and Physical Science Research Council (EPSRC)
- Economic and Social Research Council (ESRC)
- Medical Research Council (MRC)
- Natural Environment Research Council (NERC)
- Particle Physics and Astronomy Research Council (PPARC)
- Council for the Central Laboratory of the Research Councils (CCLRC)

Whilst undertaking your PhD:
- Research supervision
- The research thesis: what examiners look for
- Dissertation proposal writing
- PhD Writers block (1)
- PhD Writers block (2)
- The experience of undertaking a PhD
- Preparing for the Viva (1)
- Preparing for the Viva (2)
- Dealing with nasty exam questions
http://www.findamasters.com/
Career options

Undergraduate (B. Sc, B. Tech) 3-4 years

Postgraduate (M. Sc, M. Tech) 2 years

PhD (Specialization) 4-6 years

Academic options

Industry options

Other options
Industrial options

- **Undergraduate** (B. Sc, B. Tech)
  - Scientific analyst
  - Technical assistant

- **Postgraduate** (M. Sc, M. Tech)
  - Research assistant under a senior scientist
  - Project Manager
  - Supervisor of a section

- **PhD** (Specialization)
  - Senior Scientist
  - R&D head
  - Divisional head for a research team
  - Adviser

Salary + Time + Experience
Career Resources

- Salary Calculator: What are you worth?
- Resume Writing Advice: Converting an Academic CV to an Industry Resume from our University Consortium Partner, UCSF.
- 2004 Salary Survey
  - Article
  - [Searchable Database]
- Eight Steps to Writing a Scientific Resume/Curriculum Vitae
- Sample Cover Letters

Career Advice

- Top Employers Survey: Best of Breed as Fortune's Review - 26 November 2004
- Diversity: The East and The Broadest - 12 November 2004
- A Shortage of Scientists - October, 2004
- Genetics and Genomics: Moving Beyond the Gene - 22 October 2004
- Neuroscience: Action Against Alzheimer's - 15 October 2004
- Faculty Positions: Medicine and Research - 8 October 2004
http://www.nature.com/naturejobs/channels/graduate/
Other options (non academic/non industrial)

Science Journalism
Freelance journalist
Scientific reporter

Biotechnology and Law
Patent attorney
Policy making

Management and Biotechnology
MBA, HR, etc

Environmentalist
Biodiversity conservation