Careers in Bioengineering *Feature Index*

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Classified? Not really. Top Secret? No longer. Converging technologies--they're what bioengineering is all about today. From microprocessor-based medical devices and rehabilitative engineering to implantable devices and biomaterials, bioengineering is that branch of applied science that integrates physical, chemical, and mathematical sciences and engineering principles in the study of biology, medicine, behavior, and health. Not surprisingly, given the richness of its intellectual gene pool, the field is constantly evolving. More...

In this feature on Careers in Bioengineering, the Next Wave team has gathered articles from just a few of these individuals to give you a picture of some of the exciting topics on the international bioengineering scene today.

Chris Backhouse is one of many researchers working in a new field that's piquing interest all over the globe--the application of microsystems and nanotechnologies in biomedical engineering. Backhouse describes the revolutionary ways in which the life sciences will be changed for the better by these convergent technologies.

Research at the University of Alberta's Biomaterials and Tissue Engineering Lab is diverse in nature, providing lab members with the ability to conceive, design, and execute research projects that are at the cutting edge of bioengineering. Erin Smith and Sébastien Gittens, students in Hasan Uludag's lab, talk about their training and the bioengineering opportunities that abound.

The Center for Biological and Environmental Nanotechnology (CBEN) at Rice University aims to transform nanotechnology into a tool for use in any number of fields. CBEN's executive director, Kevin Ausman, discusses the Rice vision for nanotechnology research and the center's aim to identify, recruit, and train the nanoscience workforce of the future.

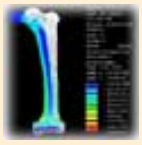
In an amazing feat of tissue engineering, Anthony Atala and his research team at the Children's Hospital in Boston are creating new organs in the laboratory using patients' own cells and by employing the same technology used to clone Dolly the sheep. But the work is ongoing and much remains to be discovered, writes Mary-Ellen Shay, as she brings us Atala's story.

By keeping open for new opportunities, physicist Coulton Legge discovered that the pharmaceutical industry has been experiencing a drive toward the use of new technologies. Legge writes about how he, after some legwork of his own, came to be applying his microfluids research to pharmaceutical processes in UK.

Dietmar Hutmacher was keen to live and work in South-east Asia, and so when the offer to start the first tissue engineering laboratory at the National University of Singapore came in, he jumped at the opportunity.

Jason Hendry was able to get a taste of the bioengineering industry while carrying out his graduate studies in materials engineering and decided that it was the career for him. Sheema Inayatulla of Millenium Biologix tells us how Hendry's career path led him to Millenium Biologix and how being able to function effectively in a multidisciplinary environment is key to the work a biomaterials engineer does every day.

In GrantsNet's Federal Corner, Katie Cottingham writes about a controversial new NIH institute that's stirring the biomedical pot--the National Institute of Biomedical Imaging and Bioengineering (NIBIB).



Grants from the Whitaker Foundation have enabled the University of Memphis and the University of Tennessee to create a joint graduate program in biomedical engineering, writes Jerry Gabriel for GrantsNet. Gabriel also describes how the Whitaker Foundation's Industrial Internship grant money was used at UM/UT to create a Web-based search engine for bioengineering summer internships.

Interested in learning more about bioengineering? Next Wave has already published numerous articles on the topic, which we have summarized for you in our resources page. Our editorial team has also collected a number of informative links to international biomedical engineering Web sites.

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