

ANIMAL BIOTECHNOLOGY

BASIC AND APPLIED BIOTECHNOLOGY

Suggested Readings

Becker JM, Cold Well GA & Zachgo EA. 2007. *Biotechnology a Laboratory Course*. Academic Press.

Brown CM, Campbell I & Priest FG. 2005. *Introduction to Biotechnology*. Panima.

Singh BD. 2006. *Biotechnology Expanding Horiozon*. Kalyani.

FUNDAMENTALS OF CELL & MOLECULAR

Suggested Readings

Lewin B. 2008. *Gene IX*. Jones & Bartlett.

Primrose SB. 2001. *Molecular Biotechnology*. Panima.

Twyman RM. 2003. *Advanced Molecular Biology*. Bios Scientific.

APPLIED MOLECULAR BIOLOGY

Suggested Readings

Kun LY. 2006. *Microbial Biotechnology*. World Scientific.

Sambrook J & Russel DW. 2001. *Molecular Cloning: a Laboratory Manual*. Cold Spring Harbour Lab. Press.

Twyman RM. 2003. *Advanced Molecular Biology*. Bios Scientific.

ANIMAL CELL CULTURE: PRINCIPLES AND

Suggested Readings

Freshney RI. 2005. *Culture of Animal Cells*. Wiley Liss.

Portner R. 2007. *Animal Cell Biotechnology*. Humana Press.

MOLECULAR DIAGNOSTICS

Suggested Readings

Elles R & Mountford R. 2004. *Molecular Diagnosis of Genetic Disease*. Humana Press.

Rao JR, Fleming CC & Moore JE. 2006. *Molecular Diagnostics*. Horizon Bioscience.

VACCINE BIOTECHNOLOGY

Suggested Readings

Barry R Bloom, Paul-Henri Lambert 2002. *The Vaccine Book*. Academic Press.

Levine MM, Kaper JB, Rappuoli R, Liu MA, Good MF. 2004. *New Generation Vaccines*. 3rd Ed. Informa Healthcare.

Lowrie DB & Whalen R. 2000. *DNA Vaccines*. Humana Press.

Robinson A & Cranage MP. 2003. *Vaccine Protocols*. 2nd Ed. Humana Press.

IMMUNOLOGY APPLIED TO BIOTECHNOLOGY

Suggested Readings

Kindt TJ, Goldsby RA & Osbrne BA. 2007. *Kuby Immunology*. WH Freeman.

Male D, Brostoff J, Roth DB & Roitt I. 2006. *Immunology*. Elsevier.

Spinger TA. 1985. *Hybridoma Technology in Biosciences and Medicine*. Plenum Press.

INTRODUCTION TO BIOINFORMATICS

Suggested Readings

Attwood TK & Parry-Smith DJ. 2003. *Introduction to Bioinformatics*. Pearson Education.

Rastogi SC, Mendiratta N & Rastogi P. 2004. *Bioinformatics: Concepts, Skills and Applications*. CBS.

ANIMAL GENOMICS

Suggested Readings

Gibson G & Muse SV. 2004. *A Primer of Genome Science*. Sinauer Associates.

Primrose SB & Twyman RM. 2007. *Principles of Genome Analysis and Genomics*. Blackwell.

Sensen CW. 2005. *Handbook of Genome Research*. Vols. I, II. Wiley-CVH.

REPRODUCTIVE BIOTECHNOLOGY

Suggested Readings

Ball PJH & Peter AR. 2004. *Reproduction in Cattle*. Blackwell.

Gordon I. 2003. *Laboratory Production of Cattle Embryos*. CABI.

Gordon I. 2005. *Reproductive Techniques in Farm Animals*. CABI.

TECHNIQUES IN MOLECULAR BIOLOGY AND GENETIC ENGINEERING

Suggested Readings

- Kun LY. 2006. *Microbial Biotechnology*. World Scientific.
Sambrook J & Russel DW. 2001. *Molecular Cloning: a Laboratory Manual*. Cold Spring Harbour Lab. Press.
Twyman RM. 2003. *Advanced Molecular Biology*. Bios Scientific.

BIODIVERSITY, BIOSAFETY AND BIOETHICS

Suggested Readings

- Arya R. 2005. *Biodiversity*. Deep & Deep.
Gaston KJ. 2004. *Biodiversity: an Introduction*. Blackwell.
Kannaiyan S & Gopalam A. 2007. *Biodiversity in India: Issues and Concerns*. APC.

MOLECULAR FORENSICS

Suggested Readings

- Lincoln PJ & Thomson J. 1998. *Forensic DNA Profiling Protocols*. Humana Press.
Rudin N & Inman K. 2002. *An Introduction to Forensic DNA Analysis*. 2nd Ed. CRC Press.

INDUSTRIAL BIOTECHNOLOGY

Suggested Readings

- Alberghina L. 2000. *Protein Engineering for Industrial Biotechnology*. Routledge.
Kun LY. 2006. *Microbial Biotechnology*. World Scientific.
Singh, R & Ghosh SK. 2004. *Industrial Biotechnology*. Global Vision Publ. House.
Thomson J. 2006. *Your Guide to Industrial Biotechnology*. Abhishek Publ.

PROBIOTICS AND FEED BIOTECHNOLOGY

Suggested Readings

- Fuller R. 1997. *Probiotics 2: Applications and Practical Aspects*. Springer.
Huffnagle GB & Wernick S. 2007. *The Probiotics Revolution: The Definitive Guide to Safe, Natural Health*. Bantam Books.
Kalidas S, Paliyath G, Pometto A & Levin RE. 2004. *Functional Foods and Biotechnology*. CRC Press.
Perdigón G & Fuller R. 2000. *Probiotics 3: Immunomodulation by the Gut*

Microflora and Probiotics. Springer.
Roger A. 1989. *Food Biotechnology*. Cambridge Univ. Press.
Sambrook J & Russel DW. 2001. *Molecular Cloning: a Laboratory Manual*. Cold Spring Harbour Lab. Press.
Trenev N. 1998. *Probiotics: Nature's Internal Healers*. Avery.

ANIMAL BIOTECHNOLOGY

Suggested Readings

Gordon I. 2005. *Reproductive Techniques in Farm Animals*. CABI.
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Kindt TJ, Goldsby RA & Osbrne BA. 2007. *Kuby Immunology*. WH
Freeman.
Kun LY. 2006. *Microbial Biotechnology*. World Scientific.
Levine MM, Kaper JB, Rappuoli R, Liu MA, Good MF. 2004. *New
Generation Vaccines*. 3rd Ed. Informa Healthcare.
Lincoln PJ & Thomson J. 1998. *Forensic DNA Profiling Protocols*.
Humana Press.
Portner R. 2007. *Animal Cell Biotechnology*. Humana Press.
Spinger TA. 1985. *Hybridoma Technology in Biosciences and Medicine*.
Plenum Press.
Twyman RM. 2003. *Advanced Molecular Biology*. Bios Scientific.

GENE CLONING AND EXPRESSION

Suggested Readings

Ausubel FM, Brent R, Kingston RE, Moore DD, Seidman JG, Smith JA &
Struhl K. 2002. *Short Protocols in Molecular Biology*. Wiley.

FUNCTIONAL GENOMICS AND PROTEOMICS

Suggested Readings

Gibson G & Muse SV. 2004. *A Primer of Genome Science*. Sinauer
Associates.
Primrose SB & Twyman RM. 2007. *Principles of Genome Analysis and
Genomics*. Blackwell.
Sensen CW. 2005. *Handbook of Genome Research*. Vols. I, II Wiley-
CVH.

ADVANCES IN REPRODUCTIVE

Suggested Readings

Selected articles from journals.

TRENDS IN VACCINOLOGY

ADVANCES IN ANIMAL CELL CULTURE

TRANSGENIC ANIMAL TECHNOLOGY

Suggested Readings

Selected articles from journals.

List of Journals

Animal Biotechnology
Animal Genetics
Animal Reproduction
Cellular and Molecular Probe
Current Science
Genome Research
Indian journal of Microbiology
Journal of Clinical Microbiology
Journal of Dairy Science
Journal of Reproduction and Fertility
Methods in Virus Research
Nature
Nature Biotechnology
Nature Genetics
Nucleic Acid Research
PNAS
Reproduction in Domestic Animals
Science
Theriogenology
Trends in Biotechnology
Trends in Genetics
Viral Research

e-Resources

www.cls.casa.colostate.edu/TransgenicCrops/teacherlinks
www.hpc.unm.edu/~aroberts/main/top5%25.htm
www.isaaa.org
www.ciat.cgiar.org/biotechnology/cbn/gines_mera_fund.htm
www.scidev.net/en/agriculture-and-environment/agri-biotech/links/publications-andinformation-services
www.biotechinstitute.org/programs/t_leader_program.html
www.sci-ed-ga.org/modules/dna/analogies.html
www.accessexcellence.org/AE/AEPC/WWC/1993
www.atschool.eduweb.co.uk/trinity/bio2.html
www.pub.ac.za/resources/teach.html
www.bio-link.org/biomaterial.htm
www.biotechnology.gov.au/index.cfm?event=object.showContent&objectID=B35A914C-DE3D-1A59-79F89FAA26F54E44

www.monsanto.com/products/techandsafety/technicalpubs/eduwebsites.asp
www.ejbiotechnology.info/content/vol5/issue3/teaching/01/index.html
www.ncbiotech.org/resource_center/for_educators/online_teaching_resources.html
www.ias.ac.in/currsci/dec252006/1594
www.cccoe.k12.ca.us/stsvcs/newteacher/rop/curr_rop_links2.html
www.scielo.cl/scielo.php?pid=S0717-34582003000100004&script=sci_arttext
www.sunysb.edu/ligase/Forstudents/BiotechTeachingCenter/biotechcenter.html

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www.ca.uky.edu/agc/pubs/brei/brei3tg/brei3tg.htm
www.aggie-horticulture.tamu.edu/tisscult/biotech/biotechteach.html
www.ejbiotechnology.info/content/vol6/issue2/issues/2/index.html
<http://science.nhmccd.edu/biol/bio1int.htm#dna>
<http://nhscience.lonestar.edu/biol/bio1int.htm>
www.ingentaconnect.com/content/tandf/tsed/2000/00000022/00000009/art00007
www.buildingbiotechnology.com/free.php
www.biotechnologist2020.com/2008/04/teaching-jobs-in-bioinformatics.html
www.eric.ed.gov/ERICWebPortal/recordDetail?accno=EJ613711
www.uq.edu.au/teaching-learning/index.html?page=61920
www.nature.com/nbt/journal/v18/n9/full/nbt0900_913b.html
www.fotodyne.com/literature/datasheets/E10700
www.biotethics.org/conferences/maastricht/partecipants.html
www.brookes.ac.uk/studying/courses/postgraduate/2008/biotech
www.bioweb.usc.edu/courses/2003-spring/documents/bisc406-notes_011603
www.gen.ufl.edu/~chyn/age2062/lect/lect_09/lect_09.htm
www.bioinformaticscourses.com/BIOL358/lectures.html
www.isis.vt.edu/~nstone/LifeSci/lect5.html
www.nwo.nl/nwohome.nsf/pages/NWOA_6Y2LGH_Eng
www.soi.wide.ad.jp/class/20040016
www.sciencetech.technomuses.ca/english/schoolzone/biotech.cfm
www.freevidelectures.com/biotech.html
www.gen.ufl.edu/~chyn/age4660/lect/lect_07/lect_07.htm
www.web.mit.edu/cheme/news/frontiers_2005.html

Suggested Broad Topics for Master's and Doctoral Research

Development of Vaccines against emerging pathogens
Nucleic acid based diagnostics
Molecular animal forensics
Whole genome analysis of animal viruses
Embryo manipulation
Animal genomics
Reproductive biotechnology
Conservation of endangered animal species
Animal breed characterization
Genomic Diversity of animal viruses
Mapping of disease resistance genes in livestock
Proteomics