Übersicht zu wichtigen Datenbanken und Programmen und deren allgemeinen Verwendung

Alignment/Stammbäume
CLUSTALW/Clustal Omega https://www.ebi.ac.uk/Tools/msa/clustalo/
MUSCLE https://www.ebi.ac.uk/Tools/msa/muscle/
PHYLIP https://evolution.genetics.washington.edu/phylip.html
Datensätze zu biologische Größen/Biotechnologie/synthetische Biologie
BioNumbers https://bionumbers.hms.harvard.edu
BioBricks https://biobricks.org/
GoSynthetic https://gosyn.bioapps.biozentrum.uni-wuerzburg.de/index.php
Dotplot
Dotter https://sonnhammer.sbc.su.se/Dotter.html
GEPARD https://mips.gsf.de/services/analysis/gepard
JDotter https://athena.bioc.uvic.ca/virology-ca-tools/jdotter/

Funktionsdatenbanken
Functional Glycomics https://www.functionalglycomics.org/; https://ncfg.hms.harvard.edu/
Gene Ontology https://www.geneontology.org

Gehirn-Baupläne
Blue Brain Projekt (EU) https://bluebrain.epfl.ch/
Brain Activity Atlas https://www.brainactivityatlas.org/
Brain Activity Projekt (USA) https://www.braininitiative.nih.gov/
Connectome-Projekt https://www.openconnectomeproject.org
Mouse Brain Connectivity Atlas https://mouse.brain-map.org/static/atlas
Neuroaktivitätsdetektion https://www.ncbi.nlm.nih.gov/pubmed/23537512
Temporal lobe https://www.temporal-lobe.com/background/connectome
Virtual Insect Brain Lab https://www.neurofly.de/
WormWiring https://wormwiring.org/
Wurmatlas https://www.wormatlas.org/

Genomannotation/Genannotation/Sequenzanalyse/Online-Bibliotheken/Experimetelle Datensätze
BLAST https://blast.ncbi.nlm.nih.gov/Blast.cgi
GenScan https://genes.mit.edu/GENSCAN.html
RepeatMasker https://www.repeatmasker.org/
ENCODE https://www.encodeproject.org
Ensembl https://www.ensembl.org/Homo_sapiens/Info/Index
GATK Workshop https://software.broadinstitute.org/gatk/guide/article?id=7869#1.3
Genomic Science Program https://genomics.energy.gov
Human Genome Project https://web.ornl.gov/sci/techresources/Human_Genome/index.shtml
UCSC https://genome.ucsc.edu/
DDBJ (DNA Data Bank of Japan) https://www.ddbj.nig.ac.jp/
EBI https://www.ebi.ac.uk/services
iGEM Parts https://igem.org/Main_Page
MEDLINE/NCBI/PubMed https://www.ncbi.nlm.nih.gov/pubmed/
NIH https://www.genome.gov
OMIM https://www.omim.org/
Swiss Bioinformatics Institute https://www.sib.swiss/
WebDirectory https://www.biologydir.com/over-population/p1.html
Computational Population Biology https://compbio.cs.uic.edu/
GENEVESTIGATOR https://genevestigator.com/gv/
GEO https://www.ncbi.nlm.nih.gov/geo/

Grafikprogramme, Modellierung und Netzwerkanalyse
CellDesigner https://www.celldesigner.org/
CellNetAnalyzer https://www2.mpi-magdeburg.mpg.de/projects/cna/cna.html
Cytoscape https://www.cytoscape.org/
COBRA https://opencobra.github.io/
COPASI https://copasi.org/
Flux balance analysis https://systemsbiology.ucsd.edu/Downloads/FluxBalanceAnalysis
Jimena https://www.bioinfo.biozentrum.uni-wuerzburg.de/computing/jimena_c/
MATLAB https://de.mathworks.com/products/matlab.html

Metatool https://pinguin.biologie.uni-jena.de/bioinformatik/networks/metatool/
Odefy https://www.helmholtz-muenchen.de/icb/software/odefy/index.html
PLAS https://enzymology.fc.ul.pt/software/plas/
PottersWheel https://www.potterswheel.de/Pages/
SQUAD https://www.vital-it.ch/software/SQUAD
YANA/YANAsquare https://www.bioinfo.biozentrum.uni-wuerzburg.de/computing/yanasquare/

Interaktionsdatenbank, Medikamenten-Interaktionsdatenbank
catRAPID https://s.tartaglialab.com/page/catrapid_group
HPRD https://hprd.org/
iHOP https://www.ihop-net.org/UniPub/iHOP/
KEGG https://www.genome.jp/kegg/
NPInter https://www.bioinfo.org/NPInter/
PlateletWeb https://plateletweb.bioapps.biozentrum.uni-wuerzburg.de/plateletweb.php
Roche Pathways https://biochemical-pathways.com/#/map/1
STRING https://string-db.org
DrumPID https://drumpid.bioapps.biozentrum.uni-wuerzburg.de/compounds/index.php
STITCH https://stitch.embl.de/
EcoCyc https://ecocyc.org/

Lokalisations-/Motiv-Vorhersage
LocP https://ekhidna2.biocenter.helsinki.fi/LOCP/
LocSigDB https://genome.unmc.edu/LocSigDB/
nucloc https://www.nucloc.org/
NucPred https://www.sbc.su.se/~maccallr/nucpred/
SignalP https://www.cbs.dtu.dk/services/SignalP/
TMHMM https://www.cbs.dtu.dk/services/TMHMM/
Functional Glycomics https://www.functionalglycomics.org/
ELM https://elm.eu.org/

Programmiersprachen
Biojava https://biojava.org/
BioPerl https://bioperl.org/
C++ https://www.cplusplus.com/
Java https://www.oracle.com/technetwork/java/index.html
Perl https://www.perl.org/
Python https://www.python.org/
R https://cran.r-project.org/
Bioconductor https://www.bioconductor.org/

Promotoranalyse
ALGGEN PROMO
https://alggen.lsi.upc.es/cgi-bin/promo_v3/promo/promoinit.cgi?dirDB=TF_8.3
Genomatix https://www.genomatix.de/
JASPAR https://jaspar.genereg.net/cgi-bin/jaspar_db.pl
MotifMap https://motifmap.igb.uci.edu/
TESS https://www.cbil.upenn.edu/tess/
TRANSFAC https://www.gene-regulation.com/pub/databases.html

Proteinanalyse
AnDom
https://andom.bioapps.biozentrum.uni-wuerzburg.de/index_new.html
CATH https://www.cathdb.info/
Conserved Domains https://www.ncbi.nlm.nih.gov/Structure/cdd/wrpsb.cgi
ExPASy https://www.expasy.org
InterPro https://www.ebi.ac.uk/interpro/
MODELLER https://salilab.org/modeller/tutorial/
PDB https://www.rcsb.org/pdb/home/home.do
Pfam https://pfam.xfam.org/
ProDom https://prodom.prabi.fr/prodom/current/html/home.php
PRODORIC https://prodoric.tu-bs.de/
PROSITE https://prosite.expasy.org
PyMOL https://www.pymol.org/
QUARK https://zhanglab.ccmb.med.umich.edu/QUARK/
Ramachandran-Plot https://mordred.bioc.cam.ac.uk/~rapper/rampage.php
RasMol https://www.openrasmol.org/

SCOP (old) https://scop.mrc-lmb.cam.ac.uk/scop/
SCOP updated https://scop.berkeley.edu/
SMART https://smart.embl-heidelberg.de/
SWISS-MODEL https://swissmodel.expasy.org
UniProt/Swiss-Prot https://www.uniprot.org/

RNA-Analyse
ITS2 https://its2.bioapps.biozentrum.uni-wuerzburg.de/
LNCipedia https://www.lncipedia.org/
mfold Webserver https://unafold.rna.albany.edu/?q=mfold/RNA-Folding-Form
microRNA.org/miRanda https://www.microrna.org/microrna/home.do
miRBase https://www.mirbase.org/
regRNA https://regrna2.mbc.nctu.edu.tw/
Rfam https://rfam.xfam.org/
Riboswitch-Finder https://riboswitch.bioapps.biozentrum.uni-wuerzburg.de/
RNAAnalyzer https://rnaanalyzer.bioapps.biozentrum.uni-wuerzburg.de/
RNAfold Webserver https://rna.tbi.univie.ac.at/cgi-bin/RNAWebSuite/RNAfold.cgi
TargetScan https://www.targetscan.org
tRNAscan https://lowelab.ucsc.edu/tRNAscan-SE/
Vienna Package https://www.tbi.univie.ac.at/RNA/