

# UCB Libraries and associated LBNL research disciplines and subjects

Library: **Bioscience and Natural Resources**

Discipline: **Bioscience**

## Subjects

artificial photosynthesis  
bacteria  
biochemistry  
bioenergy  
bioengineering  
biofuels  
biology  
biomass  
biomedical imaging  
biomimetic/bioinspired functional materials  
biomolecular materials  
botany  
cancer biology  
cellular processes  
complex biological interactions  
computational biology  
environmental stress  
enzymes  
functional relationships in biology  
high-throughput analysis  
high-throughput structure determination  
high-throughput technologies  
industrial fermentation  
intercellular communication  
macromolecular analysis  
metabolomics  
microbes  
microbial ecology

microorganisms  
molecular biology  
molecular machines  
molecular motors  
multi-enzyme metabolic conversions  
multiscale information from microbial systems  
plants  
purification and screening techniques  
synthetic biology  
theoretical biology

**Discipline:**    **Characterization**

**Subjects**

high-throughput structure determination  
macromolecular protein crystallography  
mass spectrometry  
microcharacterization  
NMR  
protein crystallography  
Raman imaging  
x-ray crystallography

**Discipline:**    **Climate science**

**Subjects**

atmospheric modelling  
carbon sequestration  
carbon capture  
carbon cycle  
carbon emissions  
carbon flows  
carbon storage  
climate change  
climate change forcing  
climate change mitigation  
climate change modelling  
climate modelling

climate predictions

climate science

global climate

green house gases

## Discipline: **Energy science and technology**

### Subjects

appliance energy use

artificial photosynthesis

batteries

bioenergy

biofuels

biomass

biosynthetic pathways

building energy use

carbon-neutral transportation fuels

chemical energy

clean energy generation

combustion technologies

electricity

electricity markets

electricity transmission

energy

energy bioscience

energy consumption

energy conversion

energy demand

energy distribution

energy efficiency

energy efficient technologies

energy end use

energy harvesting

energy policy

energy production

energy reservoir engineering

energy simulation  
energy standards  
energy storage  
energy transmission  
fuel cells  
fuels  
fusion energy  
geothermal energy  
global energy use  
heavy ion fusion  
hydrocarbon fuels  
low emission combustion  
mechanochemical energy conversion  
multiscale information from microbial systems  
natural gas  
nuclear energy  
oil and gas resources  
photoelectrochemical cells  
photoionization  
photovoltaic semiconductor elements  
proton-proton interactions  
public policy  
purification and screening techniques  
sensors  
solar cells  
solar energy  
spectroscopy  
stored energy  
subsurface energy production  
sustainable design  
transportation

**Discipline:** Environmental science and technology

**Subjects**

air pollution

air quality  
bioremediation  
carbon-neutral transportation fuels  
chemical transformation  
chemical transport  
emissions  
energy efficient technologies  
environmental bioremediation  
environmental characterization  
environmental cleanup  
environmental contamination  
environmental impact  
environmental policy  
environmental processes modelling  
environmental protection  
environmental remediation  
environmental restoration  
environmental science  
environmental stockpile stewardship  
environmental stress  
environmental sustainability  
environmental chemistry  
green chemistry  
land use  
natural attenuation  
nuclear waste  
policy analysis  
technical research  
toxic waste reduction

**Discipline:** **Genomics**

**Subjects**

agricultural systems  
biofuels  
bioinformatics

bioinstrumentation  
cloning  
computational analysis  
computational genomics  
energy bioscience  
epigenetics  
evolutionary genomics  
functional genomics  
gene regulatory networks  
gene structures  
genetic analysis  
genetic expression  
genetics  
genetics - biological pathways  
genetics - molecular markers  
genome annotation  
genome biology  
genome maps  
genome sequence characterization  
genome sequences analysis  
genomic analyses  
genomic technologies  
genomics  
high-throughput sequencing  
metagenomics  
microarray analysis  
photosynthesis  
phylogenomics  
production sequencing  
sequencing  
structural cell biology  
structural genomics  
systems biology  
target selection  
transcription regulation

**Discipline: Imaging**

**Subjects**

atomic force microscopy  
biomedical imaging  
bolometer arrays  
cameras  
cardiac nuclear imaging  
cryo-electron microscopy  
crystallography  
electron microscopy  
electron tomography  
high throughput discovery  
histologic molecular imaging  
imagers  
imaging  
macromolecular analysis  
magnetic soft x-ray microscopy  
microscopy  
molecular imaging  
multiscale and multimodal imaging  
multi-scale imaging  
nanoimaging  
neutrino telescope  
optical tweezers microscopy  
positron emission tomography  
Raman imaging  
scintillation radiation  
single-molecule fluorescence microscopy  
telescope  
x-ray crystallography  
x-ray microscopy

**Discipline: Information science**

**Subjects**

bioinformatics

collaboration technology  
communications services  
cyberinfrastructure  
data analysis  
data management  
data services  
data sources  
data storage  
ecoinformatics  
informatics  
information science  
metadata  
omics analysis tools

**Discipline: Management**

**Subjects**

engineering business services  
interdisciplinary science  
scientific collaboration

**Discipline: Proteomics**

**Subjects**

high-throughput protein expression  
macromolecular protein crystallography  
protein crystallography  
protein folding  
proteins  
proteomic markers  
proteomics  
structure prediction

**Library: Chemistry and Chemical Engineering**

**Discipline: Accelerators**

**Subjects**

accelerator physics

accelerators  
beam equipment  
beam generators  
beam physics  
beam science  
beamlines  
cyclotron  
high energy particle collisions  
ion beams  
ion sources  
Large Hadron Collider  
synchrotron

**Discipline: Characterization**

**Subjects**

high-throughput structure determination  
macromolecular protein crystallography  
mass spectrometry  
microcharacterization  
NMR  
protein crystallography  
Raman imaging  
x-ray crystallography

**Discipline: Chemistry**

**Subjects**

actinide science  
alternative syntheses  
atmospheric chemistry  
biochemistry  
biogeochemistry  
catalysis  
chemical dynamics  
chemical energy  
chemical modelling  
chemical physics

chemical simulation  
chemical synthesis  
chemistry  
combustion chemistry  
electrochemistry  
envrionmental chemistry  
geochemistry  
green chemistry  
heavy element chemistry  
heavy element studies  
heterogeneous catalysis  
interstellar chemistry  
isotope geochemistry  
materials chemistry  
materials phase transformations  
molecular chemistry  
molecular structure and dynamics  
nuclear chemistry  
ozone photochemistry  
quantum chemistry  
radiochemical synthesis  
radiochemistry  
soft matter  
solid state chemistry  
statistical mechanics  
surface chemistry  
theoretical chemistry

**Discipline: Detectors**

**Subjects**

bolometer arrays  
cameras  
detectors  
gamma-ray detector system  
scintillation detector

**Discipline: Imaging**

**Subjects**

atomic force microscopy  
biomedical imaging  
bolometer arrays  
cameras  
cardiac nuclear imaging  
cryo-electron microscopy  
crystallography  
electron microscopy  
electron tomography  
high throughput discovery  
histologic molecular imaging  
imagers  
imaging  
macromolecular analysis  
magnetic soft x-ray microscopy  
microscopy  
molecular imaging  
multiscale and multimodal imaging  
multi-scale imaging  
nanoimaging  
neutrino telescope  
optical tweezers microscopy  
positron emission tomography  
Raman imaging  
scintillation radiation  
single-molecule fluorescence microscopy  
telescope  
x-ray crystallography  
x-ray microscopy

**Discipline: Information science**

**Subjects**

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cyberinfrastructure  
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data management  
data services  
data sources  
data storage  
ecoinformatics  
informatics  
information science  
metadata  
omics analysis tools

**Discipline: Management**

**Subjects**

engineering business services  
interdisciplinary science  
scientific collaboration

**Discipline: Materials science and technology**

**Subjects**

biomimetic/bioinspired functional materials  
biomolecular materials  
condensed matter physics  
ferroelectrics  
magnets  
mask defect analysis  
materials chemistry  
materials phase transformations  
materials science  
materials science behavior  
nanostructure materials  
photovoltaic semiconductor elements  
plastic electronics  
processing science

quantum materials  
semiconductors  
solid state chemistry  
surface chemistry  
synthesis  
thermoelectrics  
ultrafast materials

**Discipline: Nuclear science**

**Subjects**

atomic science  
dense nuclear matter  
heavy ions  
high energy neutrinos  
high energy nuclear collisions  
neutrino telescope  
nuclear astrophysics  
nuclear chemistry  
nuclear dynamics  
nuclear energy  
nuclear physics  
nuclear properties under extreme conditions  
nuclear science  
nuclear structure  
nuclear theory  
nuclear waste  
quark-gluon plasma  
solar neutrinos

**Discipline: Polymers**

**Subjects**

polymers

**Discipline: Quantum theory and science**

**Subjects**

quantum gravity

quantum groups  
quantum mechanics  
quantum theory  
statistical mechanics  
string theory

**Discipline: Superconductors**

**Subjects**

superconducting magnets  
superconductivity

**Discipline: Ultrafast science and technology**

**Subjects**

ultrafast materials  
ultrafast/time-resolved studies

**Library: Earth Sciences and Map**

**Discipline: Characterization**

**Subjects**

high-throughput structure determination  
macromolecular protein crystallography  
mass spectrometry  
microcharacterization  
NMR  
protein crystallography  
Raman imaging  
x-ray crystallography

**Discipline: Climate science**

**Subjects**

atmospheric modelling  
carbon sequestration  
carbon capture  
carbon cycle  
carbon emissions  
carbon flows

carbon storage  
climate change  
climate change forcing  
climate change mitigation  
climate change modelling  
climate modelling  
climate predictions  
climate science  
global climate  
green house gases

**Discipline:** **Cosmology**

**Subjects**

baryon acoustic oscillations  
cosmic expansion  
cosmology  
dark energy  
dark energy mapping  
space observatory  
universe expansion

**Discipline:** **Earth science**

**Subjects**

atmospheric aerosols  
atmospheric chemistry  
atmospheric science  
atmospheric technology  
biogeochemistry  
chemical ecology  
computational geomechanics  
computational geophysics  
computational geoscience  
contaminant hydrology  
earth sciences  
ecoinformatics  
ecosystems

forestry  
geoastrophysics  
geochemical transport  
geochemistry  
geologic modeling  
geophysics  
geothermal energy  
hydroecology  
hydrogeology  
hydrogeophysics  
hydrology  
isotope geochemistry  
land use  
marine geochemistry  
mineralogy  
molecular ecology  
molecular geochemistry  
molecular microbial ecology  
nanogeoscience  
oceanic science  
ozone photochemistry  
rock physics  
soil geochemistry  
terrestrial biogeochemistry  
water resources

**Discipline:** **Environmental science and technology**

**Subjects**

air pollution  
air quality  
bioremediation  
carbon-neutral transportation fuels  
chemical transformation  
chemical transport  
emissions

energy efficient technologies  
environmental bioremediation  
environmental characterization  
environmental cleanup  
environmental contamination  
environmental impact  
environmental policy  
environmental processes modelling  
environmental protection  
environmental remediation  
environmental restoration  
environmental science  
environmental stockpile stewardship  
environmental stress  
environmental sustainability  
environmental chemistry  
green chemistry  
land use  
natural attenuation  
nuclear waste  
policy analysis  
technical research  
toxic waste reduction

**Discipline: Imaging**

**Subjects**

atomic force microscopy  
biomedical imaging  
bolometer arrays  
cameras  
cardiac nuclear imaging  
cryo-electron microscopy  
crystallography  
electron microscopy  
electron tomography

high throughput discovery  
histologic molecular imaging  
imagers  
imaging  
macromolecular analysis  
magnetic soft x-ray microscopy  
microscopy  
molecular imaging  
multiscale and multimodal imaging  
multi-scale imaging  
nanoimaging  
neutrino telescope  
optical tweezers microscopy  
positron emission tomography  
Raman imaging  
scintillation radiation  
single-molecule fluorescence microscopy  
telescope  
x-ray crystallography  
x-ray microscopy

**Discipline:** **Information science**

**Subjects**

bioinformatics  
collaboration technology  
communications services  
cyberinfrastructure  
data analysis  
data management  
data services  
data sources  
data storage  
ecoinformatics  
informatics  
information science

metadata

omics analysis tools

**Discipline: Management**

**Subjects**

engineering business services

interdisciplinary science

scientific collaboration

**Discipline: Radiation**

**Subjects**

cosmic microwave background radiation

extreme ultraviolet radiation

gamma-ray detector system

radiation detectors

radiation effect

soft x-ray radiation

**Library: Engineering**

**Discipline: Accelerators**

**Subjects**

accelerator physics

accelerators

beam equipment

beam generators

beam physics

beam science

beamlines

cyclotron

high energy particle collisions

ion beams

ion sources

Large Hadron Collider

synchrotron

**Discipline: Building design**

**Subjects**

air pollutants  
air ventilation  
airflow  
building construction  
building design  
building energy use  
building heating  
building materials  
cool roofing materials  
health and productivity  
health risk assessments  
heat islands  
indoor air quality  
lighting  
lighting efficiency  
modelling  
pollutant control  
pollutant transport  
sustainable design  
thermal comfort  
windows

**Discipline: Characterization**

**Subjects**

high-throughput structure determination  
macromolecular protein crystallography  
mass spectrometry  
microcharacterization  
NMR  
protein crystallography  
Raman imaging  
x-ray crystallography

Discipline: **Computing science and technology**

**Subjects**

algorithmic design  
chemical simulation  
communications networking  
computational biology  
computational methodologies  
computational modelling  
computational science  
computational science of scale  
computational tools  
computational visualization  
computer infrastructure  
computer networking  
computer security  
computer simulation  
computer systems architecture  
computer visualization  
data management  
distributed computing  
emerging technology  
grid computing  
high performance computing  
high speed Internet networks  
high speed network  
large scale computing  
power-efficient computing  
pulsed power  
quantum computing  
remote computing  
software development  
software engineering  
software implementation

**Discipline: Detectors**

**Subjects**

bolometer arrays  
cameras  
detectors  
gamma-ray detector system  
scintillation detector

**Discipline: Electronics**

**Subjects**

charge-coupled devices  
electronic systems  
integrated circuits  
microelectronics

**Discipline: Energy science and technology**

**Subjects**

appliance energy use  
artificial photosynthesis  
batteries  
bioenergy  
biofuels  
biomass  
biosynthetic pathways  
building energy use  
carbon-neutral transportation fuels  
chemical energy  
clean energy generation  
combustion technologies  
electricity  
electricity markets  
electricity transmission  
energy  
energy bioscience  
energy consumption

energy conversion  
energy demand  
energy distribution  
energy efficiency  
energy efficient technologies  
energy end use  
energy harvesting  
energy policy  
energy production  
energy reservoir engineering  
energy simulation  
energy standards  
energy storage  
energy transmission  
fuel cells  
fuels  
fusion energy  
geothermal energy  
global energy use  
heavy ion fusion  
hydrocarbon fuels  
low emission combustion  
mechanochemical energy conversion  
multiscale information from microbial systems  
natural gas  
nuclear energy  
oil and gas resources  
photoelectrochemical cells  
photoionization  
photovoltaic semiconductor elements  
proton-proton interactions  
public policy  
purification and screening techniques  
sensors  
solar cells

solar energy  
spectroscopy  
stored energy  
subsurface energy production  
sustainable design  
transportation

**Discipline: Engineering**

**Subjects**

advanced instrumentation design  
atmospheric technology  
bioengineering  
bioinstrumentation  
energy reservoir engineering  
engineering  
engineering business services  
genomic technologies  
heavy ion fusion  
high-throughput analysis  
high-throughput technologies  
molecular motors  
nanofabrication  
nanoscale devices  
optical systems  
processing science  
pulsed power  
sensor technology for pathogen detection  
sensors  
synthetic biology

**Discipline: Imaging**

**Subjects**

atomic force microscopy  
biomedical imaging  
bolometer arrays  
cameras

cardiac nuclear imaging  
cryo-electron microscopy  
crystallography  
electron microscopy  
electron tomography  
high throughput discovery  
histologic molecular imaging  
imagers  
imaging  
macromolecular analysis  
magnetic soft x-ray microscopy  
microscopy  
molecular imaging  
multiscale and multimodal imaging  
multi-scale imaging  
nanoimaging  
neutrino telescope  
optical tweezers microscopy  
positron emission tomography  
Raman imaging  
scintillation radiation  
single-molecule fluorescence microscopy  
telescope  
x-ray crystallography  
x-ray microscopy

**Discipline:** **Information science**

**Subjects**

bioinformatics  
collaboration technology  
communications services  
cyberinfrastructure  
data analysis  
data management  
data services

data sources  
data storage  
ecoinformatics  
informatics  
information science  
metadata  
omics analysis tools

**Discipline: Light sources**

**Subjects**

advanced light source accelerator  
beam science  
extreme ultraviolet radiation  
gamma rays  
lasers  
optics  
photoionization  
soft x-ray radiation  
synchrotron light  
UV  
X-rays

**Discipline: Management**

**Subjects**

engineering business services  
interdisciplinary science  
scientific collaboration

**Discipline: Materials science and technology**

**Subjects**

biomimetic/bioinspired functional materials  
biomolecular materials  
condensed matter physics  
ferroelectrics  
magnets  
mask defect analysis

materials chemistry  
materials phase transformations  
materials science  
materials science behavior  
nanostructure materials  
photovoltaic semiconductor elements  
plastic electronics  
processing science  
quantum materials  
semiconductors  
solid state chemistry  
surface chemistry  
synthesis  
thermoelectrics  
ultrafast materials

**Discipline:    Nanoscience and technology**

**Subjects**

combinatorial nanoscience  
microcharacterization  
microelectronics  
molecular chemistry  
molecular machines  
molecular motors  
molecular science  
nanofabrication  
nanogeoscience  
nanoimaging  
nanointerfaces  
nanomaterials  
nanoscale devices  
nanoscience  
nanostructure fabrication  
nanostructure materials  
nanotechnology

nanotechnology

thin films

**Discipline: Polymers**

**Subjects**

polymers

**Discipline: Superconductors**

**Subjects**

superconducting magnets

superconductivity

**Discipline: Ultrafast science and technology**

**Subjects**

ultrafast materials

ultrafast/time-resolved studies

**Library: Environmental Design**

**Discipline: Building design**

**Subjects**

air pollutants

air ventilation

airflow

building construction

building design

building energy use

building heating

building materials

cool roofing materials

health and productivity

health risk assessments

heat islands

indoor air quality

lighting

lighting efficiency

modelling

pollutant control  
pollutant transport  
sustainable design  
thermal comfort  
windows

**Discipline: Information science**

**Subjects**

bioinformatics  
collaboration technology  
communications services  
cyberinfrastructure  
data analysis  
data management  
data services  
data sources  
data storage  
ecoinformatics  
informatics  
information science  
metadata  
omics analysis tools

**Discipline: Management**

**Subjects**

engineering business services  
interdisciplinary science  
scientific collaboration

**Discipline: Materials science and technology**

**Subjects**

biomimetic/bioinspired functional materials  
biomolecular materials  
condensed matter physics  
ferroelectrics  
magnets

mask defect analysis  
materials chemistry  
materials phase transformations  
materials science  
materials science behavior  
nanostructure materials  
photovoltaic semiconductor elements  
plastic electronics  
processing science  
quantum materials  
semiconductors  
solid state chemistry  
surface chemistry  
synthesis  
thermoelectrics  
ultrafast materials

**Library: Mathematics Statistics**

**Discipline: Information science**

**Subjects**

bioinformatics  
collaboration technology  
communications services  
cyberinfrastructure  
data analysis  
data management  
data services  
data sources  
data storage  
ecoinformatics  
informatics  
information science  
metadata  
omics analysis tools

Discipline: **Management**

Subjects

engineering business services

interdisciplinary science

scientific collaboration

Discipline: **Mathematics**

Subjects

mathematical physics

mathematics

mathematics modelling

numerical algorithms

partial different equations

Library: **Optometry and Health Sciences**

Discipline: **Genomics**

Subjects

agricultural systems

biofuels

bioinformatics

bioinstrumentation

cloning

computational analysis

computational genomics

energy bioscience

epigenetics

evolutionary genomics

functional genomics

gene regulatory networks

gene structures

genetic analysis

genetic expression

genetics

genetics - biological pathways

genetics - molecular markers  
genome annotation  
genome biology  
genome maps  
genome sequence characterization  
genome sequences analysis  
genomic analyses  
genomic technologies  
genomics  
high-throughput sequencing  
metagenomics  
microarray analysis  
photosynthesis  
phylogenomics  
production sequencing  
sequencing  
structural cell biology  
structural genomics  
systems biology  
target selection  
transcription regulation

**Discipline:** Health science

**Subjects**

Alzheimer's disease  
biomedical imaging  
breast cancer detection  
cancer biology  
cancer detection  
cancer therapy  
cardiac nuclear imaging  
cardiology  
cell-cell recognition in the immune system  
cognition  
DNA repair

drug design  
environment  
health  
health and safety  
heart disease  
malaria  
memory  
neurodegenerative disease  
Parkinson's disease  
safety  
sensor technology for pathogen detection

## Discipline: **Imaging**

### Subjects

atomic force microscopy  
biomedical imaging  
bolometer arrays  
cameras  
cardiac nuclear imaging  
cryo-electron microscopy  
crystallography  
electron microscopy  
electron tomography  
high throughput discovery  
histologic molecular imaging  
imagers  
imaging  
macromolecular analysis  
magnetic soft x-ray microscopy  
microscopy  
molecular imaging  
multiscale and multimodal imaging  
multi-scale imaging  
nanoimaging  
neutrino telescope

optical tweezers microscopy  
positron emission tomography  
Raman imaging  
scintillation radiation  
single-molecule fluorescence microscopy  
telescope  
x-ray crystallography  
x-ray microscopy

**Discipline: Information science**

**Subjects**

bioinformatics  
collaboration technology  
communications services  
cyberinfrastructure  
data analysis  
data management  
data services  
data sources  
data storage  
ecoinformatics  
informatics  
information science  
metadata  
omics analysis tools

**Discipline: Management**

**Subjects**

engineering business services  
interdisciplinary science  
scientific collaboration

**Discipline: Optics**

**Subjects**

mask defect analysis  
multilayer optics

novel diffractive optics

**Discipline: Proteomics**

**Subjects**

high-throughput protein expression  
macromolecular protein crystallography  
protein crystallography  
protein folding  
proteins  
proteomic markers  
proteomics  
structure prediction

**Library: Physics-Astronomy**

**Discipline: Accelerators**

**Subjects**

accelerator physics  
accelerators  
beam equipment  
beam generators  
beam physics  
beam science  
beamlines  
cyclotron  
high energy particle collisions  
ion beams  
ion sources  
Large Hadron Collider  
synchrotron

**Discipline: Astrophysics**

**Subjects**

astrophysics  
astrophysics theory  
baryon acoustic oscillations

cosmic microwave background radiation

dark energy

dark energy mapping

exoplanets

geoastrophysics

gravitational weak lensing

interstellar chemistry

luminous galaxies

nuclear astrophysics

quasars

space observatory

supernovae

telescope

## Discipline: **Characterization**

### Subjects

high-throughput structure determination

macromolecular protein crystallography

mass spectrometry

microcharacterization

NMR

protein crystallography

Raman imaging

x-ray crystallography

## Discipline: **Cosmology**

### Subjects

baryon acoustic oscillations

cosmic expansion

cosmology

dark energy

dark energy mapping

space observatory

universe expansion

**Discipline: Detectors**

**Subjects**

bolometer arrays  
cameras  
detectors  
gamma-ray detector system  
scintillation detector

**Discipline: High energy physics**

**Subjects**

high energy neutrinos  
high energy particle collisions  
high energy physics  
high-energy heavy-ion physics

**Discipline: Imaging**

**Subjects**

atomic force microscopy  
biomedical imaging  
bolometer arrays  
cameras  
cardiac nuclear imaging  
cryo-electron microscopy  
crystallography  
electron microscopy  
electron tomography  
high throughput discovery  
histologic molecular imaging  
imagers  
imaging  
macromolecular analysis  
magnetic soft x-ray microscopy  
microscopy  
molecular imaging  
multiscale and multimodal imaging

multi-scale imaging  
nanoimaging  
neutrino telescope  
optical tweezers microscopy  
positron emission tomography  
Raman imaging  
scintillation radiation  
single-molecule fluorescence microscopy  
telescope  
x-ray crystallography  
x-ray microscopy

**Discipline:**    **Information science**

**Subjects**

bioinformatics  
collaboration technology  
communications services  
cyberinfrastructure  
data analysis  
data management  
data services  
data sources  
data storage  
ecoinformatics  
informatics  
information science  
metadata  
omics analysis tools

**Discipline:**    **Light sources**

**Subjects**

advanced light source accelerator  
beam science  
extreme ultraviolet radiation  
gamma rays  
lasers

optics

photoionization

soft x-ray radiation

synchrotron light

UV

X-rays

**Discipline: Management**

**Subjects**

engineering business services

interdisciplinary science

scientific collaboration

**Discipline: Nuclear science**

**Subjects**

atomic science

dense nuclear matter

heavy ions

high energy neutrinos

high energy nuclear collisions

neutrino telescope

nuclear astrophysics

nuclear chemistry

nuclear dynamics

nuclear energy

nuclear physics

nuclear properties under extreme conditions

nuclear science

nuclear structure

nuclear theory

nuclear waste

quark-gluon plasma

solar neutrinos

**Discipline: Optics**

**Subjects**

mask defect analysis  
multilayer optics  
novel diffractive optics

**Discipline:** Particle physics

**Subjects**

b-quark  
lepton flavor  
neutral B-meson system  
neutrinos  
particle theory  
quark  
scintillation detector  
symmetries  
tau-lepton

**Discipline:** Physics

**Subjects**

atomic physics  
chemical physics  
condensed matter physics  
conformal field theory  
electroweak symmetry breaking  
formal theory  
fundamental symmetries  
grand unification  
mathematical physics  
molecular physics  
molecular structure and dynamics  
nuclear physics  
particle physics  
perturbative QCD  
physics  
plasma physics  
QCD in hadronic physics  
quantum gravity

quark decays  
radiation  
radiation physics  
soft matter  
standard model  
supersymmetry  
topological field theory

**Discipline: Quantum theory and science**

**Subjects**

quantum gravity  
quantum groups  
quantum mechanics  
quantum theory  
statistical mechanics  
string theory

**Discipline: Radiation**

**Subjects**

cosmic microwave background radiation  
extreme ultraviolet radiation  
gamma-ray detector system  
radiation detectors  
radiation effect  
soft x-ray radiation

**Discipline: Ultrafast science and technology**

**Subjects**

ultrafast materials  
ultrafast/time-resolved studies

**Library: Public Health**

**Discipline: Genomics**

**Subjects**

agricultural systems  
biofuels

bioinformatics  
bioinstrumentation  
cloning  
computational analysis  
computational genomics  
energy bioscience  
epigenetics  
evolutionary genomics  
functional genomics  
gene regulatory networks  
gene structures  
genetic analysis  
genetic expression  
genetics  
genetics - biological pathways  
genetics - molecular markers  
genome annotation  
genome biology  
genome maps  
genome sequence characterization  
genome sequences analysis  
genomic analyses  
genomic technologies  
genomics  
high-throughput sequencing  
metagenomics  
microarray analysis  
photosynthesis  
phylogenomics  
production sequencing  
sequencing  
structural cell biology  
structural genomics  
systems biology  
target selection

transcription regulation

**Discipline: Health science**

**Subjects**

Alzheimer's disease  
biomedical imaging  
breast cancer detection  
cancer biology  
cancer detection  
cancer therapy  
cardiac nuclear imaging  
cardiology  
cell-cell recognition in the immune system  
cognition  
DNA repair  
drug design  
environment  
health  
health and safety  
heart disease  
malaria  
memory  
neurodegenerative disease  
Parkinson's disease  
safety  
sensor technology for pathogen detection

**Discipline: Imaging**

**Subjects**

atomic force microscopy  
biomedical imaging  
bolometer arrays  
cameras  
cardiac nuclear imaging  
cryo-electron microscopy  
crystallography

electron microscopy  
electron tomography  
high throughput discovery  
histologic molecular imaging  
imagers  
imaging  
macromolecular analysis  
magnetic soft x-ray microscopy  
microscopy  
molecular imaging  
multiscale and multimodal imaging  
multi-scale imaging  
nanoimaging  
neutrino telescope  
optical tweezers microscopy  
positron emission tomography  
Raman imaging  
scintillation radiation  
single-molecule fluorescence microscopy  
telescope  
x-ray crystallography  
x-ray microscopy

**Discipline: Information science**

**Subjects**

bioinformatics  
collaboration technology  
communications services  
cyberinfrastructure  
data analysis  
data management  
data services  
data sources  
data storage  
ecoinformatics

informatics  
information science  
metadata  
omics analysis tools

**Discipline: Management**

**Subjects**

engineering business services  
interdisciplinary science  
scientific collaboration

**Discipline: Proteomics**

**Subjects**

high-throughput protein expression  
macromolecular protein crystallography  
protein crystallography  
protein folding  
proteins  
proteomic markers  
proteomics  
structure prediction