SpringerProtocolos y SpringerImages: nuevas herramientas para la investigación y enseñanza

Presentación

Thijs Willems

Springer

Comprehensive database of peer reviewed, reproducible procedures for scientific experiments

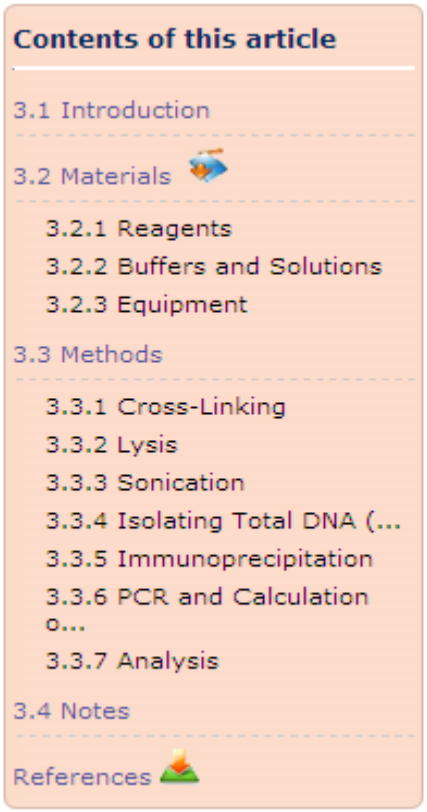
SPRINGERPROTOCOLS

Contents

- What are protocols?
- SpringerProtocols: content
- SpringerProtocols: platforms
- SpringerProtocols: business model

What are protocols?

- Step-by-step instructions, in a standardized format, that help researchers conduct experiments
- Predefined written procedural methods in the design and implementation of experiments including:
  - Bias
  - Safety
  - Equipment
  - Statistical methods
  - Reporting
  - Troubleshooting
- Used primarily in the life sciences



What makes a good protocol?

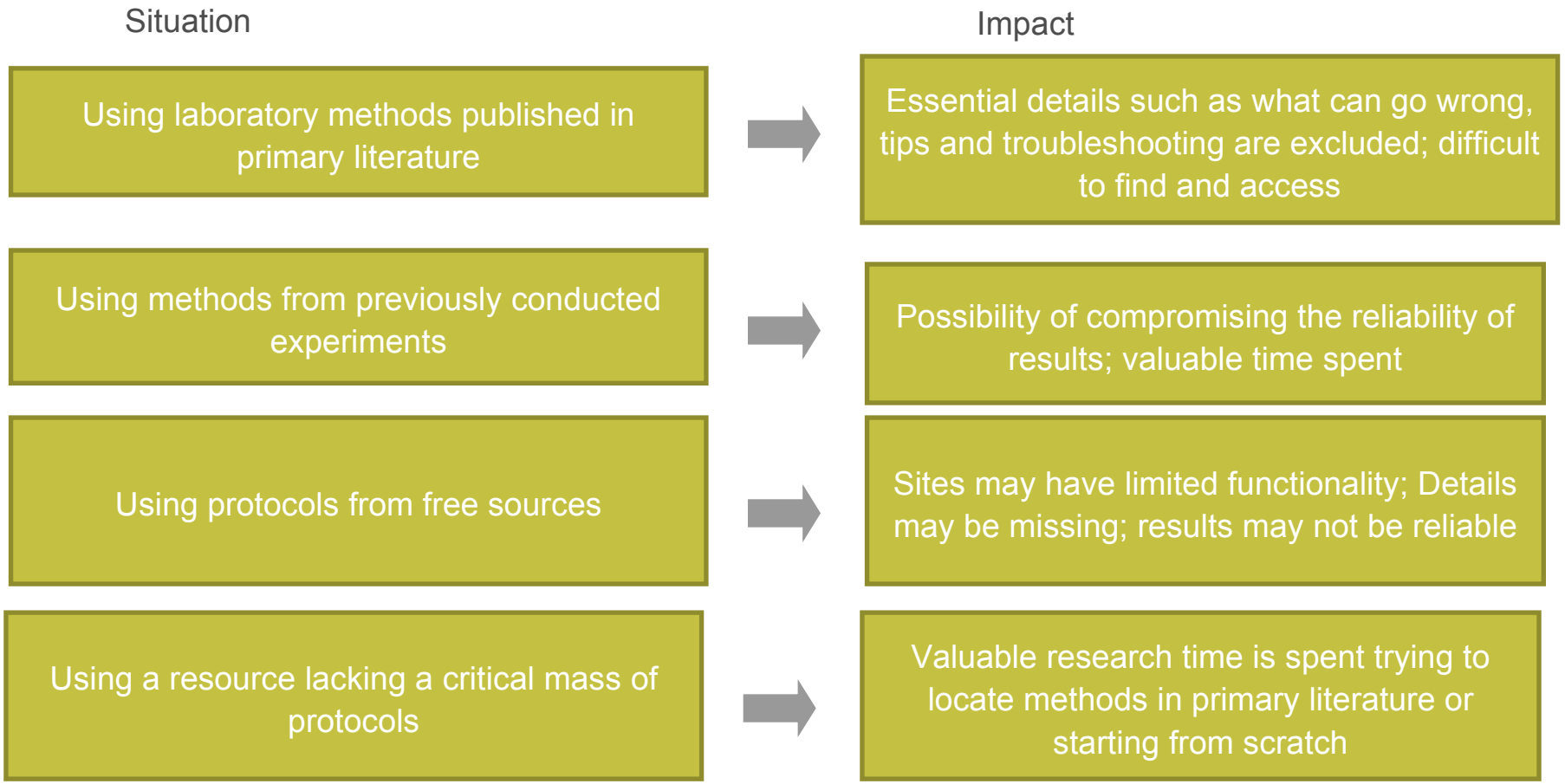
- Complete and thorough instructions
- Detailed materials list
- Clearly organized
- Supporting images/tables
- Video Protocols
- Trustworthy source

Applications

Researchers use protocols to:

- Solve biological problems on a molecular level
- Identify, understand, manipulate, and explain biological processes, functions, structure, and activity of molecular cell components
- Target cellular processes involved in disease (useful in developing early diagnosis and targeted treatments)
- Discover new approaches to treating disease
- Develop new drugs and lower the cost of drug development

What is the impact when protocols are missing?



CONTENT

High quality content

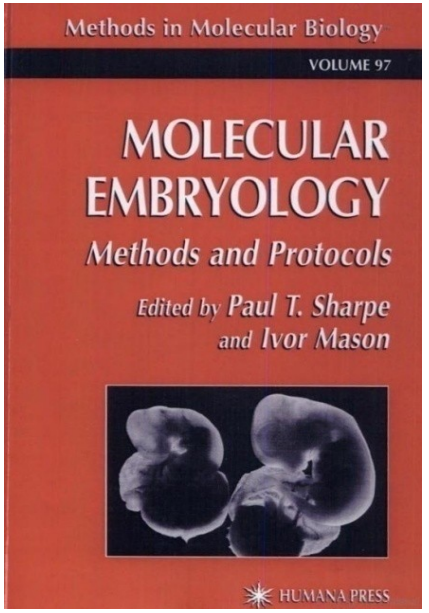
- **Book Series** (by Humana Press)
  - –*Methods in Molecular Biology*

    Editor: Dr. John M. Walker
  - –Methods in Molecular Medicine
  - –Methods in Biotechnology
  - –Methods in Pharmacology and Toxicology
  - –NeuroMethods
- **Journals**

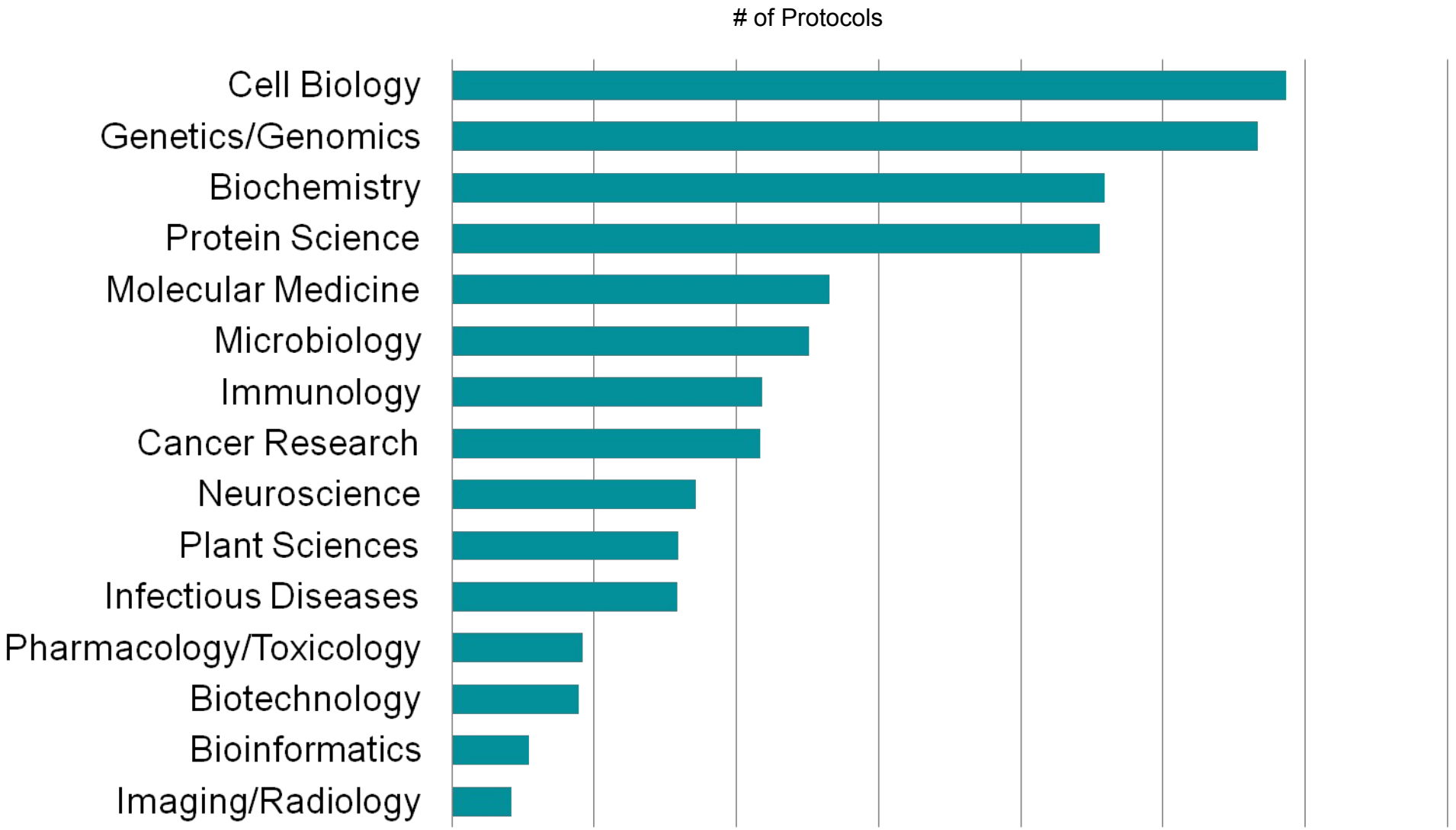
All protocols are peer-reviewed

- **Hand Books**
  - –The Protein Protocols Handbook
  - –Molecular Biomethods Handbook

  And many more….



Subject Collections



Discoverability

Majority of Springer Protocols are available in other indexes:

- MEDLINE
- **PubMed**
- Embase.com
- Scopus
- ISI Web of Science
- **Google and Google Scholar**

And many more…

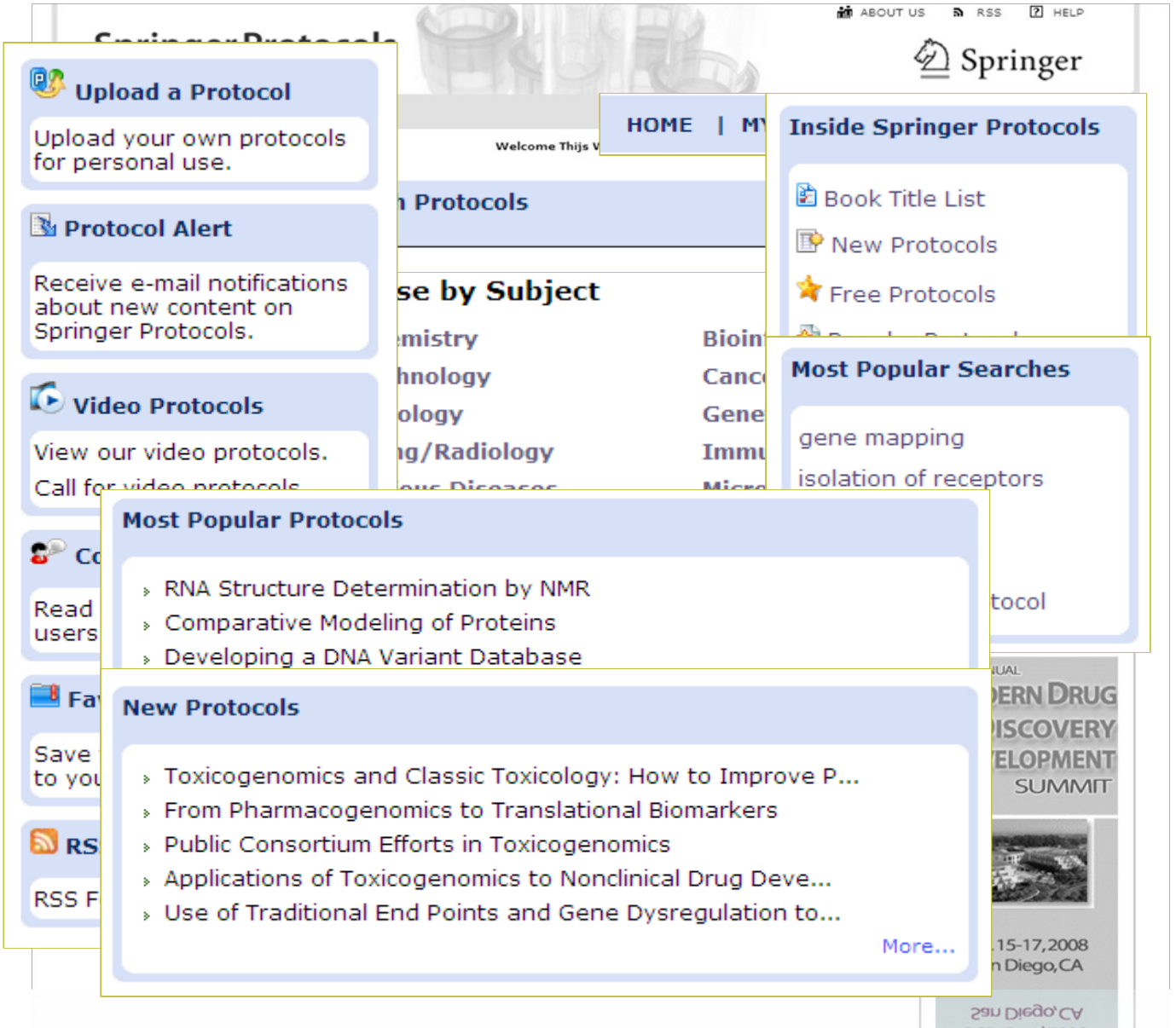
Largest collection of protocols

- SpringerProtocols database adds about 2,000 protocols every year

- The SpringerProtocols database keeps the alternative version, when a protocol is being updated. This allow labs without latest equipment to produce the same experiment with older equipment or methods

PLATFORMS

SpringerProtocols.com



SP: Homepage

Search

Browse

Interactive tools

Account functionality

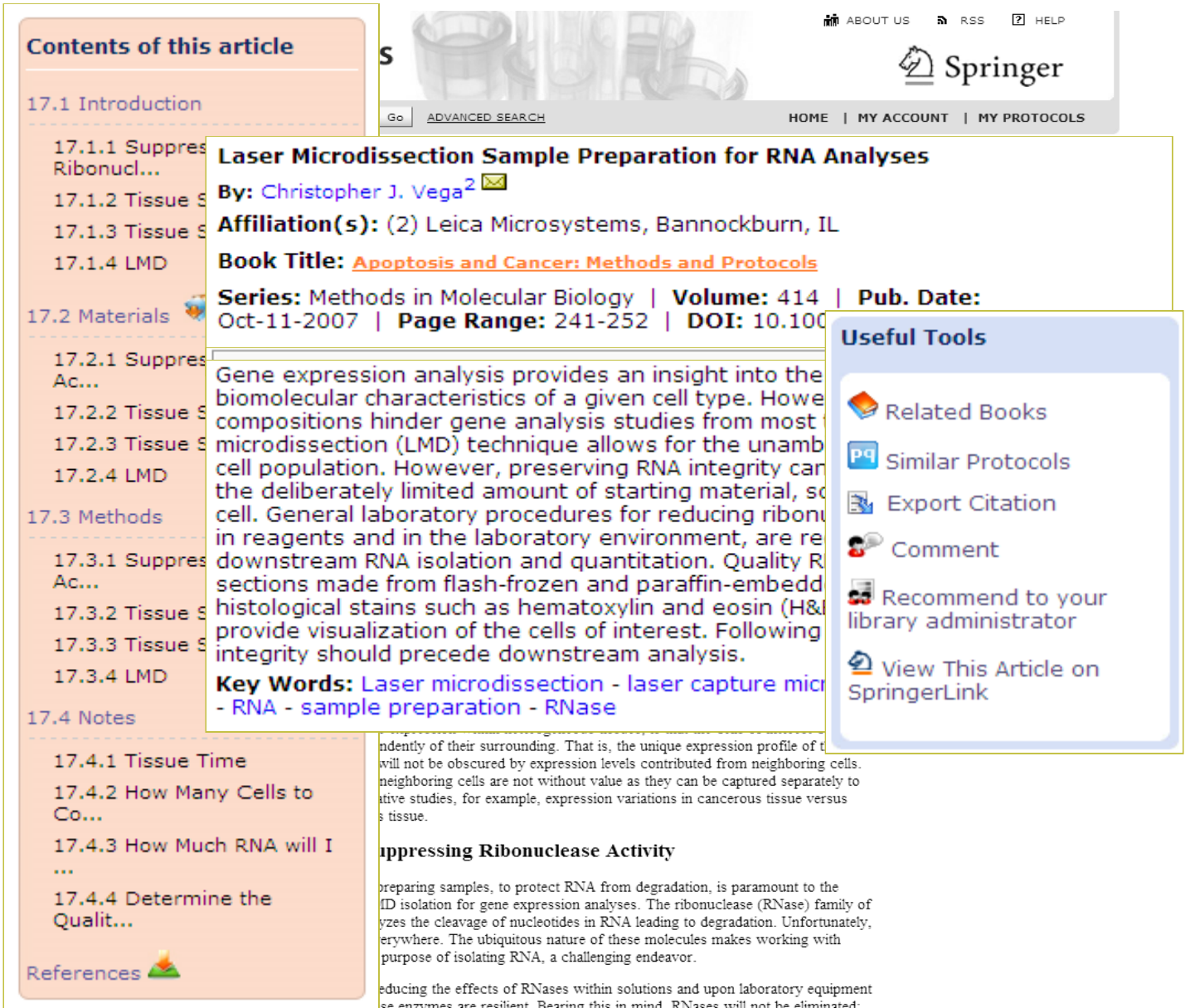
Inside SpingerProtocols

Popular searches

Popular protocols

New protocols

SpringerProtocols.com



SP: Full-text protocol

Table of content

Bibliographic info

Article tools

Abstract

Useful tools

SpringerProtocols.com

- Linkable Journal/Book titles from main page
  - HTML Version
- Complete list online
  - Updated daily

Volume	Title	Editor	ISBN	eISBN	Subject Collection	DOI	Pub Date	Uploaded Date
80	Immunochemical Protocols	Test Editor	978-0-89603-493-8	978-0-89603-493-8	Biochemistry	10.1007/978-1-59259-257-9	Apr-02-1998	Apr-02-1998
310	Chemical Genomics: Reviews and Protocols	Test Editor	978-0-89603-493-4	978-0-89603-493-4	Biochemistry	10.1007/978-1-59259-948-6	Aug-01-2005	Aug-01-2005
319	Cell Imaging Techniques: Methods and Protocols	Test Editor	978-0-89603-493-2	978-0-89603-493-2	Pharmacology/Toxicology	10.1007/978-1-59259-993-6	Nov-01-2005	Nov-01-2005

SpringerProtocols.com: Library Administrative Tools

MARC Records

- Book level detail basic Springer MARC records
- springer.com/marc

Statistics

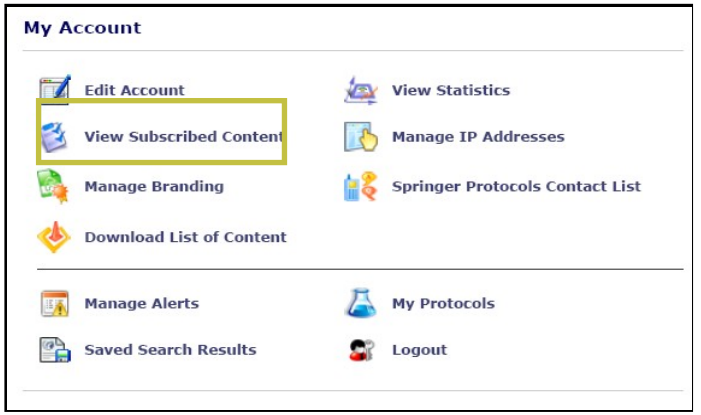
- COUNTER Book Report 2
- Coremetrics

  Available to:

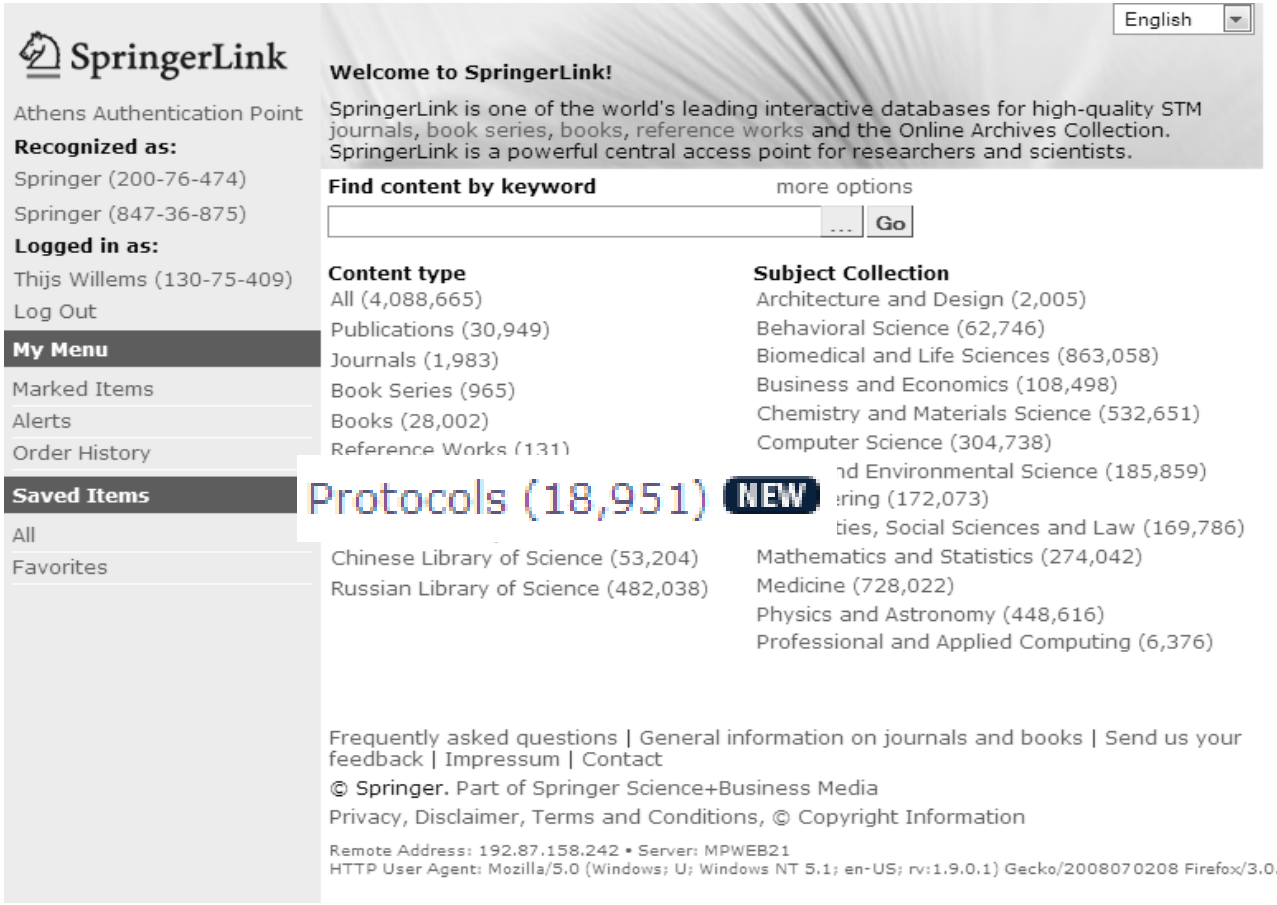
  Libraries

  Consortia Administrators

  Internal Personnel



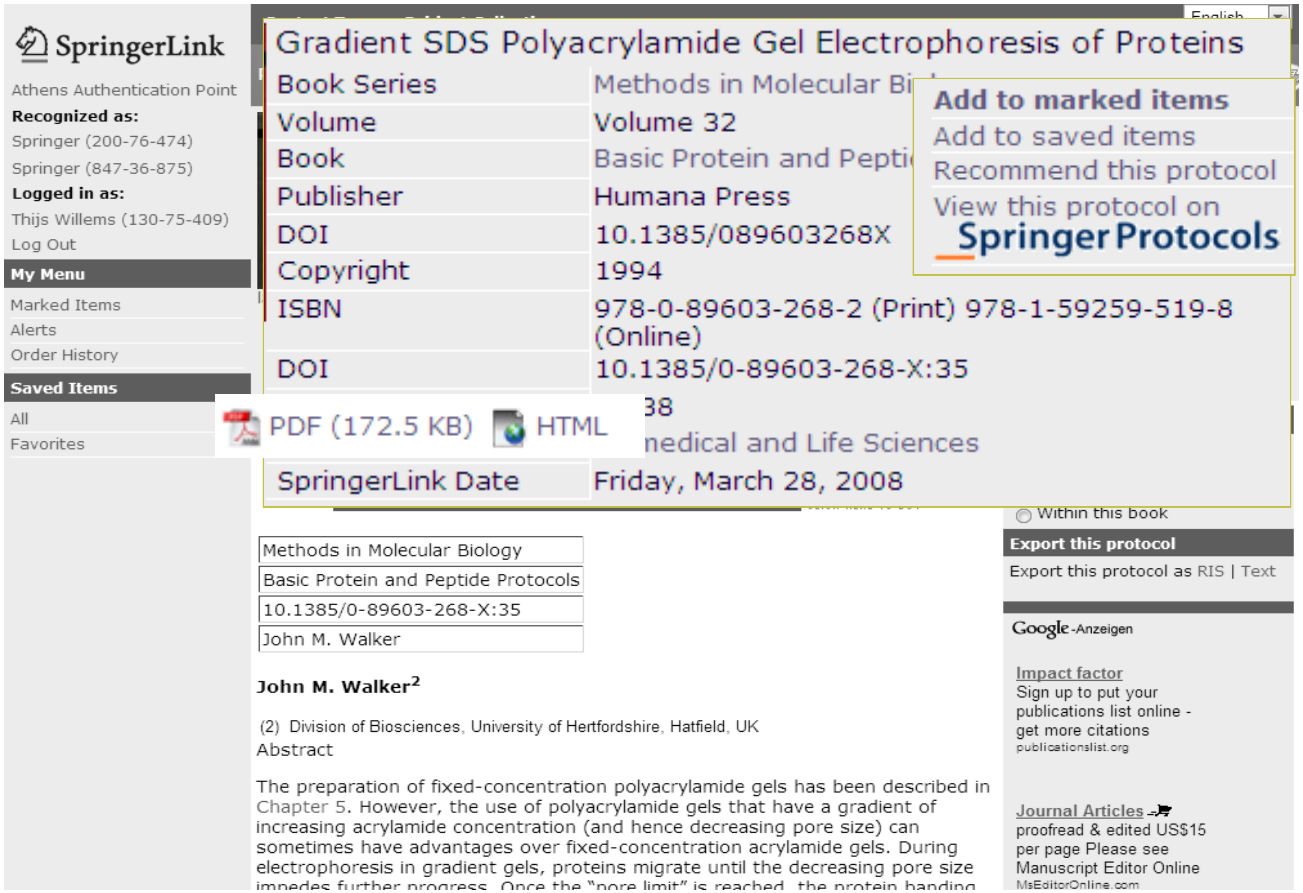
SpringerLink



SL: Homepage

Filter by content type

SpringerLink



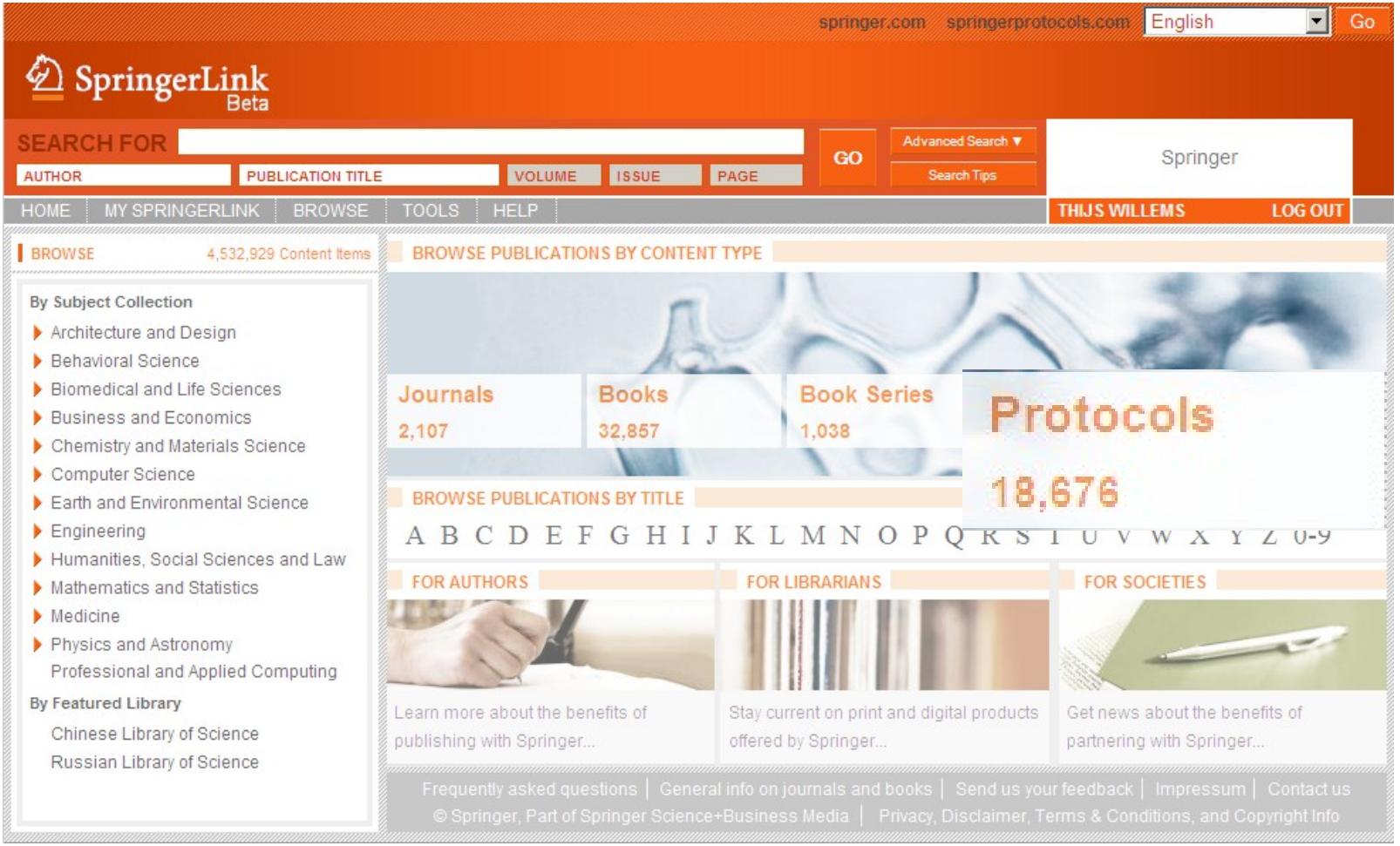
SL: Full-text protocol

Bibliographic info

Useful tools

PDF & HTML link

New SpringerLink



HOW TO SUBSCRIBE TO SPRINGERPROTOCOLS

Business model

- Institutional licenses only, no individual subscriptions
- Two types of licenses:
  - Access-only
  - Archival rights
    - ownership to subscribed years
    - or ownership to subscribed years + archive
- Annual subscription fee
- Content:
  - Subject packages – only access via SpringerProtocols
  - Full collection - access via SpringerProtocols **and** SpringerLink
- Tiered pricing based on size of institution

Trial

- Trial (new customers only)
  - 60 days duration
  - With consent to market directly to end users during trial
  - Usage statistics available after trial

Summary

- **Largest Database**
  - 20,000 by end of 2009
  - 2,000 added annually
    - 1,000 updated
- **Quality Content**
  - Methods in Molecular Biology
    - Editor-in-Chief Dr. John Walker
  - Journals
  - Peer Reviewed
  - Indexed by PubMed
- **Content Updated Constantly**

- **User-Centric features**
  - Upload a protocol
  - Personalization features
    - Alerts, RSS, Bookmark…
  - Video Protocols
  - Comment on a protocol
- **Flexible Business Model**
  - Access-only or Ownership
  - SpringerLink OR Springer Protocols
  - Tiered Pricing

Your guide to the essence of research

SPRINGERIMAGES

Contents

- The value of an image database
- SpringerImages
- Content
- Site guide
- Business model

THE VALUE OF AN IMAGE DATABASE

Why does a scientific image database matter?

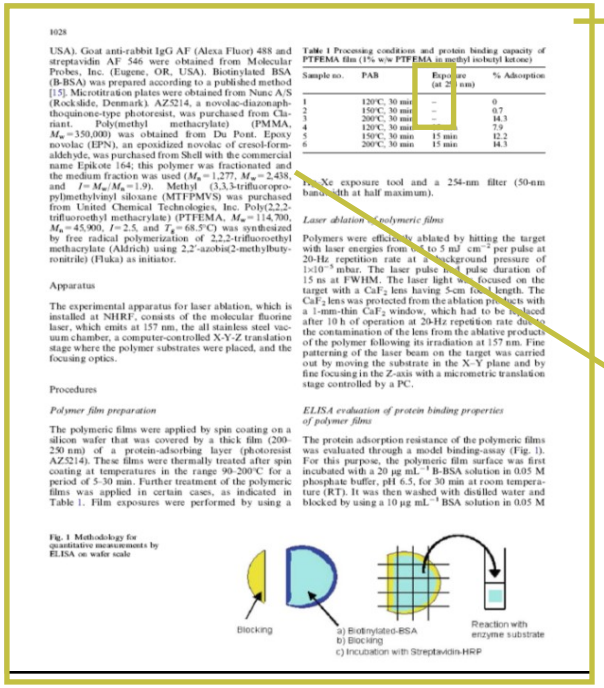
Because often, researchers are looking for answers to specific questions…

…and those answers are in the images

Example

Let's say I want to know what the best settings are to achieve the highest adsorption level of PTFEMA?

Not the answer



1028

USA). Goat anti-rabbit IgG AF (Alexa Fluor) 488 and streptavidin AF 546 were obtained from Molecular Probes, Inc. (Eugene, OR, USA). Biotinylated BSA (B-BSA) was prepared according to a published method [15]. Microtitration plates were obtained from Nunc A/S (Rocklide, Denmark). AZ5214, a novolac-diazonaphthoquinone-type photoresist, was purchased from Clariant. Poly(methyl methacrylate) (PMMA, $M_w = 350{,}000$) was obtained from Du Pont. Epoxy novolac (EPN), an epoxidized novolac of cresol-formaldehyde, was purchased from Shell with the commercial name Epikote 164; this polymer was fractionated and the medium fraction was used ($M_n = 1{,}277$, $M_w = 2{,}438$, and $I = M_w/M_n = 1.9$). Methyl (3,3,3-trifluoropropylmethylvinyl siloxane (MTFPMVS) was purchased from United Chemical Technologies, Inc. Poly(2,2,2-trifluoroethyl methacrylate) (PTFEMA, $M_w = 114{,}700$, $M_n = 45{,}900$, $I = 2.5$, and $T_g = 68.5$°C) was synthesized by free radical polymerization of 2,2,2-trifluoroethyl methacrylate (Aldrich) using 2,2'-azobis(2-methylbutyronitrile) (Fluka) as initiator.

Apparatus

The experimental apparatus for laser ablation, which is installed at NHRF, consists of the molecular fluorine laser, which emits at 157 nm, the all stainless steel vacuum chamber, a computer-controlled X-Y-Z translation stage where the polymer substrates were placed, and the focusing optics.

Procedures

Polymer film preparation

The polymeric films were applied by spin coating on a silicon wafer that was covered by a thick film (200–250 nm) of a protein-adsorbing layer (photoresist AZ5214). These films were thermally treated after spin coating at temperatures in the range 90–200°C for a period of 5–30 min. Further treatment of the polymeric films was applied in certain cases, as indicated in Table 1. Film exposures were performed by using a

Table 1 Processing conditions and protein binding capacity of PTFEMA film (1% w/w PTFEMA in methyl isobutyl ketone)

Sample no.	PAB	Exposure (at 254 nm)	% Adsorption
1	120°C, 30 min	–	0
2	150°C, 30 min	–	0.7
3	200°C, 30 min	–	14.3
4	120°C, 30 min	15 min	7.9
5	150°C, 30 min	15 min	12.2
6	200°C, 30 min	15 min	14.3

...Xe exposure tool and a 254-nm filter (50-nm bandwidth at half maximum).

Laser ablation of polymeric films

Polymers were efficiently ablated by hitting the target with laser energies from ... to 5 mJ cm^{-2} per pulse at 20-Hz repetition rate at a background pressure of 1×10^{-5} mbar. The laser pulse had pulse duration of 15 ns at FWHM. The laser light was focused on the target with a CaF_2 lens having 5-cm focal length. The CaF_2 lens was protected from the ablation products with a 1-mm-thin CaF_2 window, which had to be replaced after 10 h of operation at 20-Hz repetition rate due to the contamination of the lens from the ablative products of the polymer following its irradiation at 157 nm. Fine patterning of the laser beam on the target was carried out by moving the substrate in the X–Y plane and by fine focusing in the Z-axis with a micrometric translation stage controlled by a PC.

ELISA evaluation of protein binding properties of polymer films

The protein adsorption resistance of the polymeric films was evaluated through a model binding-assay (Fig. 1). For this purpose, the polymeric film surface was first incubated with a 20 μg mL^{-1} B-BSA solution in 0.05 M phosphate buffer, pH 6.5, for 30 min at room temperature (RT). It was then washed with distilled water and blocked by using a 10 μg mL^{-1} BSA solution in 0.05 M

Fig. 1 Methodology for quantitative measurements by ELISA on wafer scale

Answer

Table 1 Processing conditions and protein binding capacity of PTFEMA film (1% w/w PTFEMA in methyl isobutyl ketone)

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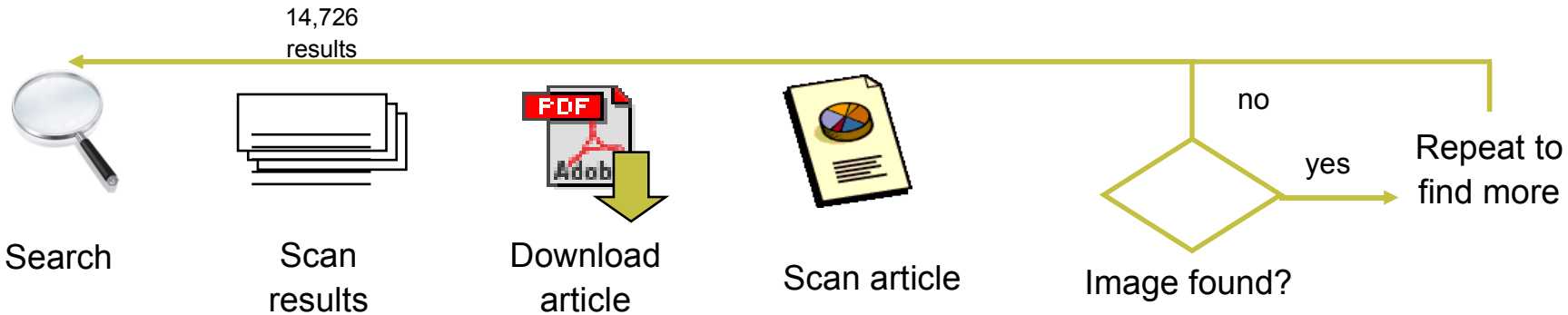
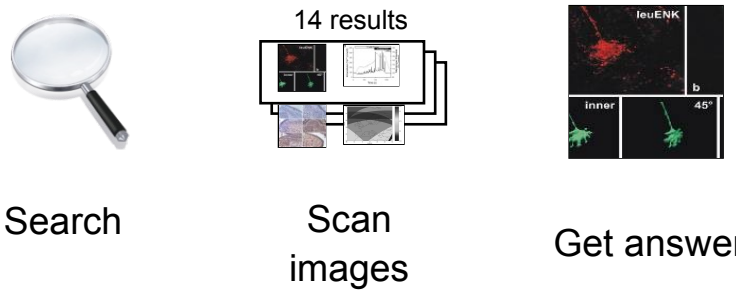
6	200°C, 30 min	15 min	14.3

Where SpringerImages adds value

Traditional method of finding an image



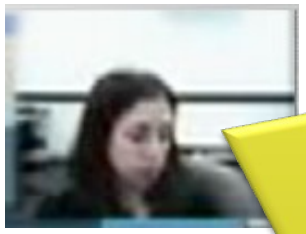
Finding images via SpringerImages



Reseachers….

- Find more images
- Find them easier
- Get answers faster

Feedback from researchers during a usability test



"I wanted to put in a particular biochemical pathway image.
I went to Google Images… I tried to do it through PubMed, searching for a few articles…but I wasn't able to find what I was looking for."

"Searching in PubMed, you can't see until you go the article and scroll through and see whether it has the image you're looking for."

"Google Images, there's all sorts of crap in there…"

"I had to look through all these articles by hand to find a nice picture of the pathway."

More feedback

“You can in fact skip reading the whole paper and honestly that is a huge improvement… it’s one of the most time consuming things in academia.”

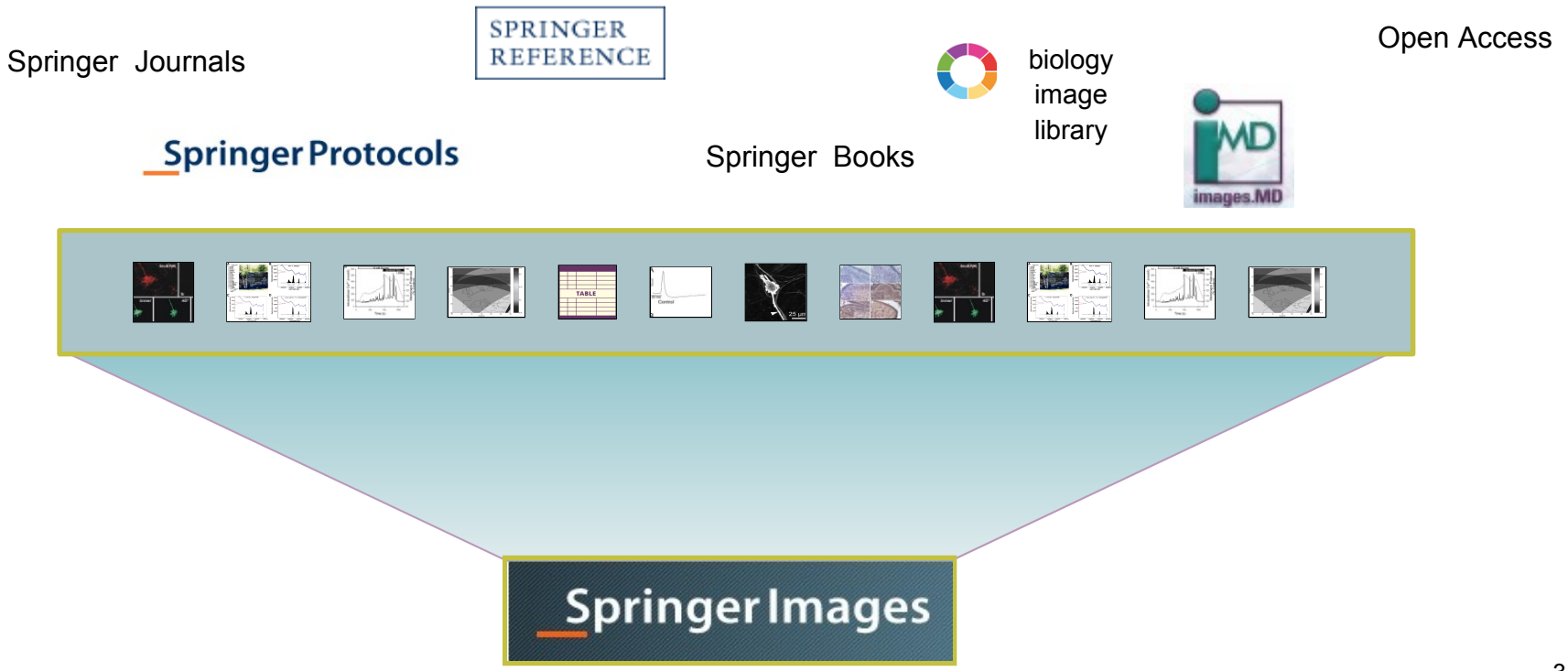
“I liked the details of a given image… being able to drill down and get specific information related to the data itself…
…that is really important for people who are interested in sharing information which isn’t their own. That is a really useful detail that I can’t say that I’ve seen in any other database.”

Users appreciate the time savings, the supporting data, and the quality.

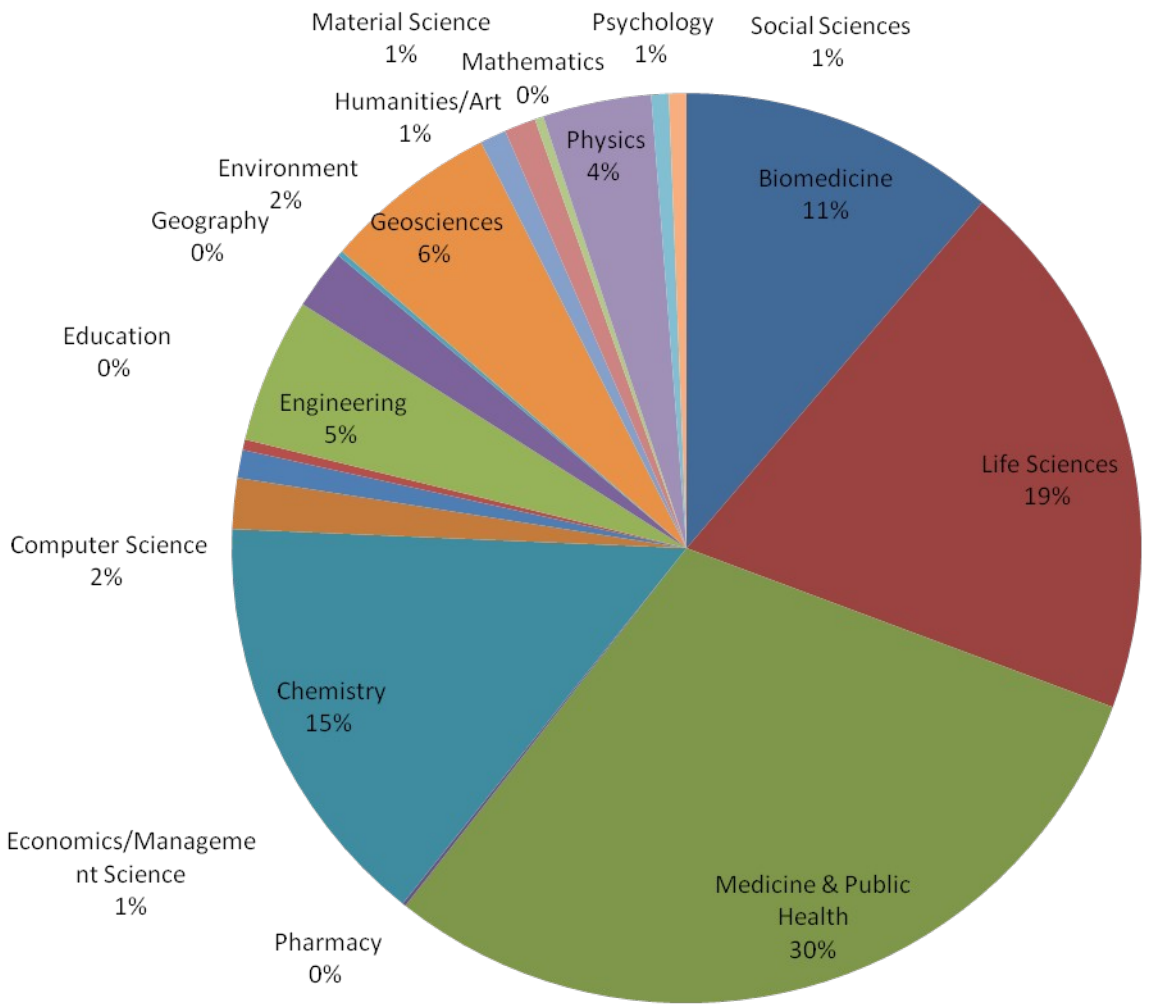
SPRINGERIMAGES

What is SpringerImages?

- A database of over 1.5 million images and associated pieces of full-text from Springer XML content, and third-party scientific image sources Images
  - Images include: drawings, photos, tables, charts, etc.

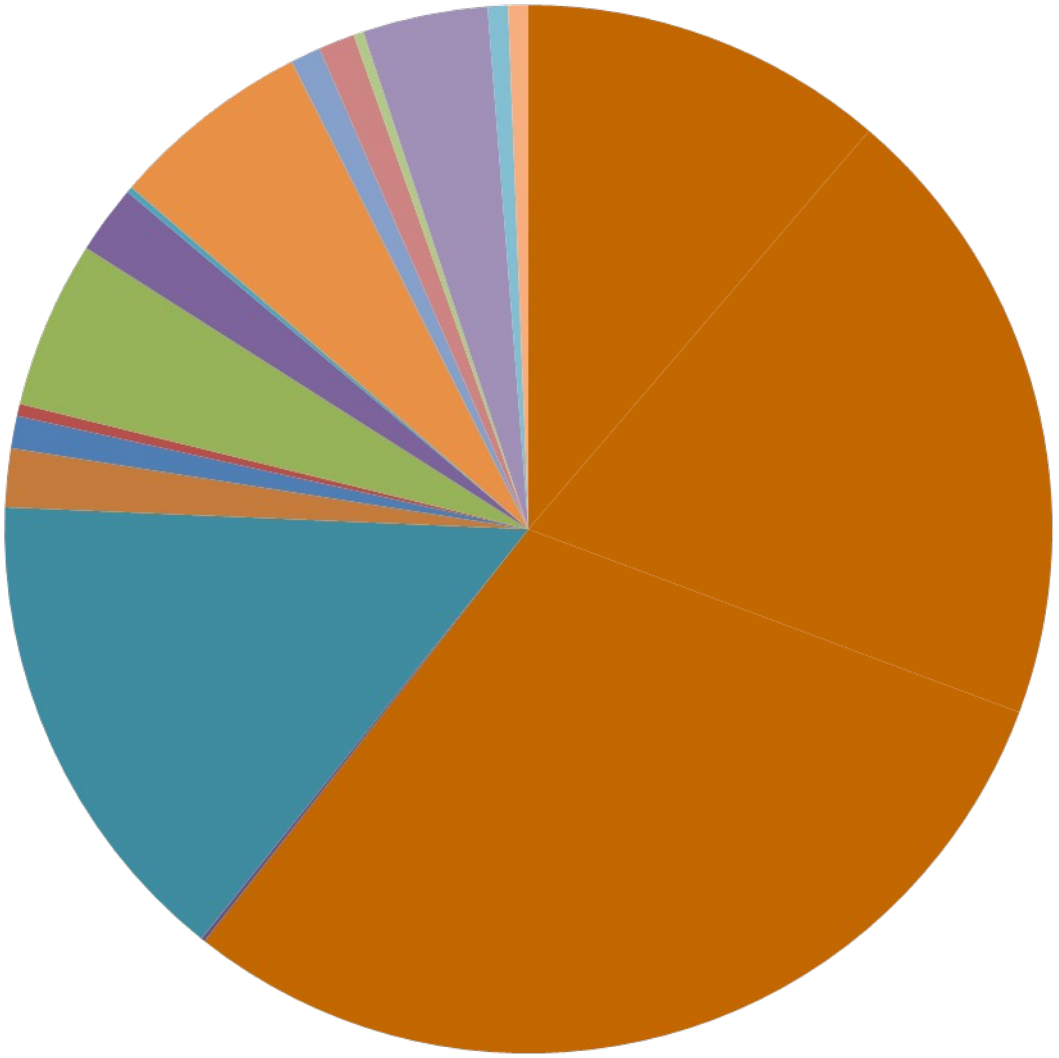


SpringerImages: an all science image database



Images*	Subject Collection
181,000	Biomedicine
312,000	Life Sciences
481,000	Medicine & Public Health
2,000	Pharmacy
240,000	Chemistry
29,000	Computer Science
16,000	Economics/Management Science
6,000	Education
83,000	Engineering
34,000	Environment
3,000	Geography
100,000	Geosciences
15,000	Humanities/Art
18,000	Material Science
5,000	Mathematics

All science image database – strong in medicine and life sciences



Two purchase options

•SpringerImages (Complete)

•SpringerImages: Medical & Life Sciences

SpringerImages: Medical & Life Sciences includes following subject collections:

•Biomedicine

•Life Sciences

•Medicine & Public Health

•Pharmacy

What may users do with the images

- Subscribers have unlimited **personal use** of the images for the life of their subscription. This covers lectures, presentations, research, et cetera - **any non-commercial use**.

- You **cannot** publish or use the images commercially, in print or online, without acquring standard permissions through the Springer's permissions departments.

Image permission examples

Within license

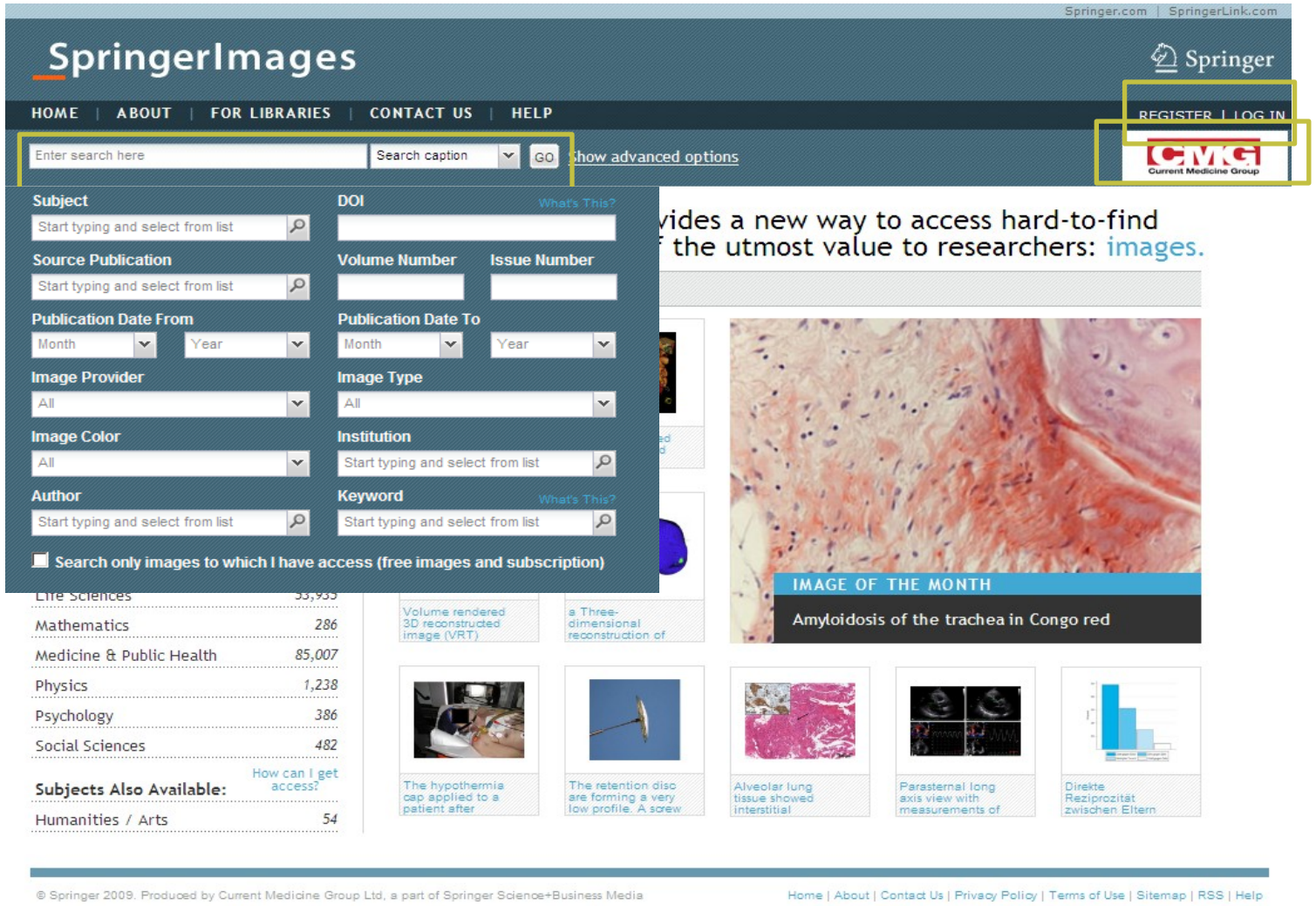
- Teaching professor uses image in a course or lecture
- Researcher gives presentation at a conference
- Reseacher uses image in their thesis
- Image is put into a coursepack which is given for free to students

Request permissions needed

- Researchers uses image in an article or book which will be published
- Images being used for promotional material, e.g. folder
- Images being used for trainings or slide kits

PLATFORM

Home Page



Register once and log in to use features like 'image sets' and 'save searches'

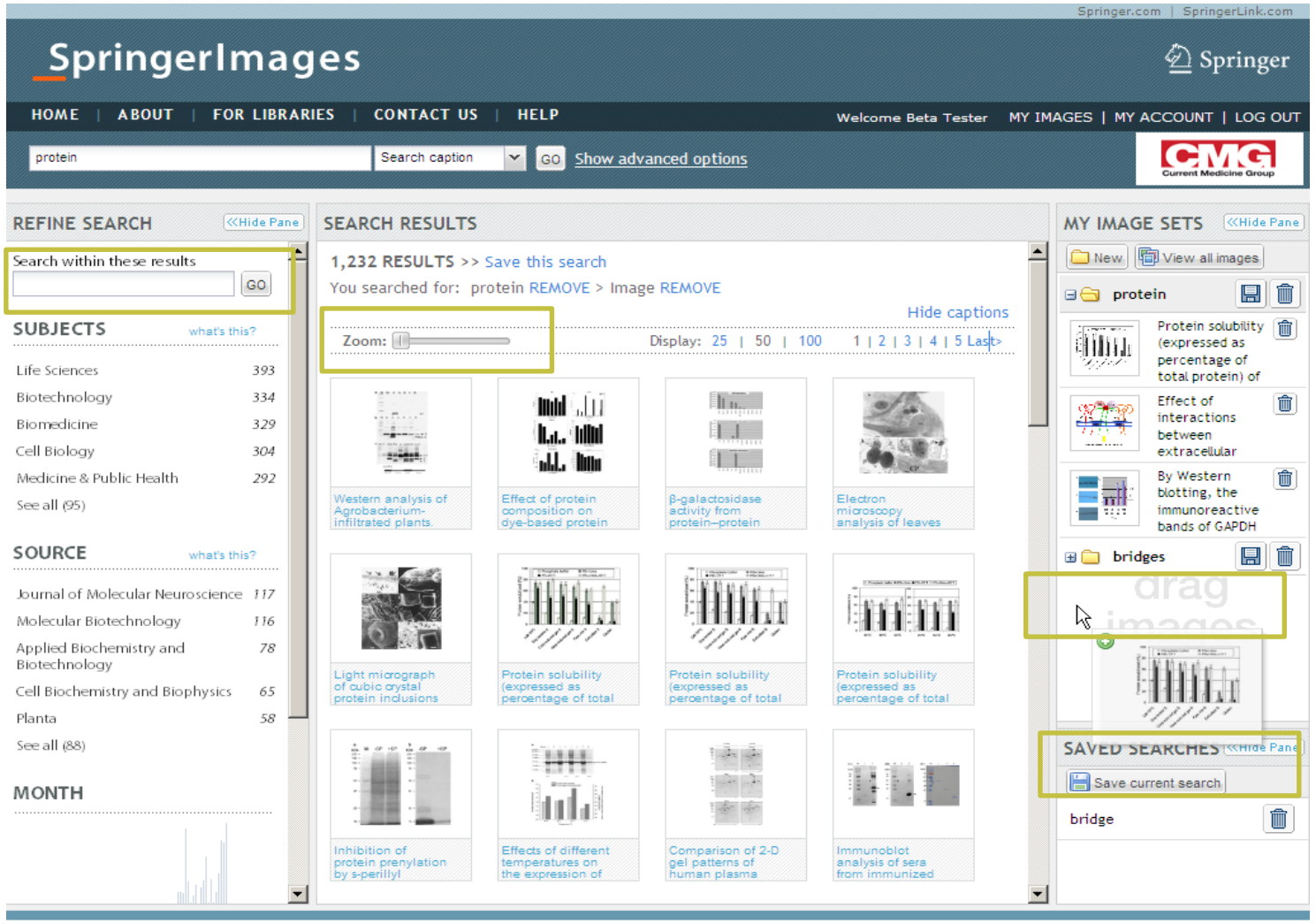
Logo of the institution – access is granted by IP

Basic search – search through image captions or all text fields

Advanced search - extend your basic search with advanced search options

Browse for images by subject area

Search Results Page



Refine your search results easily by: text, subject, source, publication date or image type

Zoom in to have a closer look at the results. Click on one of the thumbnails to go to image details page

Drag and drop your favourite images to one of your image sets (log in required)

Save your search (login required)

Image Details Page

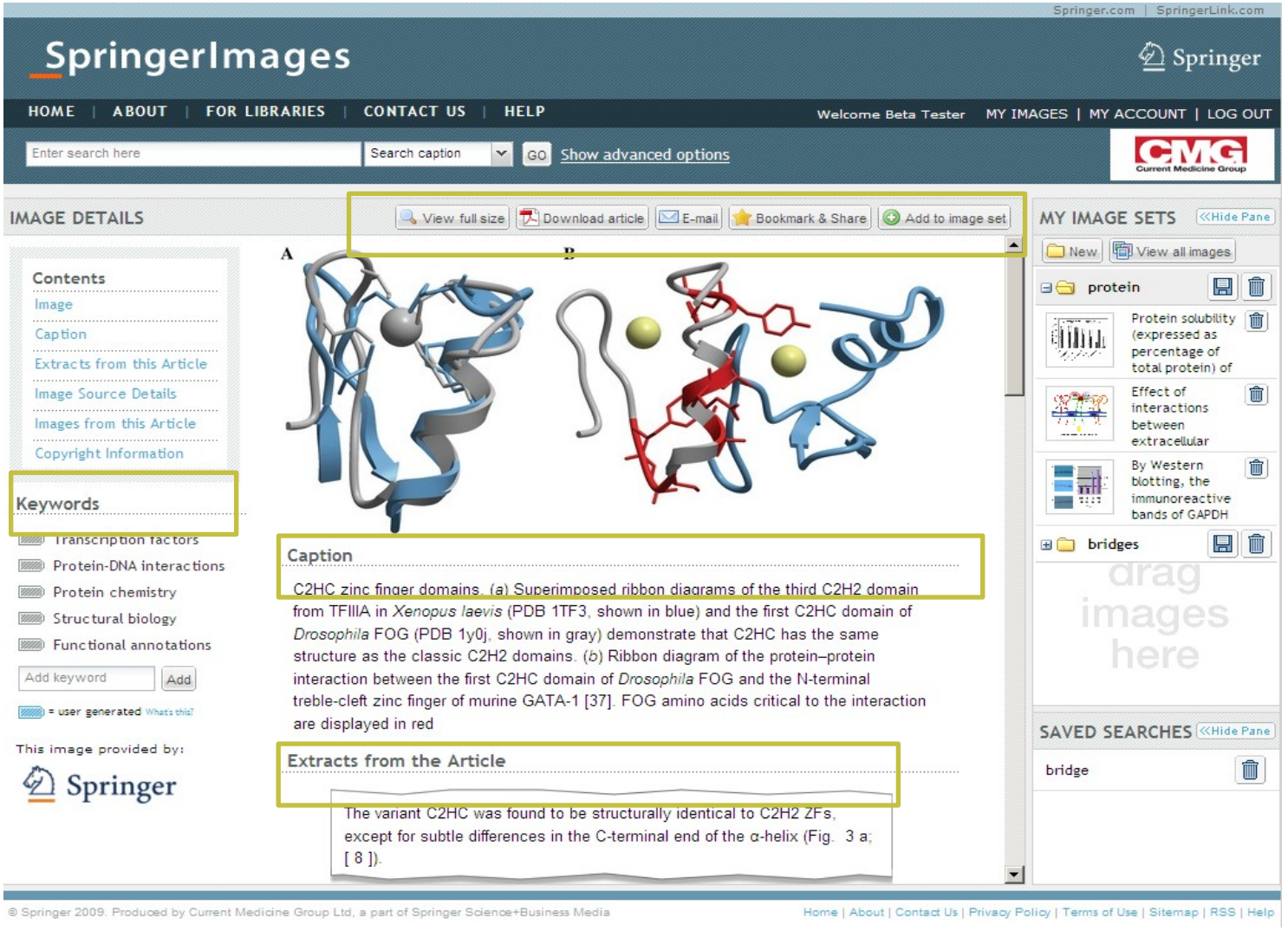


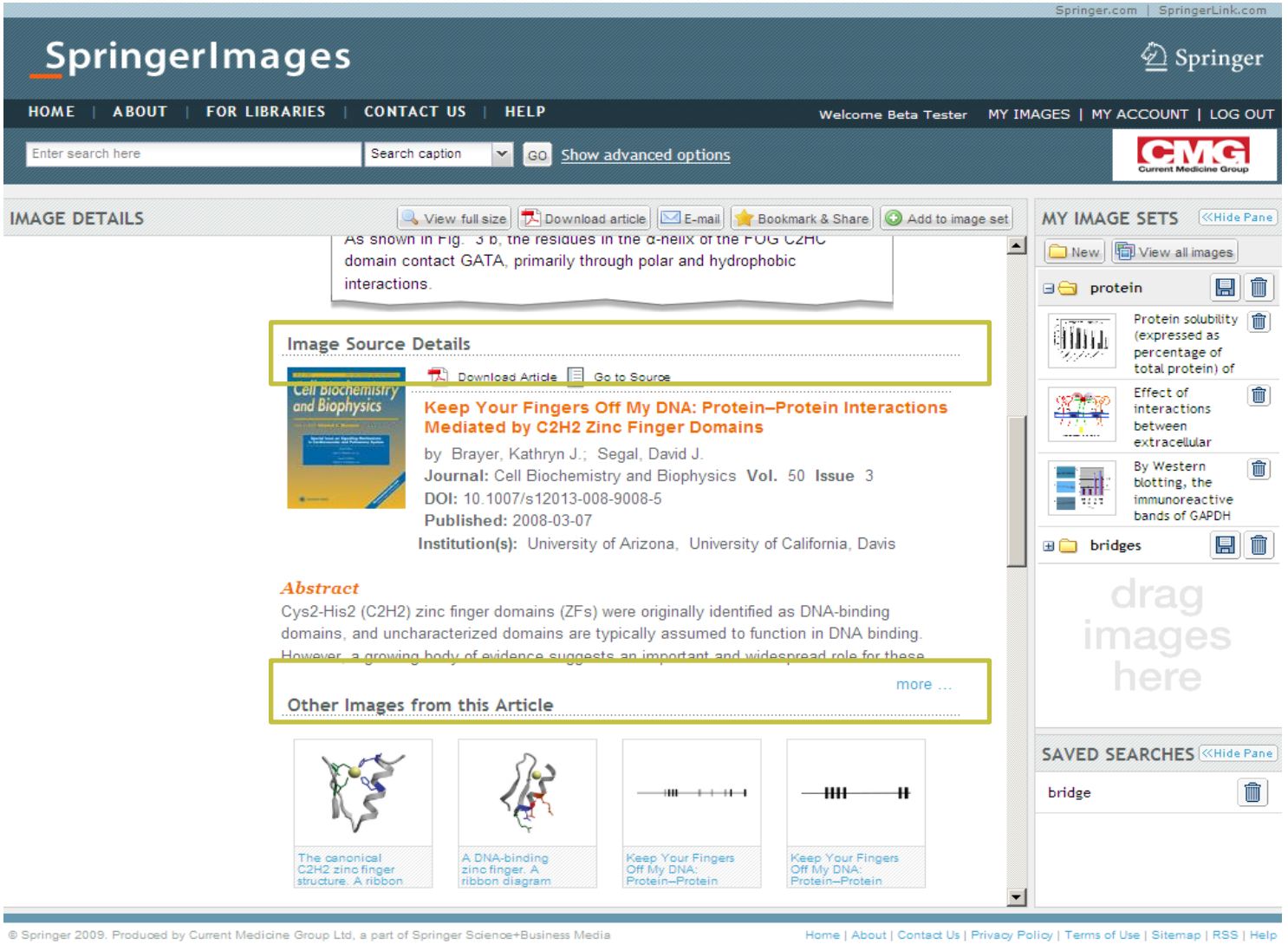
Image tools: see full size image, download orginal article, email, print or bookmark image or add image to a set

Keywords – derived from orginal source or added by experts. Users can also add their own keywords

Read the full caption of the image

Extracts from the orginal article

Image Details Page

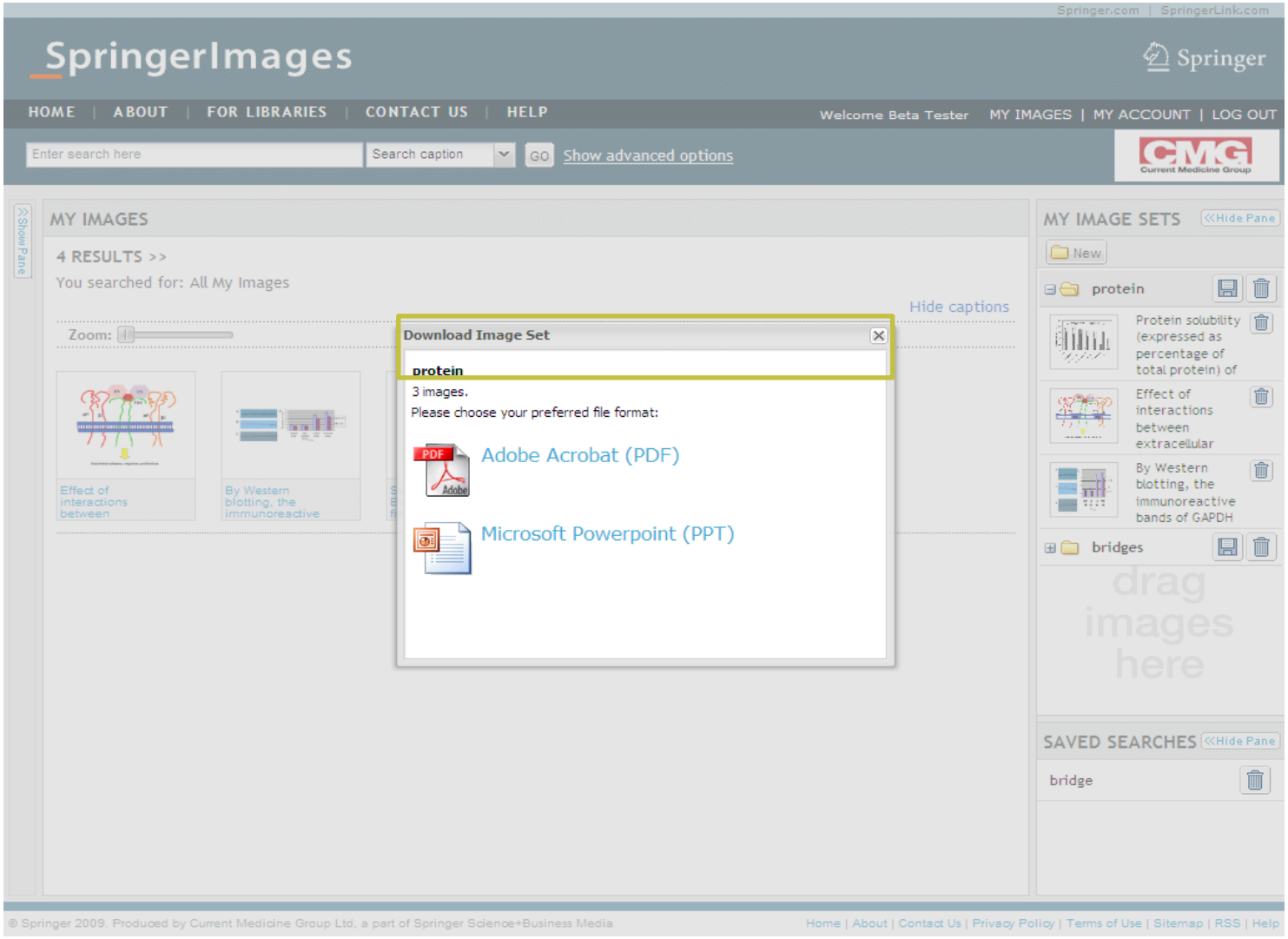


Find meta data from the original source (e.g. journal article), read the abstract and link directly to the full-text

Link directly to other images from the same article

Find information about the copyright and the license

Export Images Sets



Easily browse through your favourite images

Export your image sets to a PDF or PowerPoint file with just one click

HOW TO SUBSCRIBE TO SPRINGERIMAGES

Business Model

- **Institutional licenses**
  - Database / access-only license
  - No local loading
  - Annual subscription fee
  - Subscribe to one of the following packages:
    - SpringerImages (all subjects)
    - SpringerImages: Medical and Life Sciences collection
  - Tiered pricing based on
    - Size (FTE/FTR)

Key Facts About SpringerImages - database

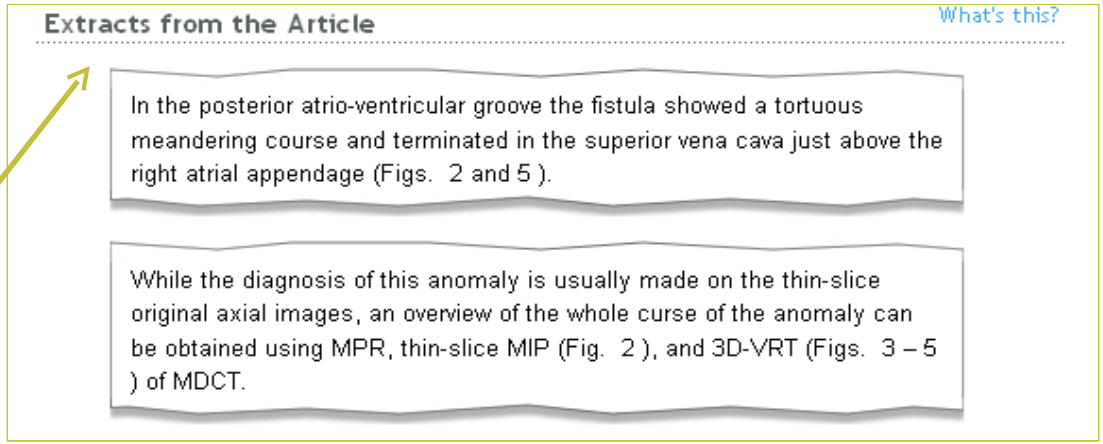
- **1.5 million+** scientific, technical and medical images
  - Images: *photos, graphs, histograms, figures and tables*
- Constantly growing database
- **Variety of sources**: SpringerLink, SpringerProtocols, images.MD, and more
- **Peer-reviewed**, trusted sources
- Unlimited concurrent users
- Availability: Entire collection or Medical and Life Sciences
- **Permission to use images** for personal, non-commercial use

Key Facts About SpringerImages - platform

- User-friendly interface
- **Export image sets to PowerPoint and PDF**
  - **Includes caption, full image, source information**
- Create Image Sets easily via a drag and drop function
- **Link back to original source**
- **Context of images** (on image details page)
  - Extracts from the full article, captions, bibliographic data
- High Resolution images (where available)
  - Users can choose size to view
- Save Searches
- Email, share, and bookmark images
- Administrator tool to easily manage access and to provide usage statistics

Key Facts About SpringerImages - search (I)

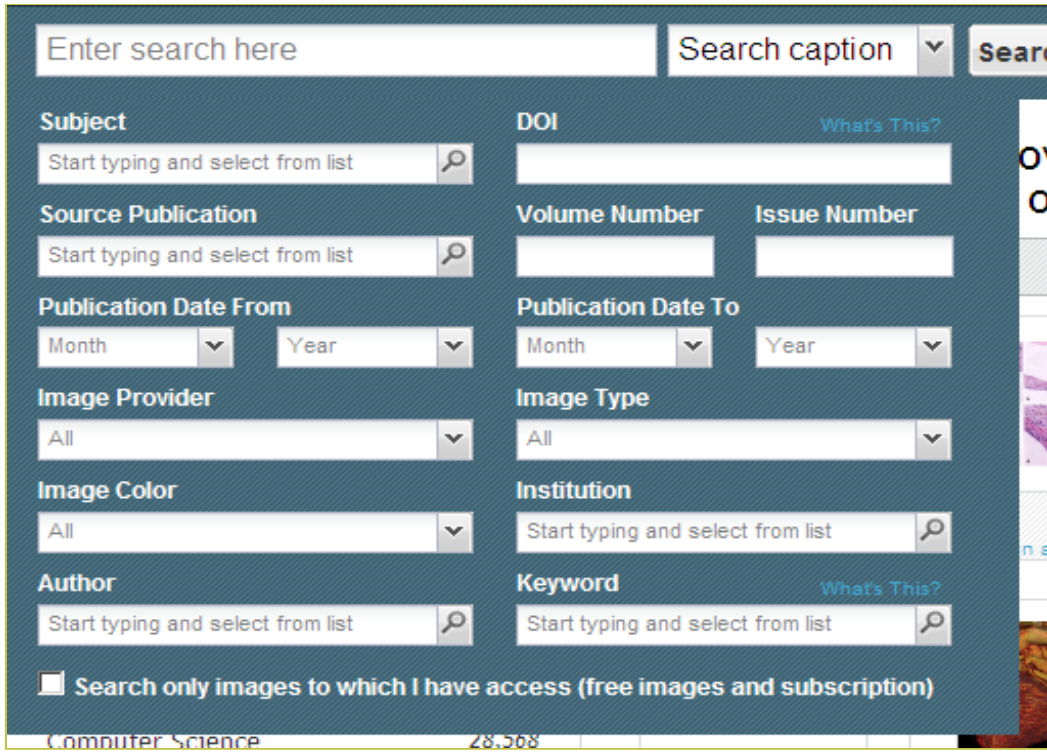
- Search
  - Captions
  - Sentences in the text that include references to the images
  - Content of tables
  - Keywords



Compound	*B. rufocinctus*	B. morrisoni	*B. griseocollis* [a]	*B. confusus* [b]	B. vorticosus[c]	$M^{+\bullet}$
Tetradecyl acetate	–	–	82%	–	–	256
9-Octadecenol	5%	–	–	–	–	268
3,7,11,15-Tetramethyl-6,10,14-hexadecatrien-1-ol	–	–	–	30%	–	292
3,7,11,15-Tetramethyl-2,6,10,14-hexadecatetraen-1-ol	–	2%	–	–	13%	290

Key Facts About SpringerImages – search (II)

- Advanced Search allows users to searches by
  - Source publication
  - **Image type**
  - Journal
  - Publication time
  - **Access availability**, and more.
- Search results visualization: photo, graph or table to be seen at first glance



Trial

- Trial (new customers only)
  - 60 days duration
  - With consent to market directly to end users during trial
  - Usage statistics available after trial

TIME FOR QUESTIONS!

ADDITIONAL SLIDES

Competitor Overview

Publisher	Product	Protocols	Annual Content Increase	Update Frequency	First Year
Wiley	Current Protocols	10,566	500-700	Quarterly	1987
Nature	Nature Protocols	1050	225	Monthly	2006
Cold Spring Harbor	CSH Protocols	1400	250	Monthly	2006
Springer	Springer Protocols	18,740	2,000	Continuously	1980

1. Access Only

- **Access:** Access to the full collection (all subject collections/all years) or individual subject (all years) collections is available based on a calendar year basis. Subscriber must renew to maintain access.
- **Perpetual Access:** No perpetual access. Once the subscription expires access will be terminated.
- **Example**: If customer A has a subscription in 2009 and 2010 they maintain full access to the database. If they choose to discontinue their subscription in 2011 then access to the content is terminated.
- **Individual Subject Collections:** Option to purchase by individual subject collections is available as an option

2. Annual subscription including archival rights

- **Access:** Current subscribers are entitled full access to all Protocols contents included in the database until the subscription is cancelled.
- **Perpetual Access**: Perpetual access is available only to years subscribed to.
- **Example**: If customer A has a subscription in 2009 and 2010 they maintain full access to the database. If they choose to discontinue their subscription in 2011 then perpetual access is available to content from copyright 2009 to 2010.
- **Individual Subject Collections:** Option to purchase under individual subject collections is not available.

2a. Full-Ownership Model

- **Access:** Current subscribers are entitled full access to all Protocols content included in the database until the subscription is cancelled.
- **Perpetual Access**: Perpetual access is available to all years subscribed to.
- **Additional Provisions**: Perpetual access must be purchased for archived content (1980 to year prior to current) to be entitled to special annual pricing. Payment for archive can be allocated over a period of three years. The first year subscription must include purchase of the archive and current year ownership.
- **Example**: If customer A purchases the archive collection (1980-2008) and a subscription to 2009 they maintain full access to the database. If they choose to discontinue their subscription in 2010 perpetual access is available to content from copyright 1980 to 2009.
- **Individual Subject Collections:** Option to purchase under individual subject collections is not available.

COMPETITION SPRINGERIMAGES

Competition overview

CSA Illustrata

- CSA Illustrata is the only relevant competitor in the field of imaging databases for Springer and is hosted by ProQuest CSA .

Amirsys

- Image databases that provides online diagnostics and images for physicians

Elsevierimages.com

- Collection of hand-painted medical illustrations from Elsevier books

Software Products

- Significant software products especially in the fields of Biomedicine and Medicine are rarely at the market, too, e.g. 3D anatomy software of Primal Pictures

CSA Illustrata vs. SpringerImages

Difference to SpringerImages

- CSA **only aggregates images** from various publishers
  - CSA Illustrata **does not include the full images** itself, it only links to the original content. So, if user has no access to publisher's original content, he has no access to image
- CSA Illustrata does **not have the option to create image sets or export images** to PPT or PDF with just couple of clicks. User need to do quite a lot of steps to locate and actually save an image