



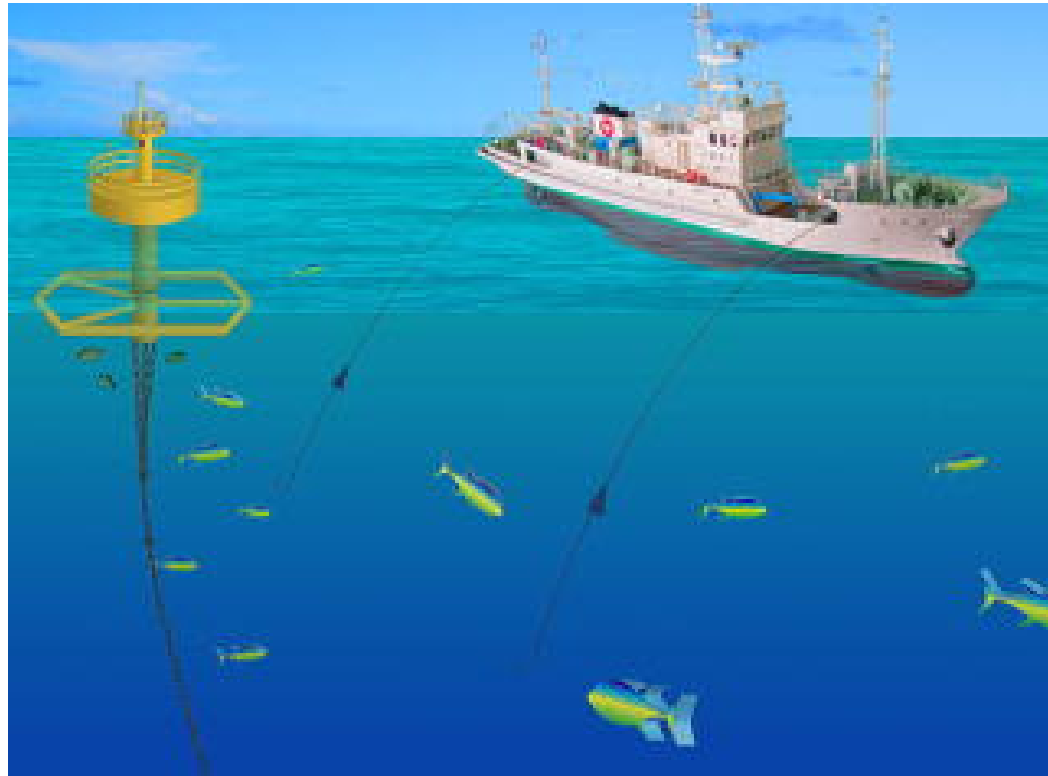
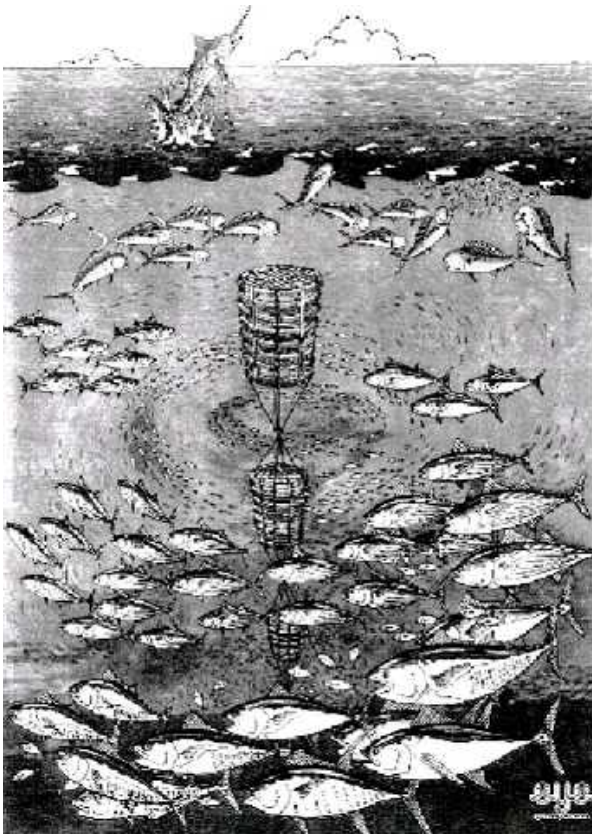
“PAYAO”
Community Tagging System
to SBML models

**Kitano, Matsuoka, Kikuchi, and
other Payao team members**

2008 Jan

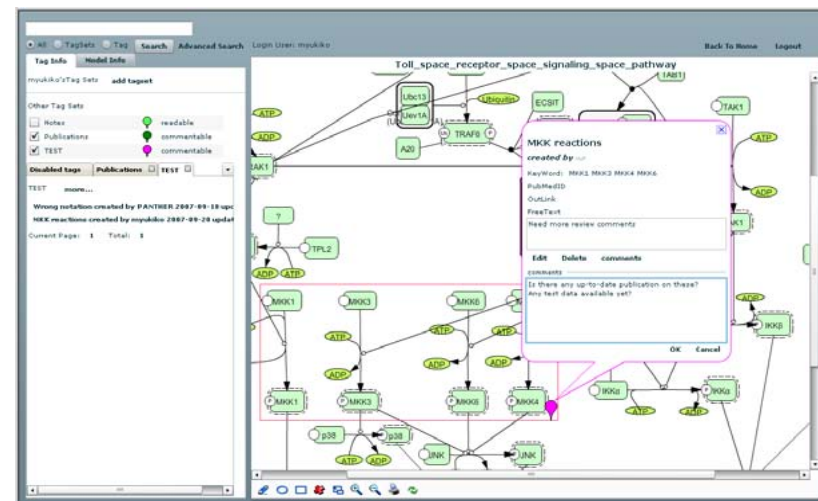
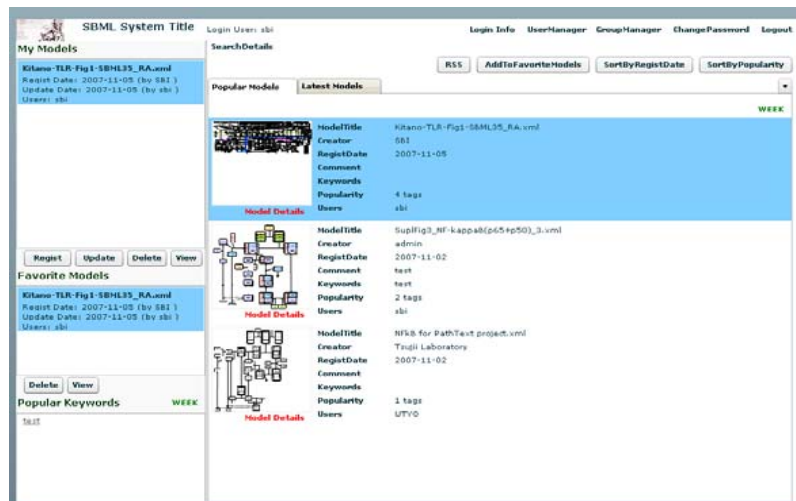
“PAYAO”

- an artificial floating raft where fish congregate




PAYAO

- A community tool to work on the same pathway models simultaneously, insert tags to the specific parts of the model, exchange comments, record the discussions and eventually update the models accurately and concurrently.
- Reads SBML models, display them with CellDesigner

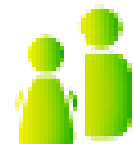


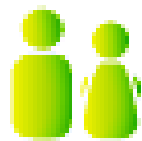
PAYAO: SBML Models Tagging System

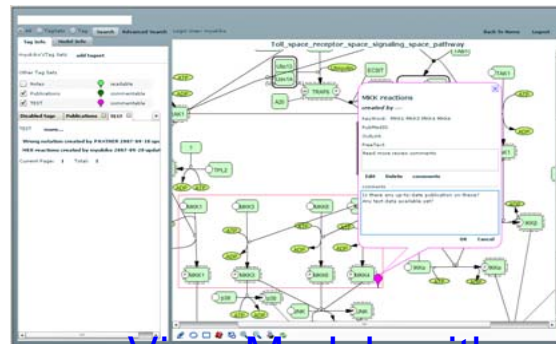
 **Model Owner**
Register a model



Login Users
Add/Edit Tags
to the model


Group A

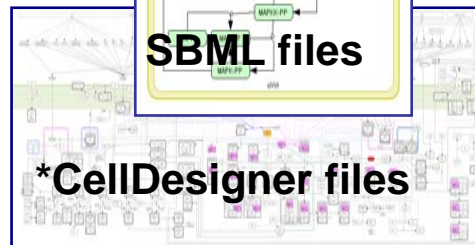
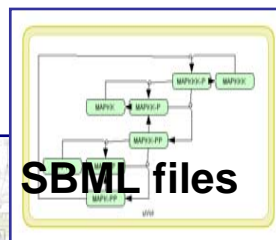

Group B



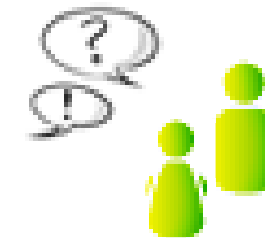
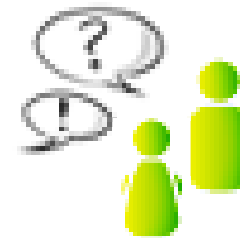
View Models with
CellDesigner notation

Store
models,
Tags,
Comments

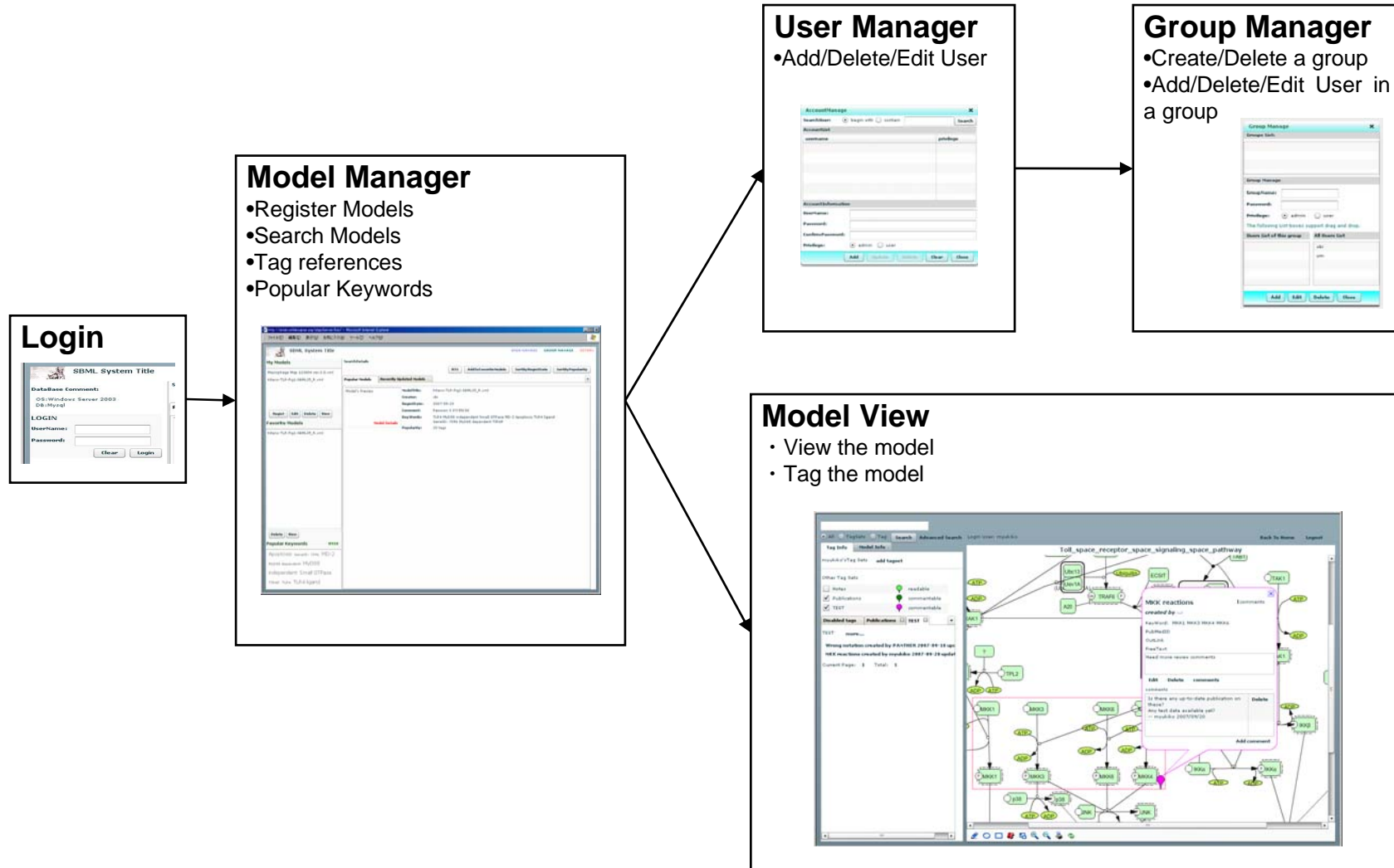
Manage
Models,
Users,
Groups



Visitors
Add Comments



SBML Models Tagging System



PAYAO Server System Requirements

- Tomcat 5.5x as servlet container
 - JRE 5.0 and above
 - Seaser2 (S2Flex2) as framework.
 - RDBMS: MySQL 5.0 and above
 - CellDesigner 3.5 API
-
- Big storage space to store all the models, tags and comments.
 - High performance on text/publication searches required, for combination with Text mining technologies.

Model View with Tags

The screenshot displays a web-based interface for managing a model. The top navigation bar includes a search bar, 'Login User: sbi', and links for 'Login Info', 'Export', 'ChangePassword', 'Back To Home', and 'Logout'. The main content area is titled 'TLR_sample' and shows a hierarchical model diagram. The diagram consists of several interconnected boxes: 'TLR1/2 ligand' (top), 'TLR1' and 'TLR2' (middle), 'TIR domain' and 'TIRAP' (middle-left), 'ST2L' (bottom-left), and 'MyD88' and 'MyD88s' (bottom-right). Colored lines (green, blue, purple) connect these components, and green lightbulb icons are placed at various nodes. A 'Reference Publication' popup window is open over the 'TIRAP' and 'MyD88' components, displaying details such as 'created by sbi 2007-11-05', 'PubMedID: 15004556', and 'OutLink:'. The left sidebar contains 'Tag Info' and 'Model Info' tabs, with 'sbi'sTag Sets' showing 'Test' and 'test2' (both with 'Delete' buttons) and 'Other Tag Sets' showing 'Notes' (with 'readable' tag). Below this, 'Disabled tags' includes 'Notes' and 'Test'. A list of updates is visible, including 'Discussion created by sbi 2007-11-05 updated', 'Reference Publication created by sbi 2007-11-05 updated', 'TLR1 created by sbi 2007-11-05 updated', and 'test 2 created by sbi 2007-11-05 updated'. The bottom status bar shows 'Current Page: 1 Total: 1' and a standard Windows taskbar.

“Google” Map like


The image shows a screenshot of the Google Maps website in Japanese. The browser window title is "Google マップ" and the address bar shows "http://maps.google.co.jp/maps?hl=ja&tab=w". The search bar contains the text "例: 「千代田区永田町1-7-1」や「表参道ケーキ」". Below the search bar are buttons for "地図を検索", "お店やサービスを検索", and "ルートを検索".

On the left side, there is a sidebar with "検索結果" and "マイマップ". Under "マイマップ", there is a section for "新しい地図を作成 - コンテンツを追加" with a list of maps: "自分で作った地図" (including "FUN", "Trabajo", "Comidas") and "他の人が作った地図" (including "Tokyo Subway Map", "Earthquake search"). Below this is a section for "Trabajo" with details: "3 ビュー - 公開", "1月14日作成 - 1月21日更新", "投稿: Yukiko", and "この地図に評価を付ける - コメントを投稿". There are also location pins for "OIST Seaside House", "Rizzan Sea-Park Hotel Tancha-Bay", "Naha Airport", and "Officina".

The main map area shows a map of Okinawa with a popup for "Rizzan Sea-Park Hotel Tancha-Bay". The popup contains the following information: "Rizzan Sea-Park Hotel Tancha-Bay", "Yukiko 1月14日更新", "http://www.rizzan.co.jp/#start", "国頭郡恩納村字谷茶 1 4 9 6", "098-964-6611", a photo of the hotel, and links for "詳細", "ルートを検索", "ここへ到着", "ここから出発", and "付近を検索". The map also shows various landmarks like "恩納村", "金武町", "東シナ海", and "石川岳".

At the bottom right of the map, there is a small inset map of Japan with a red box indicating the location of Okinawa. The number "8" is visible in the bottom right corner of the screenshot.

TOP

 **SBML System Title**


DataBase Comment:
OS: Windows Server 2003
DB: Mysql

LOGIN
UserName:
Password:

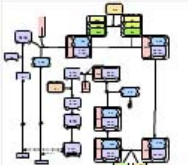
To Login the system

SearchDetails

Popular Models | **Latest Models**


Model Details

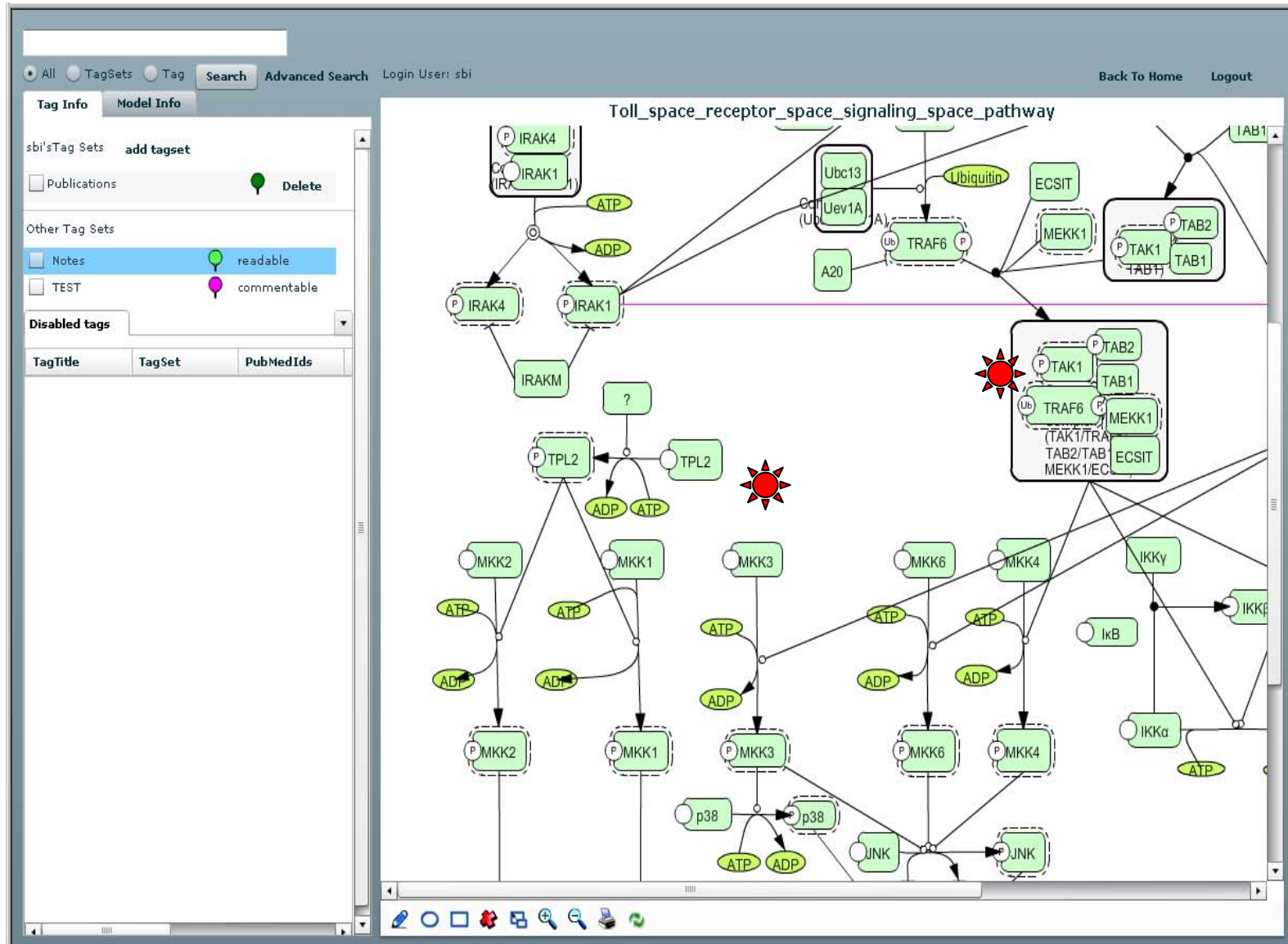
ModelTitle	Kitano-TLR-Fig1-SBML35_RA.xml
Creator	SBI
RegistDate	2007-11-05
Comment	
Keywords	
Popularity	4 tags
Users	sbi


Model Details

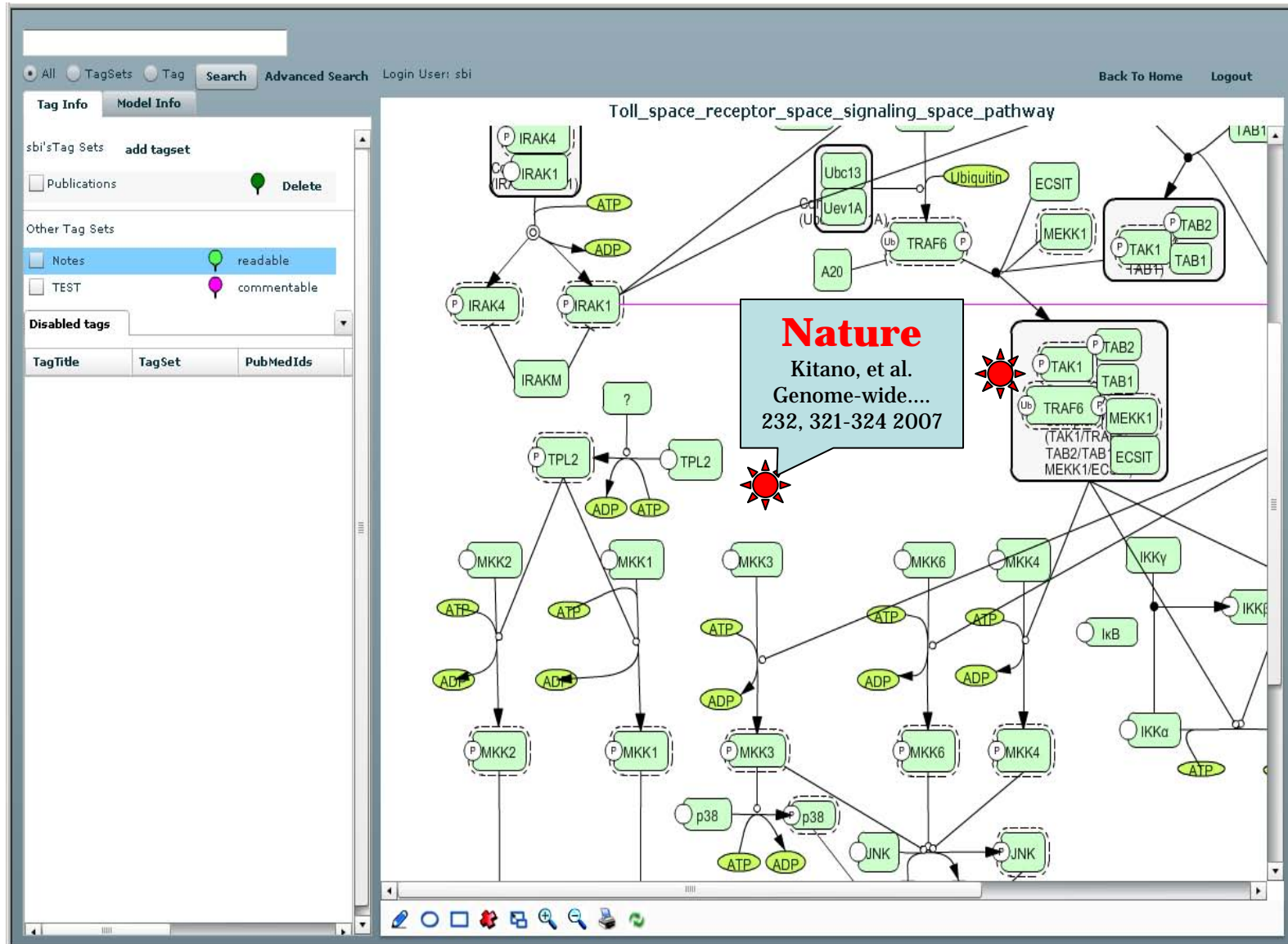
ModelTitle	PD_Fig 8 NF-kappaB.xml
Creator	admin
RegistDate	2007-11-02
Comment	test
Keywords	test
Popularity	2 tags
Users	sbi

View popular, latest models

Publisher Tag



Publisher Tag



Publisher Tag

The image shows a PubMed search result for a paper in *Nature Immunology*. The citation is: **1: Nat Immunol.** 2004 Apr;5(4):373-9. Epub 2004 Mar 7. The article title is **ST2 is an inhibitor of interleukin 1 receptor and Toll-like receptor 4 signaling and maintains endotoxin tolerance.** The authors are **Brint EK, Xu D, Liu H, Dunne A, McKenzie AN, O'Neill LA, Liew FY.** The abstract text describes the Toll-interleukin 1 receptor (TIR) superfamily and the role of ST2 in T(H)2 responses. The PMID is 15004556. A red starburst highlights the citation **Nature Kitano, et al. Genome-wide... 232, 321-324 2007** in a callout box. A blue arrow points from the 'Related Links' section to this citation. The background is a signaling pathway diagram titled 'Toll_space_receptor_space_signaling_space_pathway' showing interactions between proteins like Ubc13, Uev1A, Ubiquitin, TRAF6, MEKK1, TAK1, TAB1, TAB2, IKKα, IKKβ, IKKγ, IκB, MKK1, MKK3, MKK4, MKK6, JNK, and p38.

Future Enhancements

- Integration with Text Mining System
 - With Univ. Tokyo and Manchester U.
- Adopt CellDesigner 4.0 to be able to display the models in SBGN Level-1 draft graphical notation

Acknowledgement

- OIST
 - Hiroaki Kitano
- MKI
 - Nobuhiro Kikuchi
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Thank you!