



AMDCC

THE ANIMAL MODELS OF DIABETIC
COMPLICATIONS CONSORTIUM

AMDCC Coordinating and Bioinformatics Unit

- 1) Web portal overview
- 2) Website Enhancements and New Features
- 3) Future Work and Enhancements



Web Portal Overview



AMDCC STATS	
Experiments	
In Progress	37
Public	11
Total	48
Microarrays	
Total	0
Models	
In Progress	74
Public	2
Total	76
Protocols	
Total	45
Publications	
In Press/Published	23
Strains	
Breeding complete	4
Breeding ongoing	21
Characterizing multiple lines	3
Embryonic rederivation	1
Not specified/Other	1
Phenotyping complete	3
Phenotyping final	2
Phenotyping ongoing	20
Total	55

Previous Steering Committee meeting

Experiments: 12 (14674 measurements)

Models: 1

Strains: 3

Publications: 2

Since last Steering Committee meeting

Experiments: 6 (4616 measurements)

Models: 4

Strains: 6

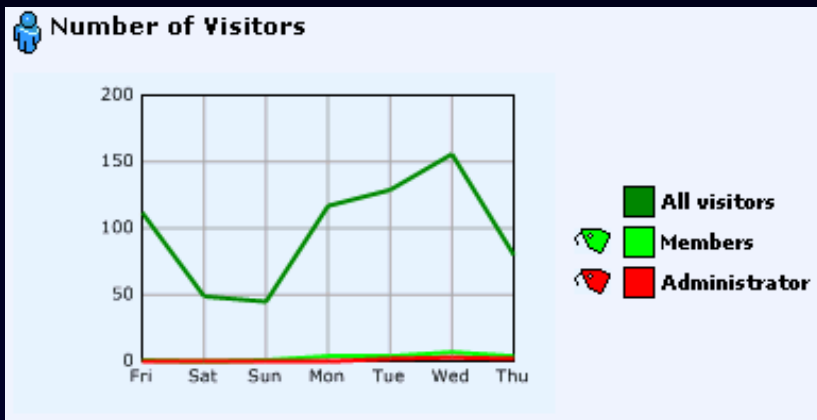
Publications: 8



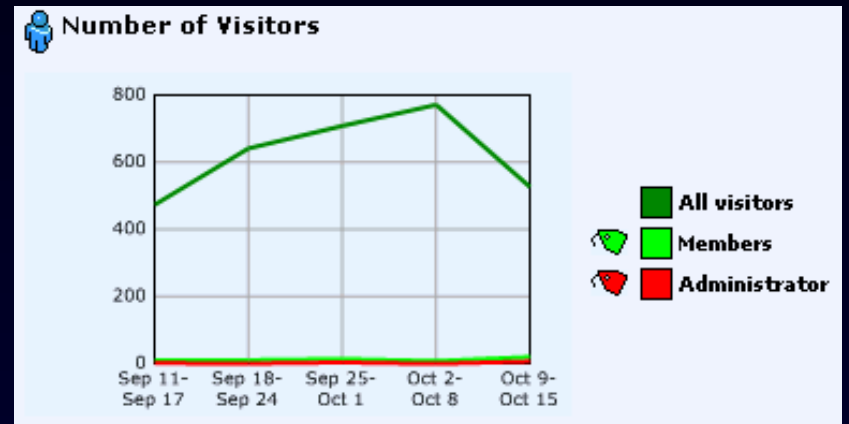
Average number of visitors per month: 2765 (25% Increase)

Average number of visitors per day: 92

Sample Week




Sample Month



All numbers reflect non-AMDCC members



Top Search Engine Referrers

Google		57.3%
Yahoo!		4.0%
MSN		3.2%
grants.nih.gov		0.8%
www.niddk.nih.gov		0.6%
AOL		0.4%
Netscape		0.4%
www.cbqm.mcq.edu		0.3%
webdev.niddk.nih.gov		0.3%
www.med.umich.edu		0.2%
Other		2.8%
None		29.8%

Top Search Terms

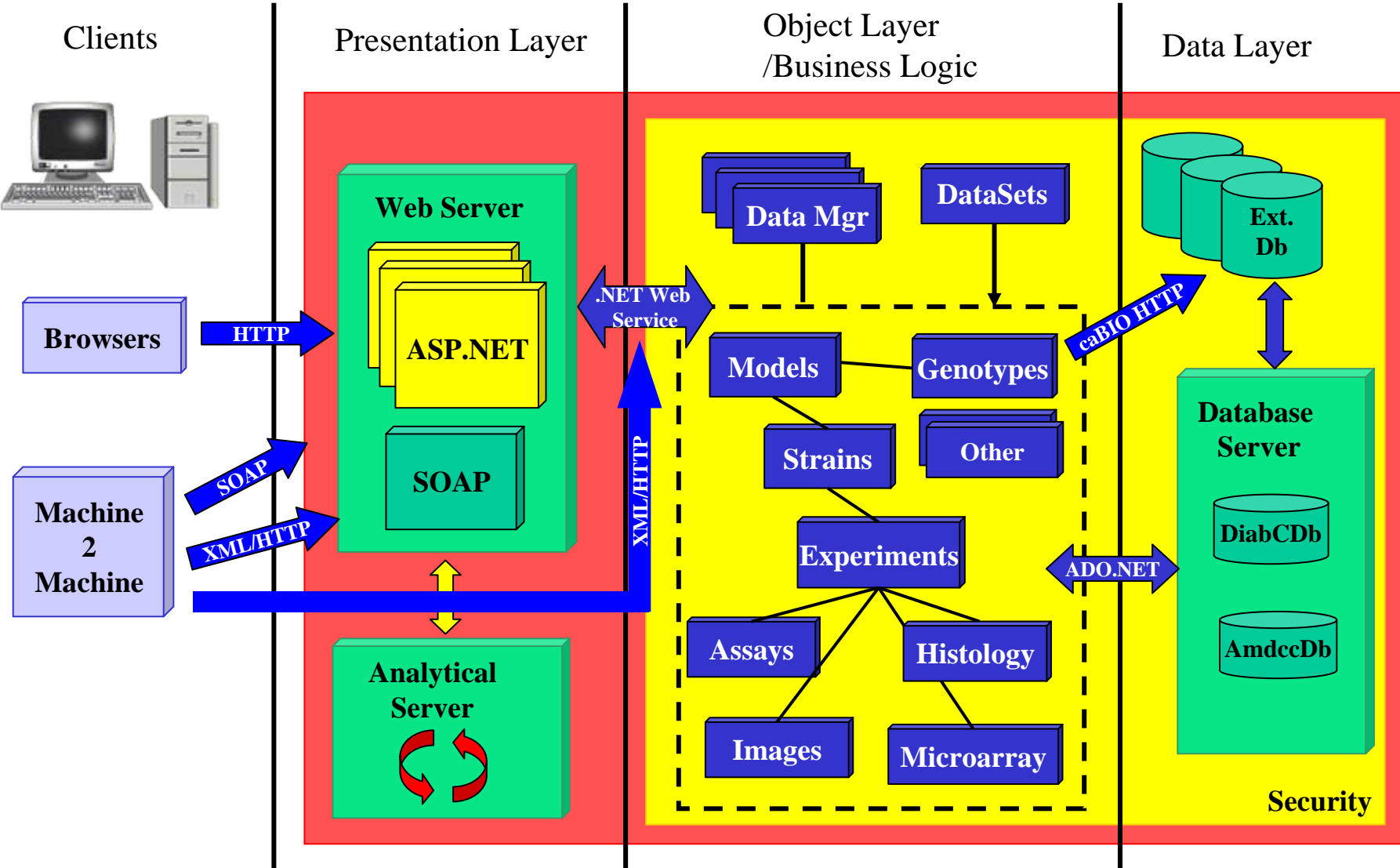
tbars	3.5%
glomerular filtration rate	1.4%
amdcc	1.3%
mouse dissection	1.0%
diabets	0.9%
thiobarbituric acid	0.9%
catalase assay	0.8%
thiobarbituric acid reactive substances	0.7%
tbars assay	0.7%
ipgtt	0.5%
glucose clamp	0.5%
exocell	0.4%
streptozotocin	0.3%
ripa buffer	0.3%
diabetic complications	0.3%
fplc	0.3%
tail flick	0.2%
10x tbs	0.2%
mouse echocardiography	0.2%
animal models of diabetes	0.2%
amplex red	0.2%
tbars protocol	0.2%
intraperitoneal glucose tolerance test	0.2%
animal models of diabetic complications consortium	0.2%
mes buffer	0.2%
langendorff	0.2%
thiobarbituric acid-reactive substances	0.1%

Starting to see referrers from other countries:

Canada	United Kingdom
France	Czechoslovakia
New Zealand	Mexico
Brazil	Buenos Aires
Japan	Taiwan



AMDCC IT Structure



AMDCC Web portal Enhancements and New Features

- Improved Member Page flexibility for users.
- Added on-the-fly charting options for all charting functions in website.
- Completed AMDCC Webservice architecture
- Deployed AMDCC Webservice WSDL and Example Application
- Developing training modules for the public/membership
- Developing microarray analysis modules



Improved Member Page flexibility for users.

Allow members to alter or adjust positions of object lists in Member Home page



Animal Models of Diabetic Complications Consortium

MAIN | DATA SEARCH | DATA ANALYSIS | ABOUT AMDCC | CONTACT | MEMBER AREA

MEMBER LOGIN

Welcome to AMDCC

The Animal Models of Diabetic Complications Consortium (AMDCC) brings together a number of projects representing a diverse set of disciplines and technologies with the goal of improving or creating animal models of human diabetes complications.

The primary goal for this consortium is the creation of the animal models to study diabetes complication pathologies with an emphasis on the etiology, prevention and treatment of the disease. The secondary goal is to use these animal models to elucidate the role of specific genes or chromosomal regions in the pathogenesis of these complications.

The consortium consists of eight Mouse Engineering and Phenotyping units from different institutions and one Coordinating and Bioinformatics unit. Members of the AMDCC come from a diverse set of backgrounds with expertise in mouse genetic engineering technologies, organ pathologies, genomic technologies and diabetic complications.

Investigators focus their research efforts on a number of diabetic complications involving different organ systems and biochemical pathways. These complications include diabetic kidney disease, vascular disease, retinopathy, neuropathy and diabetic cardiomyopathy.

This complex research initiative will provide a valuable resource to the scientific community and will require the coordinated effort between the members of the consortium.

Request an Account

UPCOMING MEETINGS

10/17/2005 8:00:00 AM
Semi-annual Steering Committee meeting (2005)
- Hyatt Regency Bethesda
- Bethesda, MD

AMDCC STATS

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DIABETES IN THE NEWS

- Diabetic Cardiovascular
- Diabetic Nephropathy
- Diabetic Neuropathy
- Ontology
- Diabetic Retinopathy

DIABETES ON THE WEB

- American Diabetes Assoc.
- American Heart Assoc.
- American Society of Neph.
- JDRF Inc.
- More Resources

PUBLICATIONS

- Myocardial Insulin Re...
- Insulin Signaling in ...
- Metabolic perturbatio...
- Optical Mapping of Pr...
- caBIONet - A .NET wr...
- Impaired Cardiac Effi...
- MOUSE MODELS OF DIABE...
- Angiotensin II-accele...
- Diabetic nephropathy ...
- Multiple Metabolic Hi...
- More Publications

Announcing the new Requests for Applications!

Click the links below for more information
The Animal Models of Diabetic Complications (AMDCC)
The Mouse Metabolic Phenotyping Centers (MMPC)
The AMDCC/MMPC Coordinating and Bioinformatics Unit (CBU)

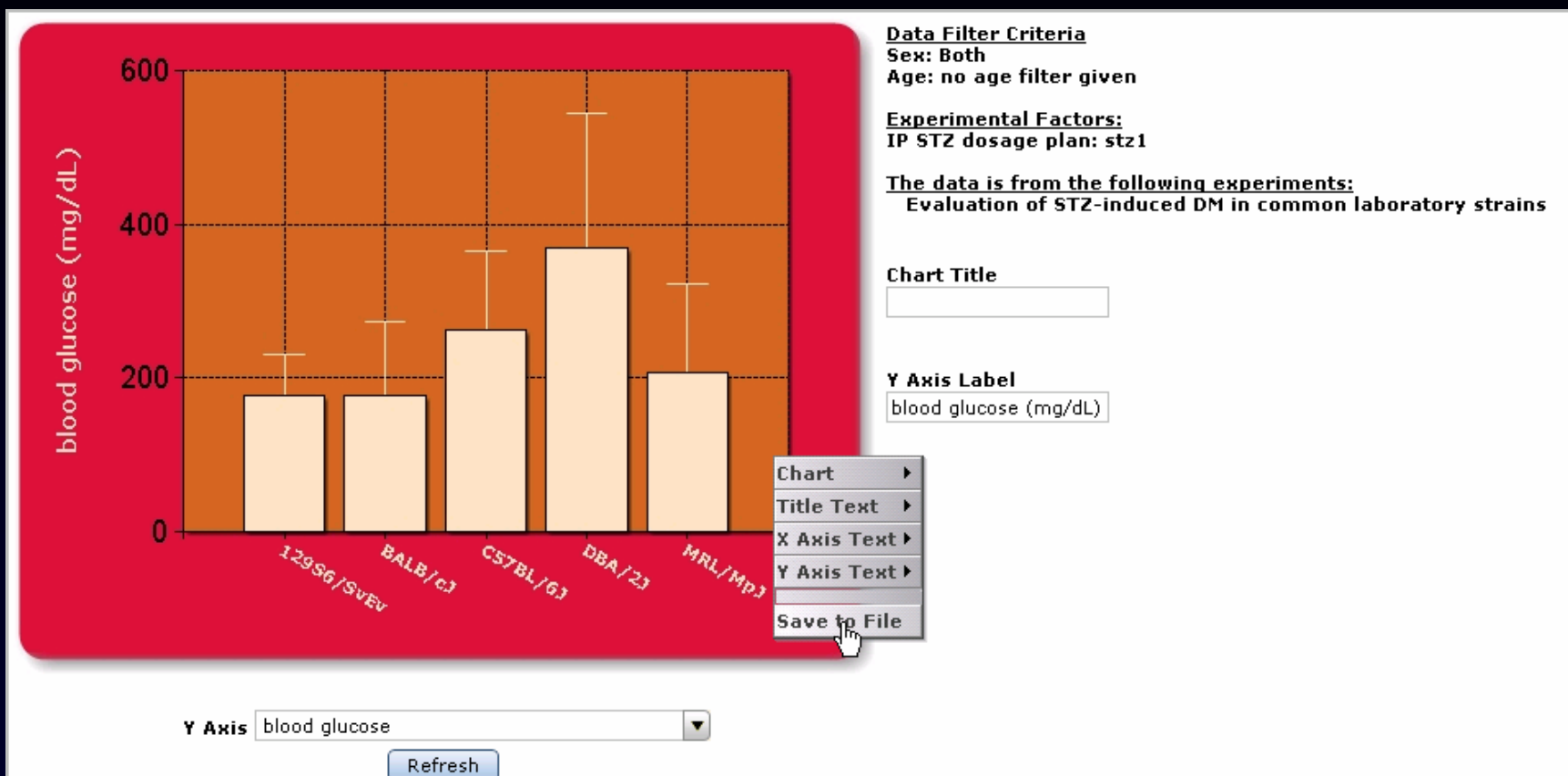
What's NEW at the AMDCC !

Adhoc Datasets can be charted and analyzed on the fly!
Now both the public and AMDCC members can use AdHoc Datasets. We have added the capability for users to both chart (plot) and analyze the data returned from datasets generated on the fly. Charting options include column, line and XY plots. Analysis options include both basic statistics and ANOVA analysis. Just go to Data Analysis => Datasets or click here.

This site is **best viewed** with Netscape Navigator 6+ and Microsoft Internet Explorer 5.5+



Added on-the-fly charting options for all charting functions in website.



New Feature: Right mouse click the chart above to adjust the text and/or colors.

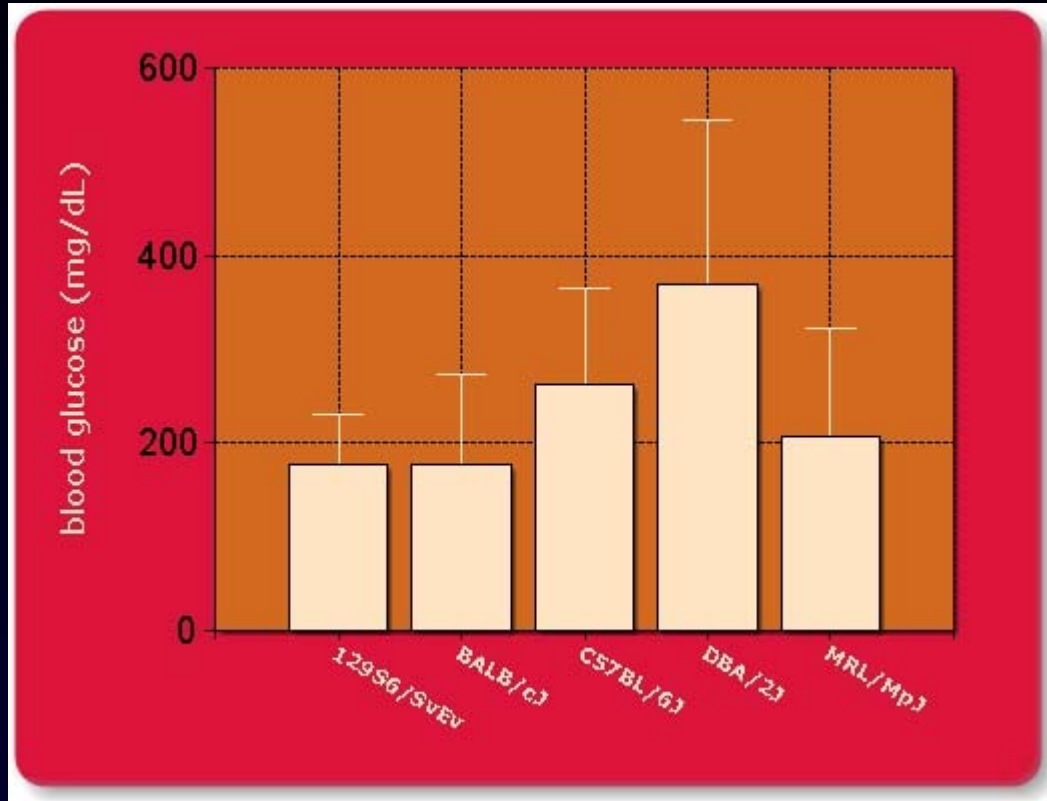
To change the Y axis values, select from the appropriate dropdown control and click 'Refresh'

To change the Title and Y Axis Label, edit or fill in the appropriate text box to the right of the chart image.

The filter criteria used to select the data is given next to the upper right corner of the chart image. To change these criteria, return to the chart exploration page, select your criteria and click 'Get Chart' again

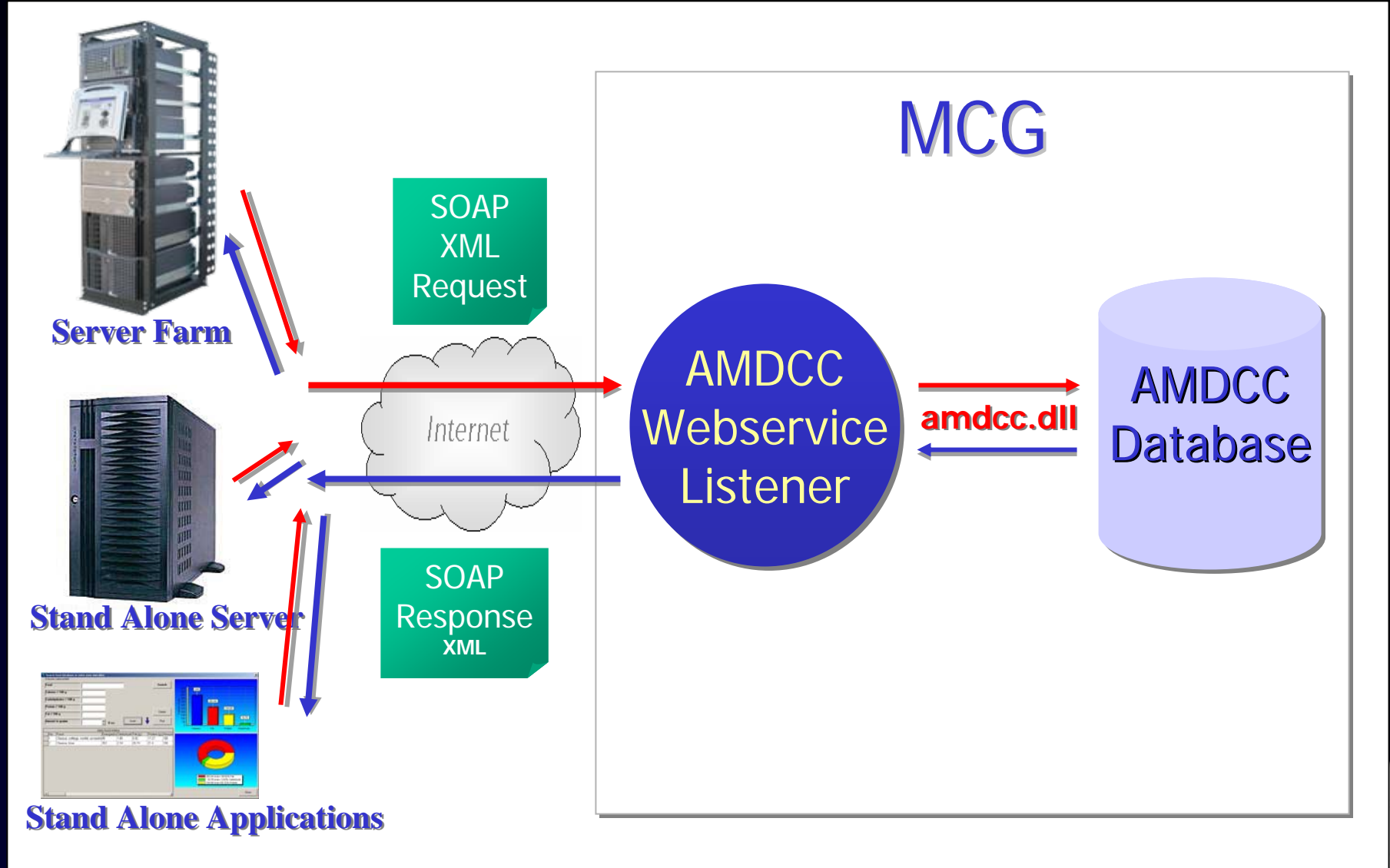
To see the value of each data point mouse OVER each data point and a tooltip will pop up with the value

Added on-the-fly charting options for all charting functions in website.



Completed AMDCC Webservice architecture

Provide programmatic service for other platforms to access data using SOAP/HTTP



Completed AMDCC Webservice architecture

The AMDCC provides the following **12** webservices:

WebService	Comments
<i>StrainWebService</i>	<i>AMDCC Strain Data</i>
<i>ProtocolWebService</i>	<i>AMDCC Protocol Data</i>
<i>ExperimentWebService</i>	<i>AMDCC Experiment Data</i>
<i>AnimalWebService</i>	<i>AMDCC Animal Data</i>
<i>BioAssayDataWebService</i>	<i>AMDCC Microarray Data</i>
<i>GenomeWebService</i>	<i>AMDCC Genomic Data</i>
<i>ExpFactorWebService</i>	<i>AMDCC Experiment Factor Data</i>
<i>PublicationWebService</i>	<i>AMDCC Publication Data</i>
<i>ModelWebService</i>	<i>AMDCC Model Data</i>
<i>SampleWebService</i>	<i>AMDCC Microarray Sample Data</i>
<i>BioAssayWebService</i>	<i>AMDCC Microarray Information</i>
<i>ExternalRefWebService</i>	<i>External References Maintained by AMDCC</i>



Completed AMDCC Webservice architecture

WSDL files are available for each webservice.

```
<?xml version="1.0" encoding="utf-8" ?>
- <definitions xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:s="http://www.w3.org/2001/XMLSchema" xmlns:s0="http://www.amdcc.org/WebService/"
  xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
  xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/" targetNamespace="http://www.amdcc.org/WebService/"
  xmlns="http://schemas.xmlsoap.org/wsdl/">
- <types>
- <s:schema elementFormDefault="qualified" targetNamespace="http://www.amdcc.org/WebService/">
  - <s:element name="GetExperimentByExperimentID">
    - <s:complexType>
      - <s:sequence>
        <s:element minOccurs="1" maxOccurs="1" name="expID" type="s:int" />
      </s:sequence>
    </s:complexType>
  </s:element>
- <s:element name="GetExperimentByExperimentIDResponse">
  - <s:complexType>
    - <s:sequence>
      <s:element minOccurs="0" maxOccurs="1" name="GetExperimentByExperimentIDResult" type="s0:Experiment" />
    </s:sequence>
  </s:complexType>
</s:element>
- <s:complexType name="Experiment">
  - <s:complexContent mixed="false">
    - <s:extension base="s0:AMDCCDomainObject">
      - <s:sequence>
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        <s:element minOccurs="0" maxOccurs="1" name="Species" type="s0:Species" />
        <s:element minOccurs="1" maxOccurs="1" name="PublicReleaseDate" type="s:dateTime" />
        <s:element minOccurs="0" maxOccurs="1" name="Status" type="s0:Identifiable" />
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      </s:sequence>
    </s:extension>
  </s:complexContent>
</s:complexType>
- <s:complexType name="AMDCCDomainObject">
  - <s:sequence>
```

Completed AMDCC Webservice architecture

<http://www.amdcc.org/Webservice/ExperimentWebService.asmx>

ExperimentWebService

A Web Service that exposes methods of the Experiment Manager class of the AMDCC Object Model

The following operations are supported. For a formal definition, please review the [Service Description](#).

- [GetExperimentsBySearchCriteria](#)
This method will return an array of all Experiments for a specified experiment search criteria
- [GetAllExperimentStatus](#)
This method will return an array of all Experiment Status -ID and Name(Can be used to bind to a drop down list control)
- [GetExperimentByExperimentID](#)
This method will return an Experiment for a matching ExperimentID
- [GetPhenoAssays](#)
This method will return an array of all PhenoAssays for a matching Experiment ID
- [GetAllSpecies](#)
This method will return an array of all Species -ID and Name(Can be used to bind to a drop down list control)
- [GetPhenoAssayMeasurement](#)
This method will return PhenotypeDatum for a matching PhenoAssay Measurement ID
- [GetAnimalSummaryArray](#)
This method will return an array of strains for a matching Experiment ID
- [GetAllExperiments](#)
This method will return an array of all Experiments- ID and Name(Can be used to bind to a drop down list control)
- [GetAllInvestigators](#)
This method will return an array of all Investigators- ID and Name(Can be used to bind to a drop down list control)
- [GetExpFactors](#)
This method will return an array of all Experiment Factors for a matching Experiment ID



Completed AMDCC Webservice architecture

We created an example application, documentation and help files for the general public and published these on the web site.

AMDCC-Web Services

The AMDCC Web Services layer exposes classes and methods of the AMDCC object model which can be used by users to interact with the AMDCC object model using custom built web applications or even without a user interface. Details about the interfaces are provided to users through an XML document called a Web Services Description Language (WSDL) document. There are several tools available to read a WSDL file and generate the code required to communicate with an XML Web service including a very capable "Add Web Reference" tool used in Microsoft Visual Studio® .NET. AMDCC web services layer makes available public data search and retrieval methods for strains, experiments, genome, publications and micro array. The exposed web service methods can be consumed through customized client ASP.NET applications using SOAP calls or through traditional HTTP GET/POST METHODS without the use of an API. The framework has been designed to be independent of any particular programming model and other implementation specific semantics. A complete documentation for each of the web service methods is available providing information about data return type, input parameters and exceptions thrown. In addition, users may choose to download a zipped Visual Studio .NET solution file containing a sample ASP .NET client application and C# class library project. The ASP .NET project demonstrates ways in which a client can consume web service methods using both synchronous and asynchronous method calls. The C# class library project contain methods that can be used in conjunction with the ASP .NET application for various data binding, data compression/decompression applications as well as for catching and reporting SOAP exceptions thrown by the web service.

- [Online Help](#)
- [Download Windows Help File \(.CHM\)](#)
- [Download Example ASP .NET Web Services Consumer Solution File](#)



Developing training modules for the public/membership

Animal Models of Diabetic Complications Consortium

Logged in as: **Richard McIndoe**
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UPCOMING MEETINGS

[Check Back Soon!](#)

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This complex research initiative will provide a valuable resource to the scientific community and will require the coordinated effort between the members of the consortium.

What's NEW at the AMDCC !

AMDCC Annual Reports are now available.
All Investigators in the AMDCC must provide an annual report to the NIH. These reports are now available to the public. All reports are in PDF format to minimize space requirements. Just go to About AMDCC => Annual Reports or click here.

DIABETES IN THE NEWS

- Diabetic Cardiovascular
- Diabetic Nephropathy
- Diabetic Neuropathy
- Ontology
- Diabetic Retinopathy

DIABETES ON THE WEB

- American Diabetes Assoc.
- American Heart Assoc.
- American Society of Neph.
- JDRF Inc.
- More Resources

PUBLICATIONS

- Characterization of D...
- AMDCC.ORG: The Web Po...
- Myocardial Insulin Re...
- Insulin Signaling in ...
- Metabolic perturbatio...
- Optical Mapping of Pr...
- Human Aldose Reductas...
- Impact of Genetic Bac...
- Phenotypic Characteri...
- caBIONet - A .NET wra...

[More Publications](#)


This site is best viewed with Netscape Navigator 6+ and Microsoft Internet Explorer 5.5+

NIDDK | National Heart, Lung, and Blood Institute | Department of Health and Human Services | National Institutes of Health

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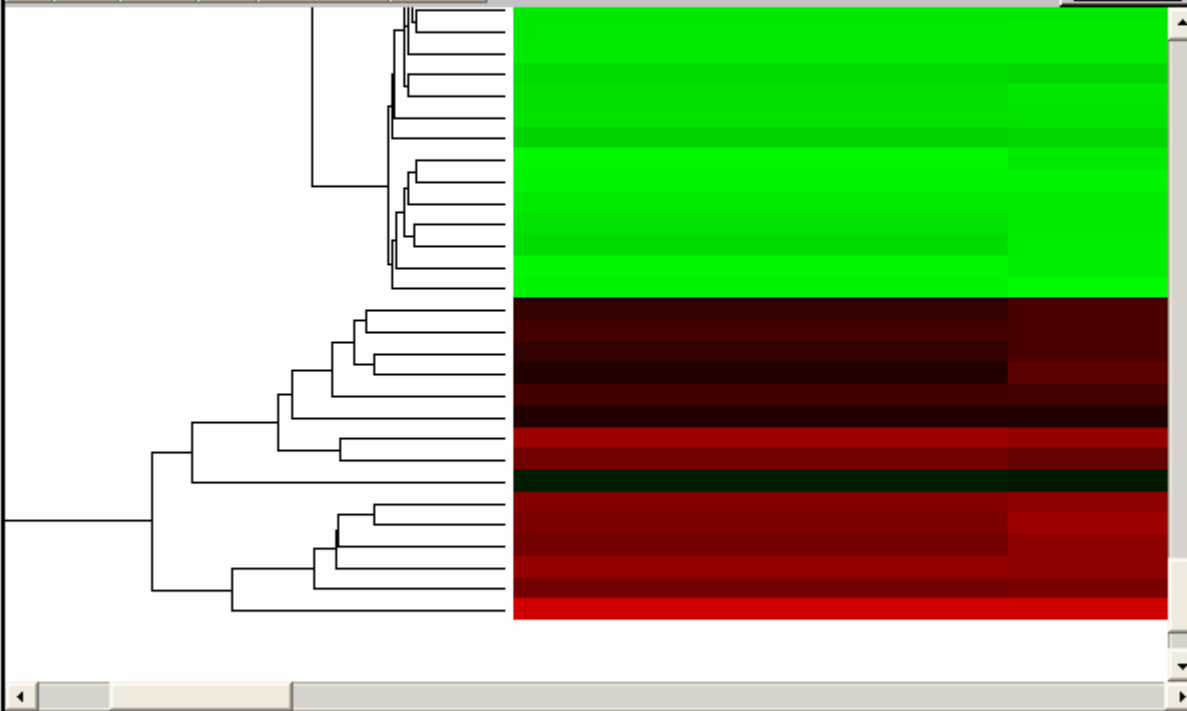
Developing microarray analysis modules

 **Animal Models of Diabetic Complications Consortium** Logged in as: **Richard McIndoe**
Edit profile





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Heirarchical Cluster


In Out Rect Fill Options... Help... **S-PLUS**



Page 1

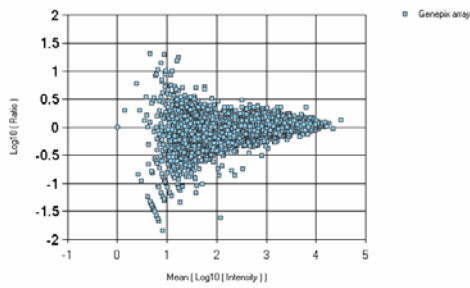
  National Heart, Lung, and Blood Institute  Department of Health and Human Services  National Institutes of Health

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Scatter Plot and Heat Map Chart

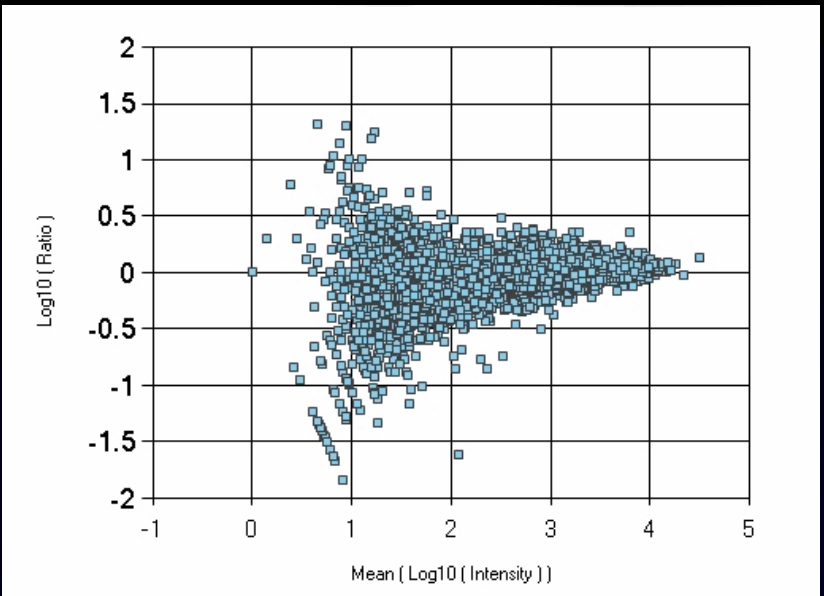
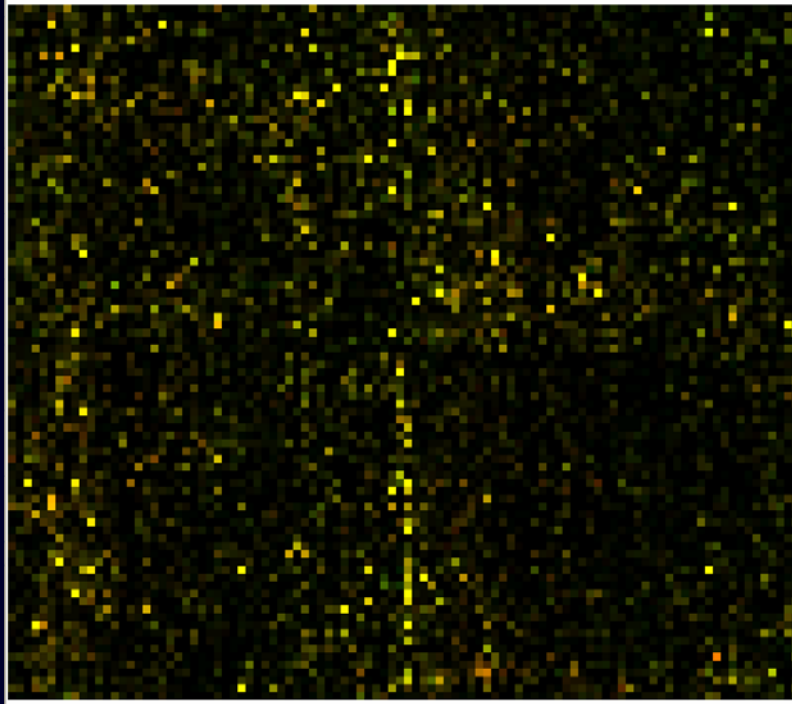
Scatter Plot



Heat Map Chart

Red = Gain * (Ch2PixelInt / 256) / Normalization
Green = Gain * (Ch3PixelInt / 256)
Blue = 0

Gain:
Normalization:



Developing microarray analysis modules



Future Directions

1. **Continue to develop visualization and analysis modules for microarray data**
2. **Continue the development of training modules and create FAQ section**
3. **Organize cross consortium meta analysis of specific data.**



The End

If you have any problems, questions or concerns don't hesitate to email us.

Use any of the following addresses:

General web:

amdcc_web-l@lists.amdcc.org (Listserv)

Data, assays, experiment help:

spatel@mail.mcg.edu (Sachen Patel)

Website

kobrien@mail.mcg.edu (Gautam Mukherjee)

