

Bioinformatics core @



Dawei Lin, Ph.D.
Director, Bioinformatics Core
UC Davis Genome Center

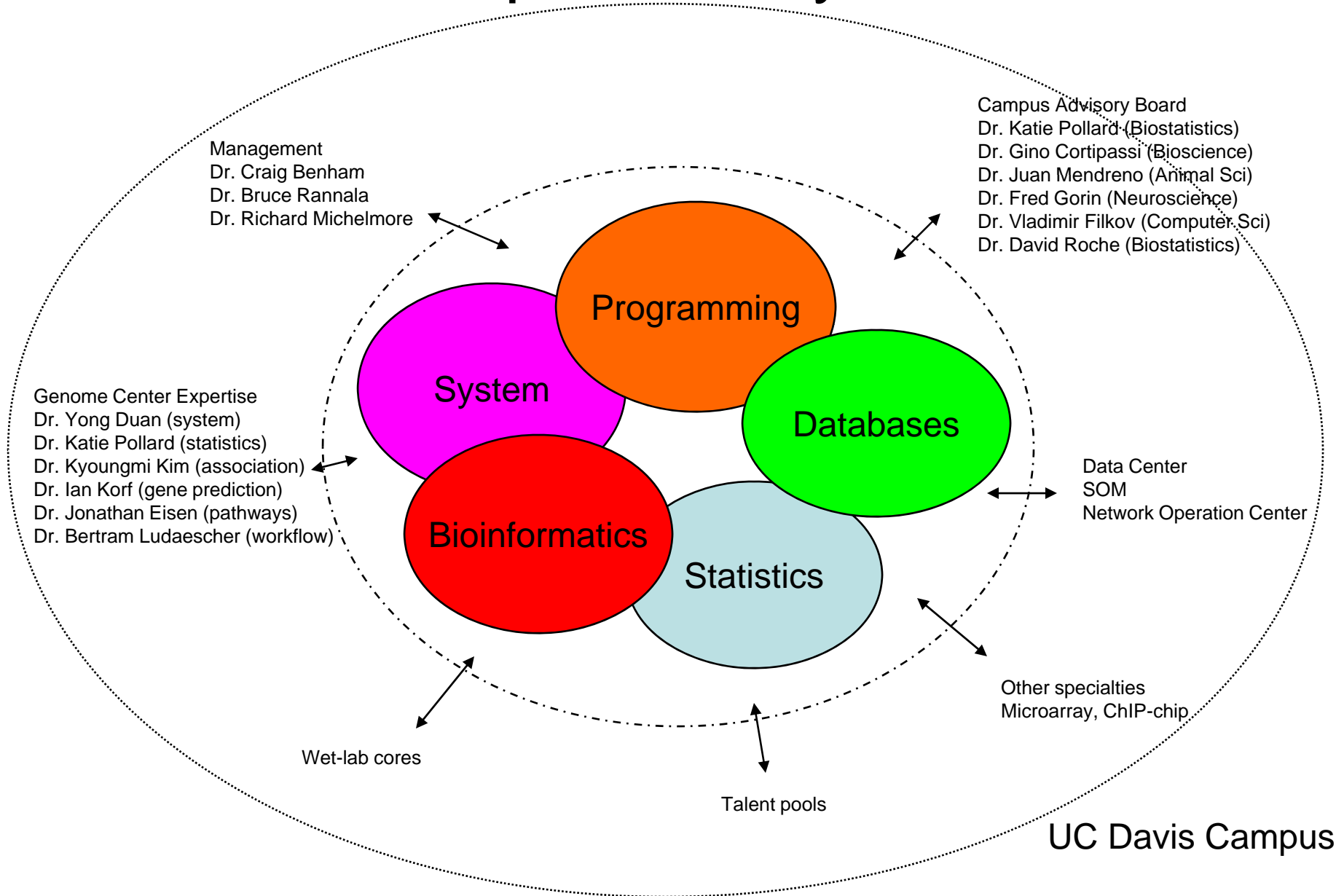
July 22, 2008, ISMB



sahasrabhujasahasranetra

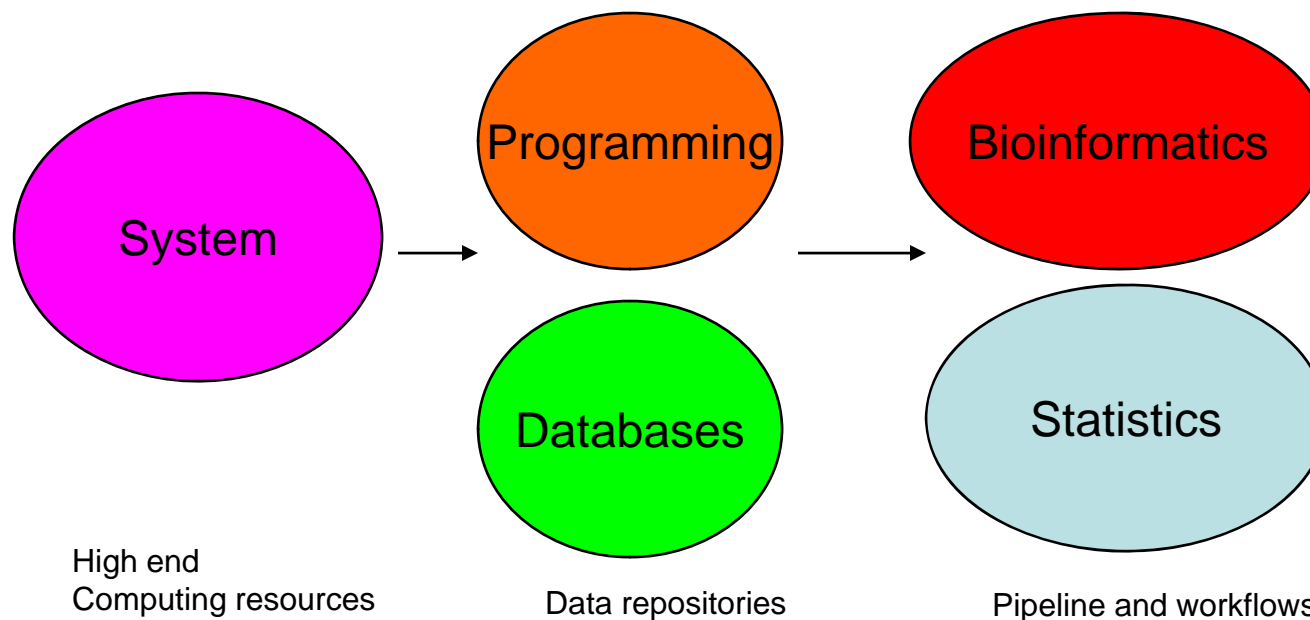


Expertise Layers



Infrastructure

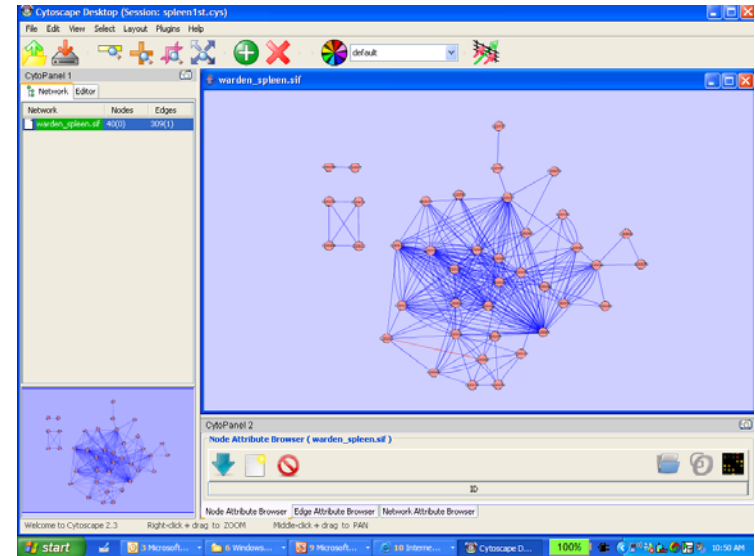
- **Computing resources**
 - >600 CPU, one 128GB RAM machine, >200TB Storage
- **Database resources**
 - Virtual servers, LIMS and Large Space Sharing
- **Pipeline resources**
 - Annotation pipelines



	retention_i	quantmass_id	PubChem	WT_redAA	WT_redAA	WT_redAA	WT_redAA	WT_redAA	WT_redAA	
5	497167	292	199262	5282933	3271	3402	4084	6936	4561	5003
6	787358	117	199195	5281	25443	21146	26480	22883	28860	19996
7	344674	299	199165	1804	230181	275149	299409	231676	295226	230659
8	674704	132	203296	13849	144	189	295	113	401	103
9	389163	117	201810	8158	1000	1213	2286	1072	1903	1139
10	706298	129	203265	5282745	2476	434	1737	685	1417	1451
11	713542	313	199173	985	7498	4327	6992	4498	6812	5530
12	486399	156	199593	7405	66652	84294	67103	93562	66705	118010
13	290941	241	199600	13130	1026	895	1168	723	979	770
14	462908	233	199166	525	2334	2225	1711	2056	2061	2081
15	729867	306	199164	892	31231	33572	47161	31684	39549	38010
16	750645	117	200398	10465	537	527	690	394	843	377
17	227487	177	202167	757	178	231	408	272	477	243
18	368041	174	199588	750	51265	66996	48601	49406	41763	34612
19	591357	299	199419	754	11066	11122	10200	9695	9864	9185
20	649920	160	199413	5793	12796	12378	13646	15614	9703	11391
21	407645	147	200446	6427168	2121	2464	2918	1918	2828	2048
22	1077630	129	199589	5997	72930	58988	63078	59639	77430	58956
23	777102	337	199240	5280450	805	184	449	288	577	466
24	617288	273	199168	311	6026	5140	5168	5629	5643	5133
25	390988	245	199198	444972	1833	1864	1974	2041	2018	1894
26	642325	307	199181	5984	71	91	74	66	33	62
27	278929	191	199774	11266	8673	6765	6275	12145	7316	2174
28	360345	117	199780	6288	5308	8183	5935	6011	4614	5571
29	409403	117	199626	6288	722	940	688	689	493	760
30	916457	271	202121	5988	45	22		38	46	18
31	1105016	129	199250	5280794	610	580	503	575	567	582

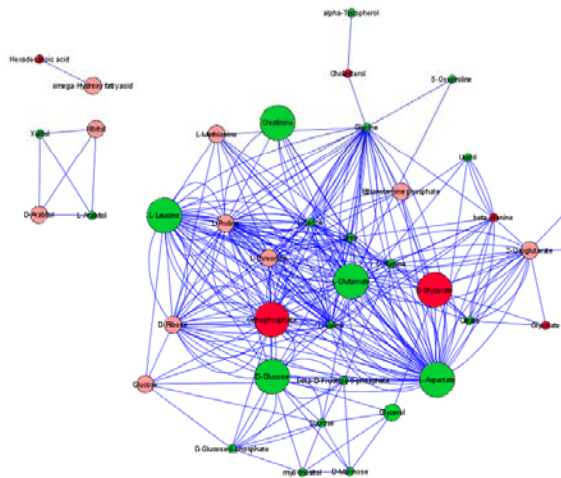
Metabolomics Data

1



Network Construction

2

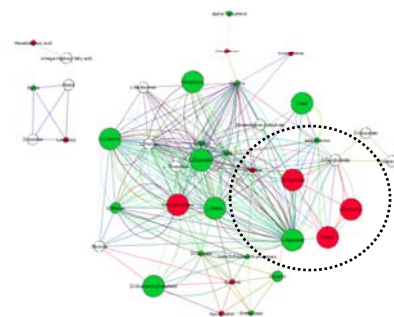


3

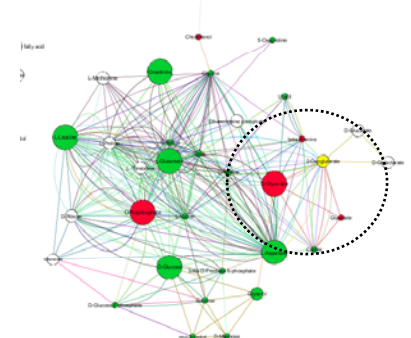
Pathway Mapping and Statistical Analysis

Color: Red: up-regulated, Blue: down-regulated
 Node Size: Big: high confidence, Small: Low confidence
 Edges: two metabolites share same pathway
 Edge color: same color same pathway

Knockout gene 1



Knockout gene 2



Pathway Comparison

Rate Model

Rate Calculation = Salary

+ Benefits

+ Training and development

+ Supplies

+ Administrative Cost

	A	B	C	D	E	F
1	Name	Project	Subproject	9-Oct	16-Oct	23-Oct
2						
3	Mike	2 day vacation				
4						
5		Infrastructure				
6			Liebert startup/RMA	2		
7			Wireless AP setup	2		
8			Software build	4		
9						
10		System Admin				
11			Cluster accounts	1		
12			DHCP registration	1		
13			Misc user support	2		
14			Tomcat	2		
15			SSL certificate	1		
16						
17		Bioinformatics Core Admin				
18			Meeting			
19			Core group	3		
20			BTF	1		
21			Documentaion	2		
22						
23			Email	5		
24						
25			Total	26		
26						

Hourly Rate: \$77

In comparison: UNC free, UIUC \$50, Univ. Chicago \$75

Penn State \$90

UC Davis Classroom Technology: \$85, IT programming: \$74

UC Berkeley Carpenter: \$75