



Targeting myocardial infarction-specific protein interactions using computational analyses

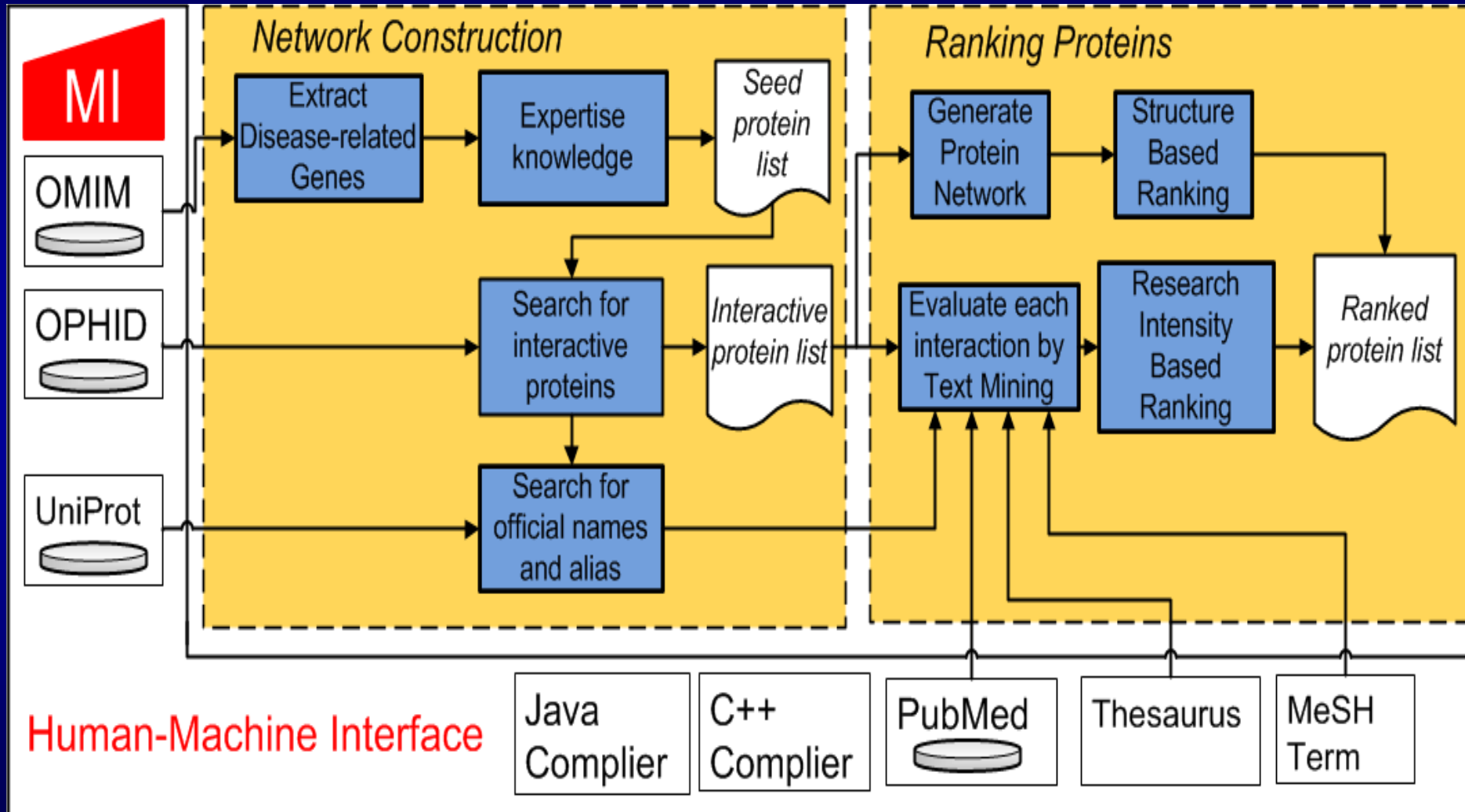
Nguyen Nguyen, Xiaolin Zhang, Yunji Wang,
Galen Schmidt, Richard A. Lange, Robert J. Chilton,
Hai-Chao Han, Merry L. Lindsey, and Yu-Fang Jin

UTHSCSA/UTSA Cardiovascular Proteomics Center

Introduction

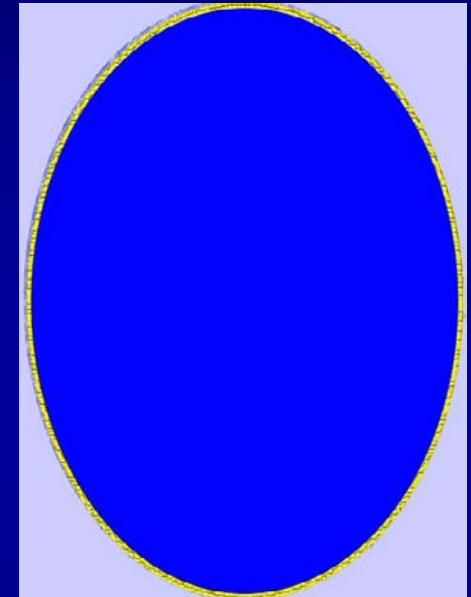
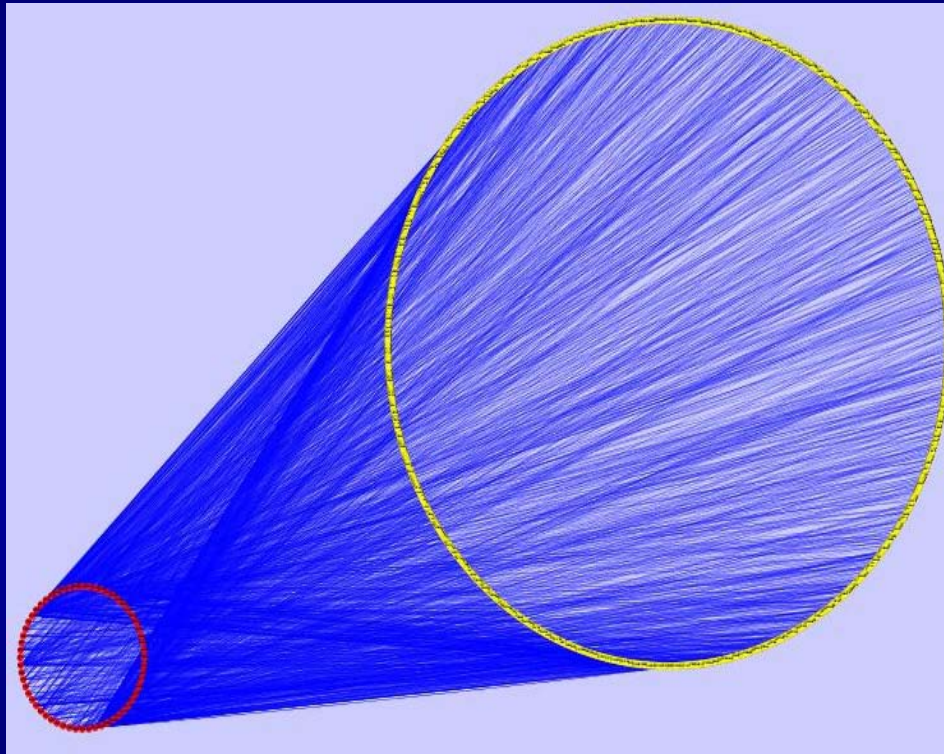
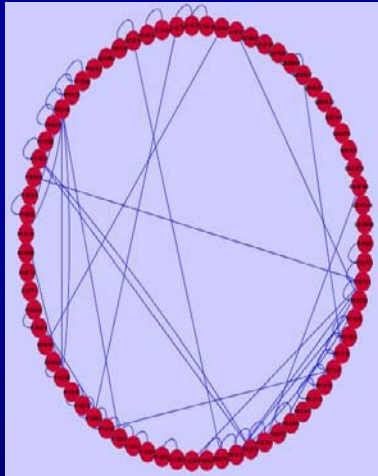
- About 2 million articles on myocardial infarction (MI) and cardiovascular disease in the MEDLINE databases
- Extracting useful information is extremely challenging

Block diagram



Building the protein interaction network

71 seed proteins



1256 extended proteins

- Each node in the network represents a protein
- Each edge of the network represents a protein-protein interaction
- Seed proteins: 71
- Total Proteins identified: 1327

Selected list of ranked proteins

Official Name	Structural ranking	Research intensity	Research ranking	MI-associated
Ubiquitin B (UBB)	1	0.427	3	Y
Mitogen-activated protein kinase 14	162	0.267	4	Y
Proteasome 26S subunit 14	84	0.253	5	Y
Protein kinase C, epsilon	245	0.0702	116	Y
MMP-9	342	0.0231	421	Y
Plasminogen	459	0.0016	517	Y
TIMP-1	830	0.0108	691	Y
Troponin I type 3 (cardiac)	702	0.0038	872	Y
Collagen, type I, alpha 1	506	0.003	901	Y
Transferase A (ABO blood group)	1*	1	1	Y
Taste receptor, type 2, member 50	1¥	0.018	497	Y/N

*- 2nd set and ¥- 3rd set

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Team members:

Nguyen Nguyen

Yunji Wang

Galen Schmidt

Tianyi Yang

Daniel Johnson

Omid Ghasem

Collaborators:

Merry Lindsey

Hai-Chao Han

Yufei Huang

Yidong Chen

Issa Batarseh

Zhihua Qu