

# Kiss'n'hug: The structure of an Internet dating community

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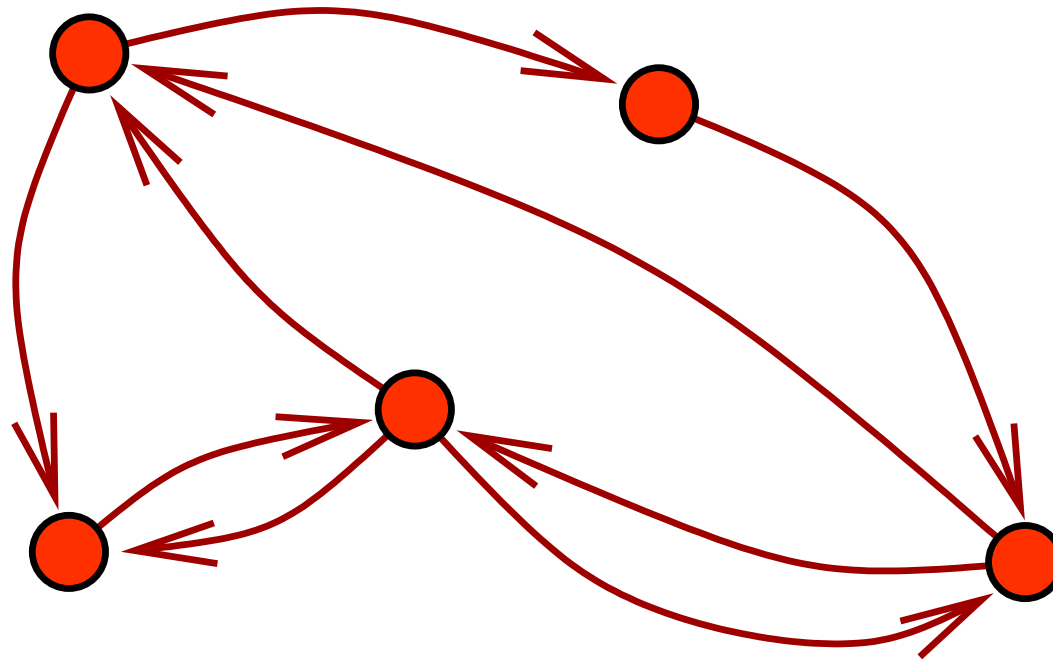
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# NETWORKS

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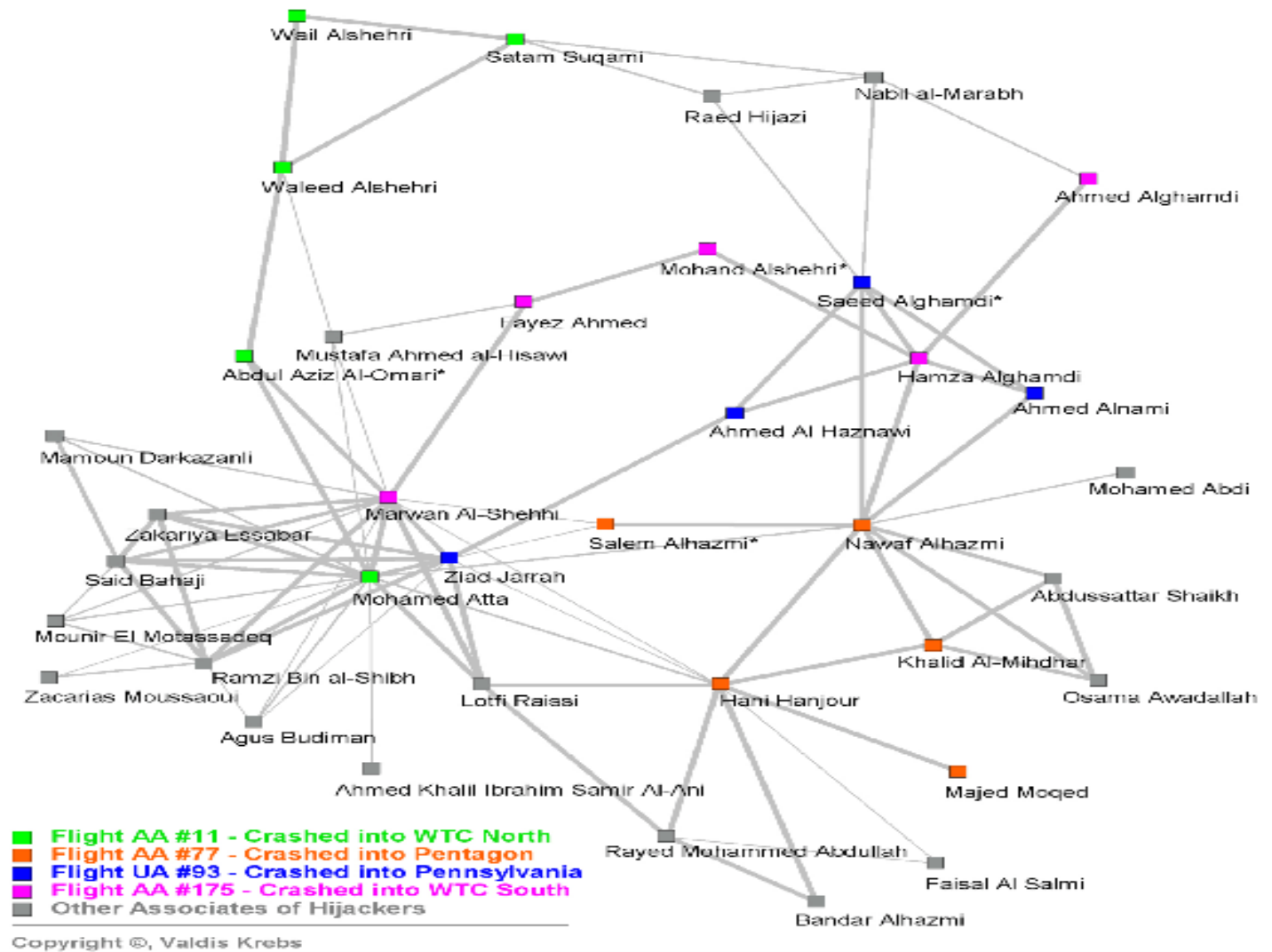


A *network* is any system that can be modeled as a *graph*—a set of *vertices* and *arcs* (or *edges*).

The in/out-degree of a vertex is the number of arcs going in/out.

# SOCIAL NETWORKS

- from group psychology . . .
- . . . to graph theory
- most intangible of networks
- epidemiology
- anthropology
- psychology
- defense



**Figure 4. Hijacker's Network Neighborhood**

## WHY INTERNET COMMUNITIES

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- large size (nice for statistical mechanics style approach)
- precise timing resolution
- formation more close to real acquaintance network than other methods
- interesting *per se*

about pussokram.com:

- ~ 130 000 users
- ~ 70% female
- average age 21 yrs (?)

Hey you Friday, July 5, 2002 | Newest user: User B P16

» [Community](#) / [user A F20](#)

**User A F20** City

**pussokram.com**  
digitala relationer

You are logged in as:  
[user Z P20](#)

You have one new message

all in one place

Here User B has space to write about herself . . .

**No picture uploaded**

[Email me](#)

[Be my friend](#)

[Read my diary](#)

[Write in my guestbook](#)

**Member since:**  
April 16, 2000

**Last time online:**  
13:02, June 20

**Personal information:**

E-mail: [someone@somewhere.se](#)

ICQ: . . .

**Most recent visitors:**

[User D P23](#)

[User E P33](#)

[User F P19](#)

[User G F12](#)

[User H P30](#)

**Fast facts:**

Residence:	Apartment	Civil status	Single
Economy:	Rich	Favourite color:	Red
Movie taste:	Horror	Likes:	The World
Hair color:	Dyed	Hobbies:	Watch TV
Sense of humour:	Normal	Style of clothes	Streetwise
Length:	Taller than most	Favourite food:	Various
Music taste:	Everything	Eye color:	Blue
Personality:	Serious	Occupation:	Working

If you like User A you'd also like . . .

<a href="#">User D F25</a>	<a href="#">User H F25</a>	<a href="#">User L F23</a>
<a href="#">User E F21</a>	<a href="#">User I F25</a>	<a href="#">User M F22</a>
<a href="#">User F F28</a>	<a href="#">User J F22</a>	<a href="#">User N F27</a>
<a href="#">User G F20</a>	<a href="#">User K F29</a>	<a href="#">User O F26</a>

number of online members  
**29**

friends online  
None of your Pussokram friends are currently online

sökofindern™  
name of member

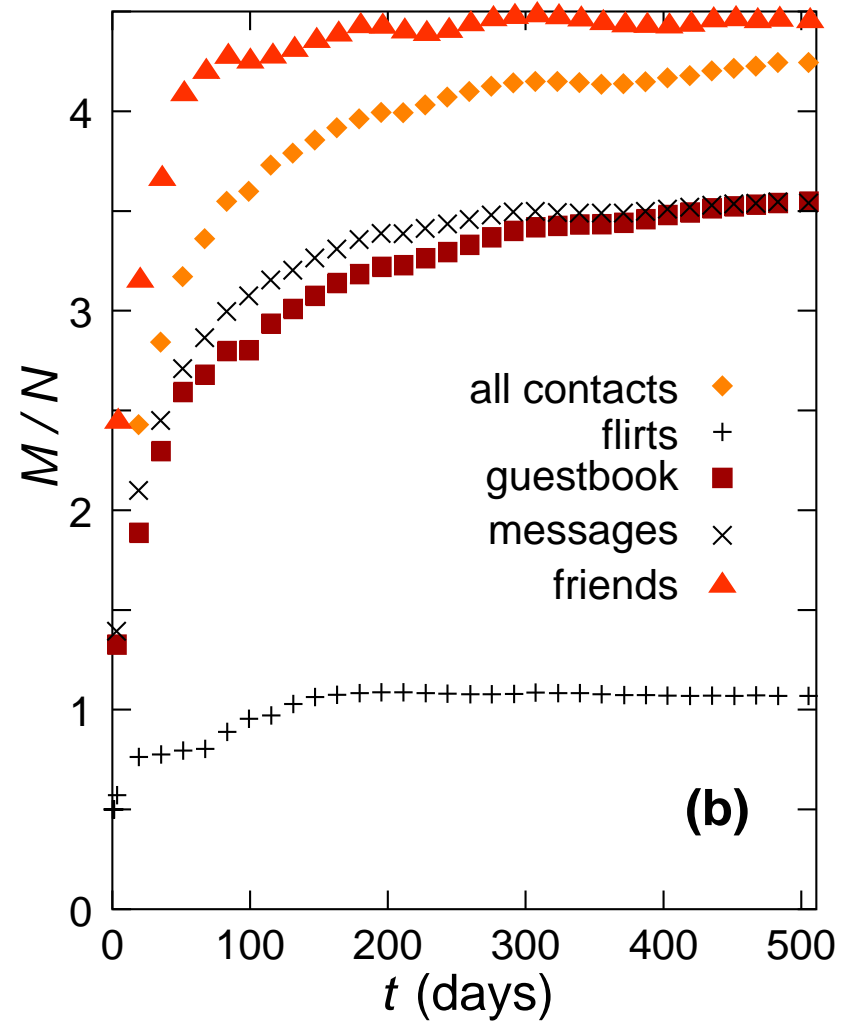
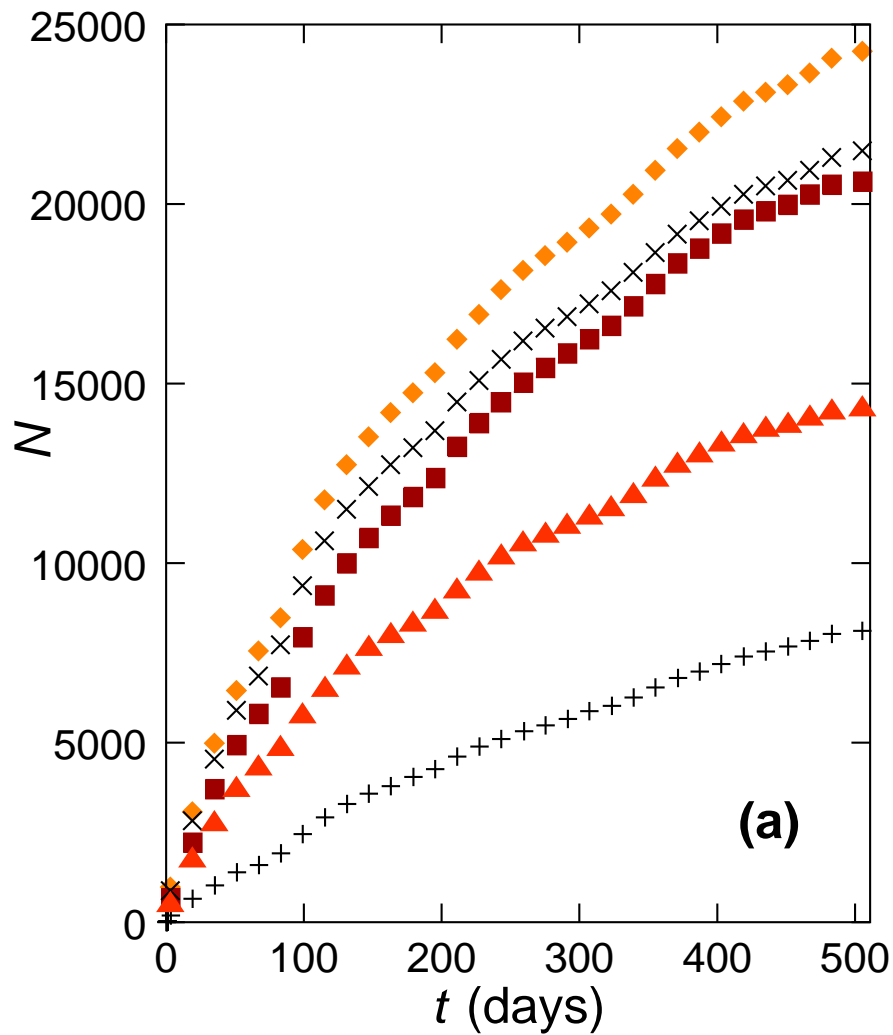
dr. love's answers  
Here starts the text of a mail to "Dr. Love" . . .  
[Read more . . .](#)

most recent diary  
[User C F18:](#)  
[Here goes the diary . . .](#)  
[» More diaries](#)

recently visited members  
Here you can see the five most recently visited homepages

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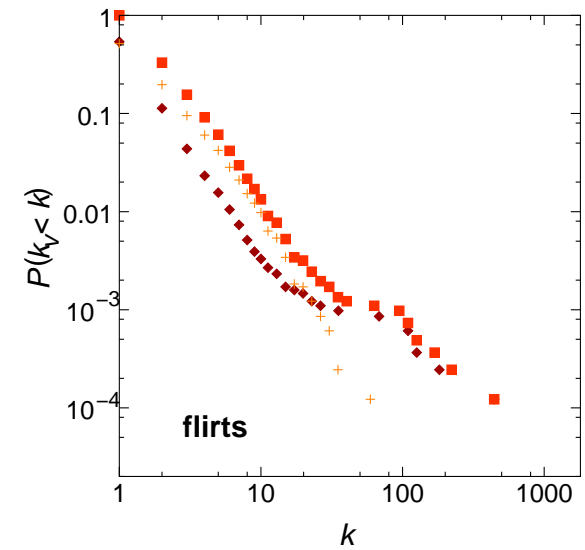
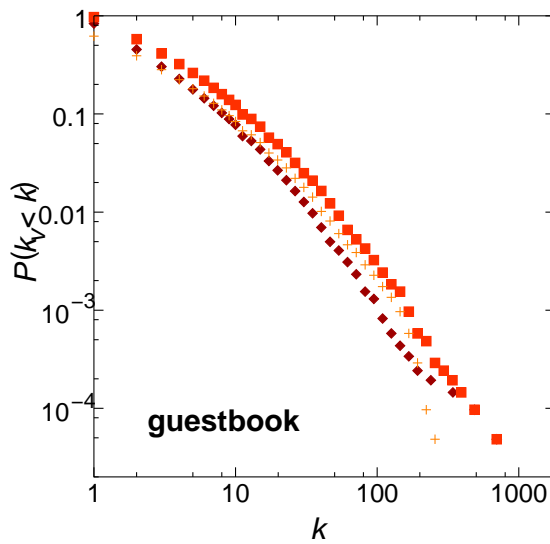
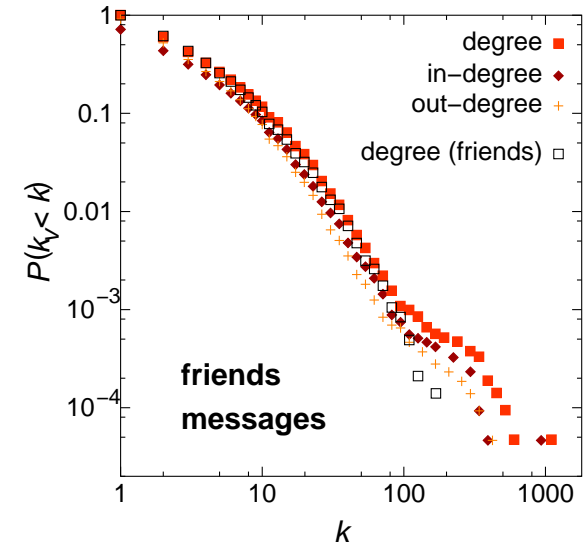
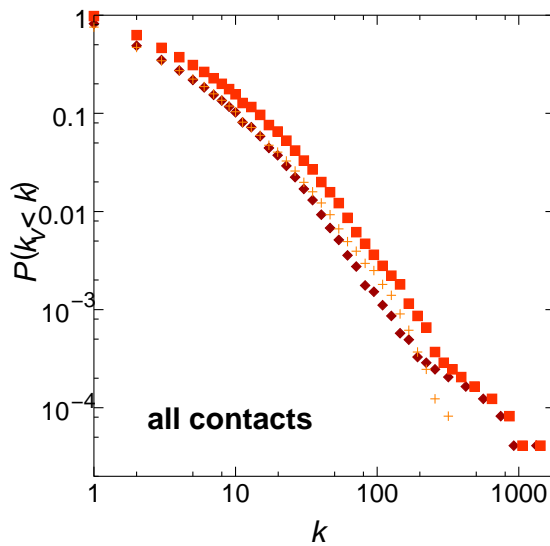
# TIME DEVELOPMENT



# DEGREE DISTRIBUTION

... quite scale-free, as seen in e.g. web of sexual contacts.

(There has to be a cut-off but its nowhere to be seen)

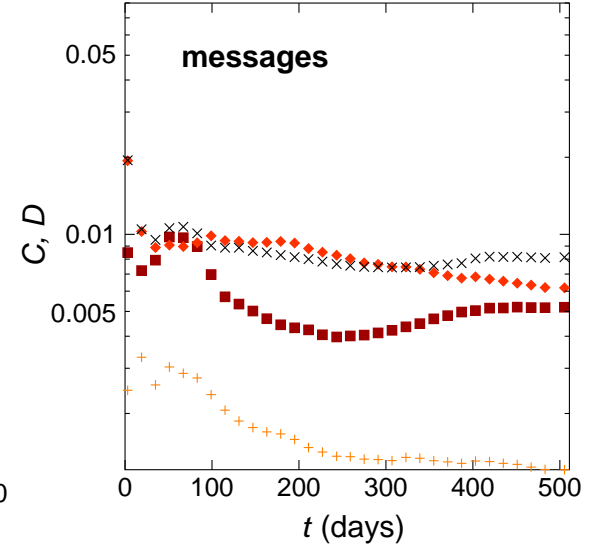
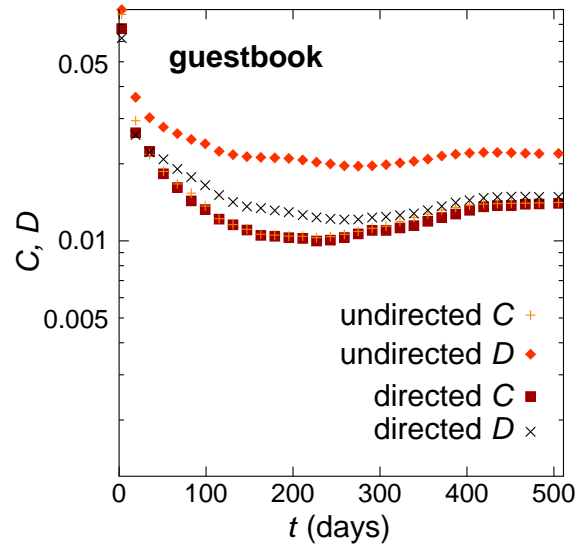
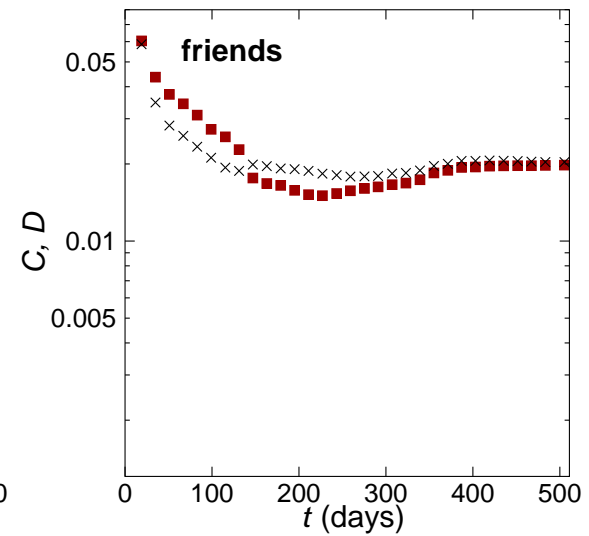
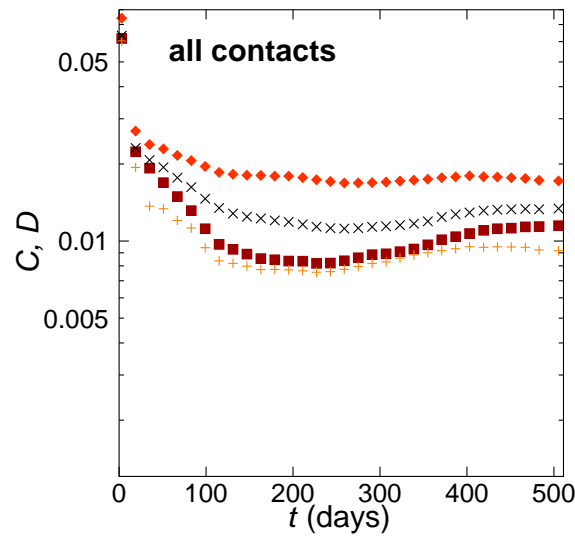


# DENSITY OF SHORT CIRCUITS

$C$ —density of triangles,  
 $D$ —density of squares.

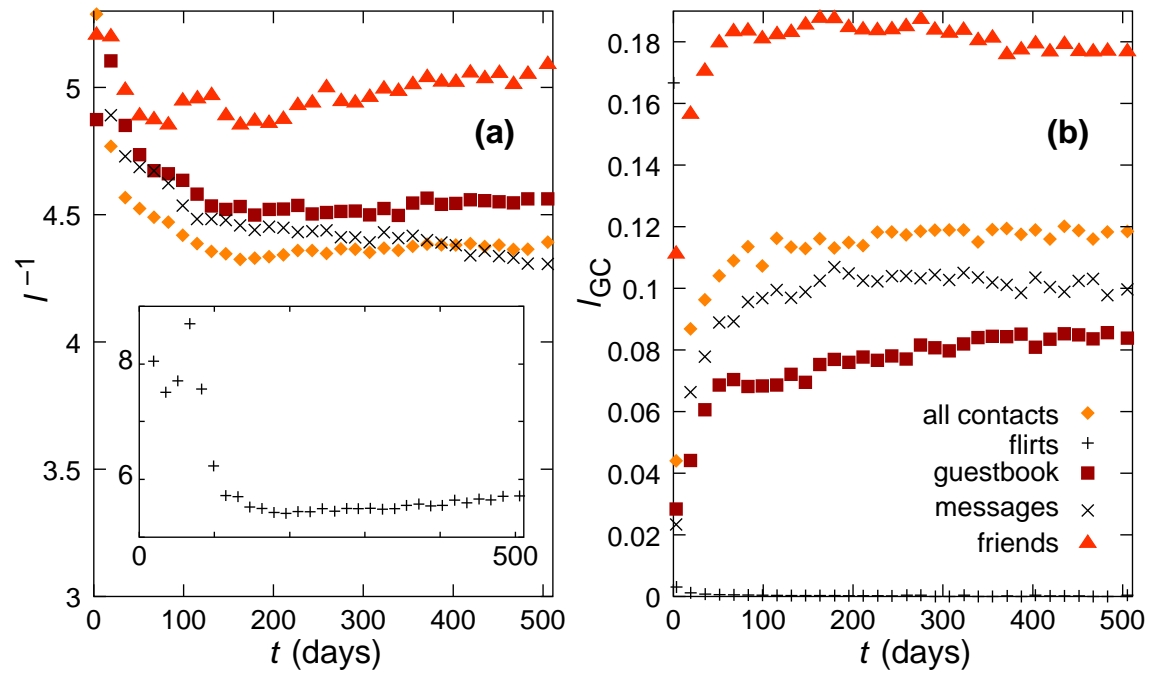
High  $C$  in acquaintance networks.

$C > D$  in other empirical network data. Here  $D > C$  since most contacts are romantic & heterosexual.





# CHARACTERISTIC PATHLENGTH



$$l_{GSCC} = \frac{1}{|A_{GSCC}|} \sum_{(u,v) \in A_{GSCC}} d(u,v)$$

$$l^{-1} = \frac{1}{M} \sum_{(u,v) \in A} \frac{1}{d(u,v)}$$