



News



News

[For the News Media](#)

[Special Reports](#)

[Research Overviews](#)

[NSF-Wide Investments](#)

[Speeches & Lectures](#)

[Multimedia Gallery](#)

[NSF Current Newsletter](#)

[News Archive](#)

News by Research Area

[Arctic & Antarctic](#)

[Astronomy & Space](#)

[Biology](#)

[Chemistry & Materials](#)

[Computing](#)

[Earth & Environment](#)

[Education](#)

[Engineering](#)

[Mathematics](#)

[Nanoscience](#)

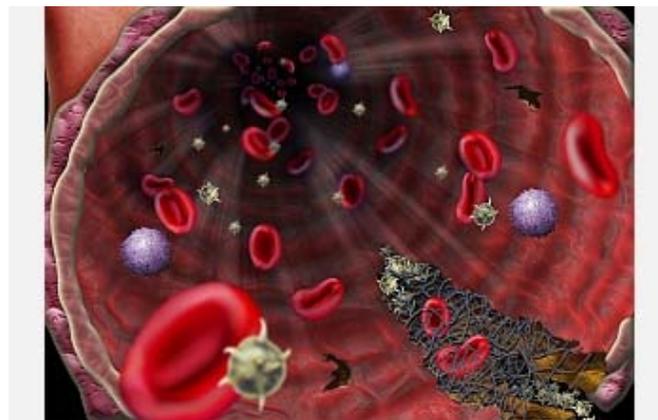
[People & Society](#)

[Physics](#)

Press Release 06-149

Novel Laboratory Model Reveals Clues to How Blood Starts Clotting

Approach has potential to reveal mechanisms behind variety of reactions within the body



Scientists have developed a microfluidic system that successfully models blood clotting. [Credit and Larger Version](#)

October 17, 2006

Researchers at the University of Chicago have crafted a simple model for predicting when and where hemostasis -- the technical term for blood clotting -- will occur. The microfluidic system that they created focuses on the interactions between blood and surfaces patterned to trigger blood clotting. It allows the researchers to separately monitor clotting in both blood plasma and a chemical model.

The researchers, led by National Science Foundation CAREER awardee Rustem Ismagilov, believe the methodology may prove useful in a range of studies, adding a powerful tool for predicting the dynamics of other complex biochemical networks.

The system successfully modeled the workings of a complex biochemical network by showing how the start of clotting depends upon localization of clotting stimuli. The researchers were even able to use the model to predict behavior that they later confirmed with human blood plasma, finding that blood can be exposed to significant amounts of clotting stimuli, such as tissue factor, without initiating clotting.

Lead author Christian Kastrup and his colleagues present their research results in the Oct. 16, 2006, online Early Edition of the *Proceedings of the National Academy of Sciences*.

For additional information, see the University of Chicago press release at: <http://www-news.uchicago.edu/releases/06/061016.clotting.shtml>.

-NSF-

Media Contacts

Joshua A. Chamot, NSF (703) 292-7730 jchamot@nsf.gov

Steve Koppes, University of Chicago (773) 702-8366 s-koppes@uchicago.edu

Program Contacts

Janice M. Hicks, NSF (703) 292-4956 jhicks@nsf.gov

Principal Investigators

Rustem F. Ismagilov, University of Chicago (773) 702-5816 r-ismagilov@uchicago.edu

Related Websites

Ismagilov group homepage: <http://ismagilovlab.uchicago.edu/>

The National Science Foundation (NSF) is an independent federal agency that supports fundamental research and education across all fields of science and engineering, with an annual budget of \$5.58 billion. NSF funds reach all 50 states through grants to nearly 1,700 universities and institutions. Each year, NSF receives about 40,000 competitive requests for funding, and makes nearly 10,000 new funding awards. The NSF also awards over \$400 million in professional and service contracts yearly.

Receive official NSF news electronically through the e-mail delivery and notification system, MyNSF (formerly the Custom News Service). To subscribe, visit www.nsf.gov/mynsf/ and fill in the information under "new users".

Useful NSF Web Sites:

NSF Home Page: <http://www.nsf.gov>

NSF News: <http://www.nsf.gov/news/>

For the News Media: <http://www.nsf.gov/news/newsroom.jsp>

Science and Engineering Statistics: <http://www.nsf.gov/statistics/>

Awards Searches: <http://www.nsf.gov/awardsearch/>



[↑ Top](#)

[Policies and Important Links](#)

[Privacy](#) | [FOIA](#) | [Help](#) | [Contact NSF](#) | [Contact Web Master](#) | [SiteMap](#)



The National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, USA
Tel: (703) 292-5111, FIRS: (800) 877-8339 | TDD: (800) 281-8749

Last Updated:
October 17, 2006
[Text Only](#)