



TODAY'S NEWS: Binge Drinking Affects Prospective Memory

- HOME
- WINDOWS
- GAMES
- DRIVERS
- MAC
- LINUX
- SCRIPTS
- MOBILE
- HANDHELD
- GADGETS
- NEWS

NEWS CATEGORIES:

- Science
- Technology
- Webmaster
- Security
- Microsoft
- Linux
- Apple
- Games
- Telecoms
- Reviews
- Editorials
- Interviews
- Life and Style

NEWS ARCHIVE >>
SOFTPEDIA REVIEWS >>
MEET THE EDITORS >>

Ads by Google

Miniature Diaphragm Pump
Small Vacuum air pumps & compressor Manufacturer of air & liquid pumps
www.chinamicropump.com

Pharma CRM Poland
Provider of SFE KAM KOL solutions to Polish ethical & OTC Sales Teams
www.stayinfront.com/pharm

HyStem-CSS
Stem Cell Recovery Matrix
Introductory Price of \$200
www.glycosan.com

ChemAxon Reactor
Virtual chemical reaction engine Generate feasible compounds
ChemAxon.com

Microreactor Solutions
Process Development, Lab Plants Productionscale Eng. & Plants
www.microinnova.com

Scalable Flow Chemistry
The Chemtrix platform allows rapid scale-up eliminating risk
www.chemtrix.com

Home > News > Science > Physics

Physics



Advanced Microflow System Created in Poland
It could help experts perform thousands of chemical reactions daily

By **Tudor Vieru**, Science Editor
July 29th, 2010, 08:57 GMT

Adjust text size: **A-** **A+**

Lubię to! Bądź pierwszym znajomym, który to lubi.

- Ads by Google
- Science News
- Learn Polish Poland
- Jewish Tours Poland
- Warsaw Poland
- House Poland



In an advancement that is bound to have numerous positive outcomes, researchers in Poland recently managed to develop a new, credit card-sized microflow system. The tool allows scientists to combine a number of chemicals in a single solution. It carries a host of channels, in which drops of liquid containing various substances can navigate until they combine with each other. The instrument could help investigators carry out thousands of chemical reactions daily, virtually anywhere. The Polish team eliminated the need for a massive lab with many workbenches, [AlphaGalileo](#) reports.

The innovative mechanism was created by the Institute of Physical Chemistry of the Polish Academy of Sciences (IPC PAS). Experts here, led by DSc Piotr Garstecki, say that the effectiveness of the new tool has already been tested in antibiotics mixtures, and that their invention passed the assessment with flying colors. One of the main things scientists can do with the credit card-sized device is to produce and precisely control concentrations of reaction micromixtures.

The technique is considerably faster than microtitre plate method that most research laboratories currently use. It also operates with smaller volumes of chemical liquids, a feat which is bound to increase its attractiveness with the scientific community even more. "The device developed by us will allow even tens of thousands of biochemical experiments to be conducted daily," Garstecki says, adding that the medical diagnostics, chemical synthesis and advancements in biotechnologies will become easier than ever with the microflow system. The contraption is in fact nothing less than a miniature chemical reactor.

"Miniaturization of everything is simply not economical. Taking the valves outside the micro-system, the chip itself can be made simple, cheap and disposable. The most important thing is that the chemical reactions themselves proceed in a microscale under precisely controlled conditions," says PhD student Krzysztof Churski. He reveals that the system can be tuned in such a manner that up to three chemical reactions become possible each second. "Our microflow system not only reduce all costs but also significantly shortens the time necessary to conduct research," Garstecki concludes.

- Ads by Google
- Poland Cro
- Physics News
- Study in Poland
- Physics Research
- Poland by Mail

TAGS: [microflow systems](#) | [chemical reactions](#) | [bioengineering](#) | [antibiotics](#) | [innovation](#)

SHARE THIS

Read by 168 user(s) | [Add comment](#) | [Link to this article](#)

TWEET THIS

Article rating: NOT RATED 0 vote(s)

[Subscribe to news](#) | [Print article](#) | [Send to friend](#)

© Copyright 2001-2010 Softpedia
Contact: newseditor@softpedia.com

SEARCH THE NEWS ARCHIVE :

Search

[Today's News](#) | [Yesterday's News](#) | [News Archive](#)

MORE RELATED ARTICLES:

- [Creating Custom Liposomes Now Possible](#)
- [Motions of Liquids on Surfaces Can Now Be Controlled](#)
- [A Paradigm Shift in Microfluidic Devices](#)
- [New Microfluidic Device Can Remove Salt from Seawater](#)
- [Light Can Twist Nanoparticles](#)
- [Possible Application in Genetics for Moore's Law](#)
- [Microfluidic Device Can Sequence DNA](#)
- [Synapse Studies Could Fight Epilepsy](#)