



EUROPEAN  
COMMISSION

Community Research

# Science Shops

→ knowledge for the community



EUR 20877



SCIENCE AND SOCIETY

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# Science Shops

## Foreword

*There are more scientists in the world today than ever before and we depend on science and its applications in almost every aspect of our lives, yet we do not always appreciate how intimately it affects each of us.*

*Although researchers are successfully integrating their efforts at a European and even global level to address the increasing complexity of scientific inquiry, there appears to be a yawning gap between science and society at large.*

*Many people see scientists as inhabitants of a strange parallel world that bears little resemblance to their own. This is reflected in the EU-wide Eurobarometer surveys in which nearly half of Europeans claim they feel neither interested in nor informed about science.*

*There is a growing feeling that scientific research is aimed at abstract knowledge or profit and not sufficiently geared towards the needs and concerns of society. Calls are ringing out across society and in the*

*corridors of the research community for science to better serve the citizen. However, in order to serve the community, science needs to get closer to it.*

*There is still a long way to go but, in recent years, science has slowly but surely started to engage in a dialogue with society and to respond to its needs. Scientists are keener than ever to communicate their ideas in a way that others can understand, and there is an increasing willingness to listen to the world beyond the research community.*

*In the coming pages, you will learn more about dedicated and tireless researchers who have set up shop directly within the community as part of grass-roots research organisations known as 'science shops', which answer the scientific requirements of local citizens and NGOs and help create an awareness of society's needs.*

*This brochure also explores other local community organisations that complement the work of science shops and are candidates for valuable future partnerships.*

*The European Union is not just about institution building and bringing Member States closer together, it is also about bringing Europe closer to its citizens. Consequently, its research programmes are keen to promote partnerships and knowledge for living.*

*Recognising the crucial role science shops play in the local community in raising scientific access and awareness, the European Commission has been helping this movement evolve and reach critical mass.*

*By cutting away the layers separating science and society, science shops are helping to pave the way towards 'science for society' and 'society for science'.*

Rainer Gerold  
Science and Society Director  
Research Directorate-General  
European Commission

# Science Shops

## Community service

*In the three decades since they first emerged, science shops have spread beyond the shores of Europe to become an international phenomenon that is firmly rooted in the local community and, most importantly, serving local needs.*

Science shops stand at the junction where science meets society, and deal with practical problems – for example, protecting local jobs by investigating ways for a factory to comply with pollution standards, or finding technological solutions to help disabled people live independent lives.

Today, science shops can be found in more than a dozen countries. Austria, Belgium, Denmark, France, Germany, the Netherlands, Romania, Spain and the United Kingdom are among the European countries which have taken up the concept. Canada, Israel and the United States count among the non-European countries that have developed similar structures.

### Full of youth spirit

The science shop concept began life in the student movement and counter-culture of the early 1970s when a group of Dutch chemistry students decided to put their brains together to help non-profit clients solve scientific problems. Aided by university

staff, they aimed to increase the influence of civil society within academic circles and to forge better links between citizen groups and scientists, such as working on soil pollution. Within ten years, the idea had spread right across the country from its cradle in Utrecht and Amsterdam where it had started out as a simple cardboard box for posting questions. Every single university in the Netherlands set up one or more science shops as university departments with both paid and volunteer staff. By 1990, the country had almost 40 of them.

Inspired by the Dutch experience, science shops and similar structures sprouted up in other countries in two main waves: the first in the late 1970s and the second in the 1990s. As the idea spread, it changed and evolved to fit local conditions and needs.

### Local mandates

The spread of science shops not only highlights their success in serving the community but also underscores that civil society has its

own research needs which conventional channels may not necessarily be able to meet. This makes these non-profit research bodies an important interface in meeting the increasing social demand for knowledge. Despite their global reach, science shops are essentially local organisations, working within local conditions to serve local needs. In finding solutions to grass-roots problems, they cut across social, disciplinary and gender divides.

Although this makes for a wide spectrum of approaches, science shops have consistently been found to be a very cost-effective method of giving society access to research.

### The European dimension

With the help of the European Commission, science shops have managed to organise themselves into a Europe-based global network through which they can share research, know-how and expertise.

Not only has this enabled them to make the most of scarce research capacity, but it has also helped new science shops to emerge. In addition, international networks of science shops may influence the research agenda itself by conveying the needs of society to the scientific community.

As a result of this renewed momentum, science shops are scarcely able to keep up with demand, and some shops are only able to handle a third of the requests they receive.

# Science Shops

## Behind the counter

*Science shops are as diverse as the communities with which they work. Although they are spread across the globe, they are not chain stores with one standard format. In fact, they are not really shops at all.*

Two common elements they all share are that they serve 'clients' from civil society or the local community, and they do not aim to make a profit. Most provide their services free of charge and some for a nominal fee to help cover expenses.

"Science shops exist in a wide range of shapes and sizes, but they share a common desire to extend research support to socially marginalised groups," explains a special EU report on the subject<sup>1</sup>. To keep costs down, most rely on volunteer researchers and have only a small skeleton staff of paid employees. University-based science shops usually award credit points to those students who perform the research as part of their academic studies.

Despite there being no one model, science shops can be categorised according to how they are set up (university-based or separate NGOs) or their function, whether they conduct original, independent research and provide expertise themselves, or act as

mediators linking up civil society and scientists. Science shops use the word science in its broadest sense.

Their activities cover such disciplines as the social and human sciences, as well as physics, engineering, chemistry and biology. In order to respond to the complex social demands placed on them, research conducted by science shops often cuts across traditional academic boundaries.

One key element distinguishing science shops from other knowledge transfer mechanisms is their bottom-up approach. They are built around the concept of participation. Their role is to contribute to identifying civil society's needs for expertise and knowledge, and together find the best way to respond to them.

### Customising knowledge

Science shops typically receive a particular request for knowledge from a 'client'. They carry out an audit to see if the information

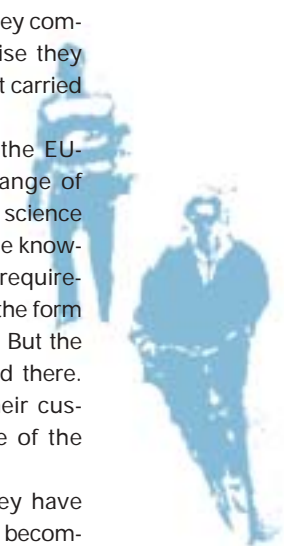
exists. If they find the information, they communicate it to their client; otherwise they may carry out the research or have it carried out on the client's behalf.

International networking – under the EU-backed ISSNET – facilitates exchange of information and expertise between science shops. At the end of the process, the knowledge generated is geared to the requirements of civil society. This can take the form of new or recombined knowledge. But the role of science shops does not end there. They help citizens and NGOs – their customers – make the maximum use of the results.

As science shops have grown, they have become more mainstream. They are becoming increasingly networked and work more closely with the research and political establishments. Since the 1970s, they have focused their efforts on a range of social and humanitarian issues. They carry out research into areas such as measuring the effects of air and noise pollution, as well as investigating social and environmental problems.

In addition to their research role, science shops sometimes organise special training and educational programmes for civil society organisations or the local community. ■

<sup>1</sup> *Study and conference on improving public access to science through science shop (SCIPAS). To read the report, go to <http://www.scienceshops.org/reports.html>*



# Science Shops

## Science shops in action

*Each individual science shop is unique and differs from one country to another. This section profiles a number of science shops and other community structures in different settings as a sample of the range of work they do and the diversity of approaches they employ.*

### Queen's community service

In the 15 years since it was founded, the science shop at Queen's University Belfast (UK) has become firmly rooted, providing the university with a link to the surrounding community. In recognition of this important role, the university took over funding of the science shop from the Nuffield Foundation, a charitable trust, in 1995.

Gerry McCormac, who took up this important post, believes that: "The science shop plays a key role in ensuring that the university is properly connected to the wider community. It uses university resources to help meet the needs of community and voluntary organisations across Northern Ireland."

The expansion of its operations – another branch was opened at Ulster University in 1996 – pays testimony to just how well the science shop has succeeded in fulfilling its mission. In the past five years alone, the shop has worked on over 400 research

projects for more than 200 community organisations drawing on the talents of some 300 student researchers.

The science shop carries out research into a broad range of subjects in both the pure sciences and the humanities. These include social, psychological, health, legal, environmental, IT, artistic, business and local history studies.

In addition to delivering valuable research to community organisations free of charge, "This type of work is very beneficial to students, not only allowing them to use their skills to benefit their community, but also enabling them to further develop and build on those skills," explains Karen Trew, a psychology professor closely involved with the science shop.

One recent project Dr Trew supervised assessed the effectiveness of training courses given to statutory workers who came into contact with victims of domestic violence.

Margaret Gallagher of Foyle Women's Aid, which commissioned the research, praised the outcome: "We were delighted with the work. Without this resource, we could not have carried out the research which is vital both for our own development and for allowing us to seek funding for future training."

Another recent project focused on social isolation among elderly men. Olaf Hvattum of North Belfast Senior Citizens Forum felt that the finished study "brought fresh perspectives to the thorny problem of how to include older, isolated men in our work". For its part, the science shop at Queen's University Belfast insists that it will continue to drive home the message to its community partners that they are not alone.





### Improving life in the city

Although science shops are a fairly new and relatively unknown concept in Spain, Seville has two such facilities working actively to improve life in the Andalusian capital: a private one, Pax Mediterranea, and a university-based one, Arquitectura y Compromiso Social.

Pax Mediterranea, an independent organisation, is what its organisers call a 'part-time' science shop. This is because the organisation carries out consultancy work in addition to the more regular research activities associated with science shops.

Pax Mediterranea is an example of a community-based research concept with "a business twist", explains Alain Labatut, project manager at Pax Mediterranea. "This gives NGOs a greater sense of confidence when it comes to soliciting advice."

"[NGOs] can feel they are treated like any other client by a consultancy firm, only they'll need less money for the same work," adds Teresa Rojo, Pax Mediterranea's director.

Pax Mediterranea's clients have included a number of local environmental organisations working to find out what city dwellers' expectations were regarding solutions to Seville's environmental challenges.

With the help of the University of Seville, the independent science shop was able to employ a participatory approach to formulate ecology plans for the bustling town.

"This has allowed local green associations to be involved in the debate on the environmental future of the city," says Rojo. Arquitectura y Compromiso Social works with NGOs to improve the quality of life in less-privileged areas of Seville through creative architectural and civil engineering solutions. Its work included an architectural study for a local gypsy community.

The organisation, which is located in the University of Seville's Technical Architecture School, also carries out neighbourhood training projects and is helping to organise master's programmes in research and participatory action. "We create educational experiences for [students who] become aware of their professional responsibilities and different clients' needs," explains Esteban de Manuel, a professor of architecture.

Although the science shop enjoys good ties with the university, it is currently working towards full recognition in the university's charter so that students can engage in its research activities as part of their curricula.

### Early-warning signals

Science Shop Vienna is one of four such institutions in Austria, each of which has its own areas of expertise. The Vienna shop is unusual in that it does not rely on students for the vast majority of its research activity, but employs professional researchers.

It has three dedicated researchers on its staff who offer a wide range of research services

to non-profit organisations. "They realise research projects, retrieve literature from databases, organise workshops, provide expert opinions and advise in matters of research," notes Christine Urban, a

member of the Science Shop Vienna team. Although the centre's full-time researchers specialise in the humanities and the social sciences, other experts can be called in when necessary.

To be close to the NGOs it serves, the science shop's offices are in a well-known Viennese social and cultural centre located in what was once a locomotive factory. And, according to a recent independent evaluation, the Vienna shop has been right on track with its activities and has achieved its goals with "outstanding efficiency".

Team member Michael Strähle says that his science shop's grass-roots connections "give early-warning signals of upcoming issues" and have helped it to pioneer lines of research which are later adopted by larger institutions.

One such example was the case of a single mother who was on the verge of giving up her university studies because she could not reconcile the demands of her curriculum with the needs of her baby. This prompted

the science shop to launch an investigation into the conditions of single mothers at Viennese universities.

“The research showed that extended child-care facilities, extended financial support, and adapted schedules at universities are necessary to meet the needs of student [mothers],” team member Regina Reimer adds. These findings led the government to take action to improve the situation of single student mothers and have sparked a string of related research across the country.

### Opening science’s door

Denmark’s science shop experience began nearly two decades ago in 1985. Today, there are three shops at the Technical University of Denmark, Roskilde University and the University of Copenhagen.

The science shops act as civil society’s ‘open door’ to university research facilities. They focus primarily on supporting co-operation between citizens, community organisations, NGOs and universities. The Danish science shops deal mainly with environmental and social queries from civil society, which they investigate free of charge.

“The knowledge needs of the clients fall typically within analyses of social and environmental problems experienced by citizens, and analyses and further development of citizens’ initiatives for better social welfare and a more sustainable development,” explains Michael Jørgensen who heads up the science shop at the Technical University. Among the network’s recent successes have been projects to help disabled people lead more fulfilling and empowered lives and to improve the quality of urban life through developing better waste management systems in residential areas.

One happy customer was the Copenhagen Energy and Environment Centre (CEEC), which has spawned three science shop research projects into local waste separation in the last three years.

“We have got valuable feedback about how the waste separation works in practice and how it can be improved: knowledge which [will be] a great help in the future implementation of waste management systems,”

observes Jørgen Martinus, CEEC’s waste management consultant. Like most science shops around the world, Danish ones are no exception in tapping into volunteer work. “[Most] of the research projects are carried out by students as part of their curricula,” notes Jørgensen.

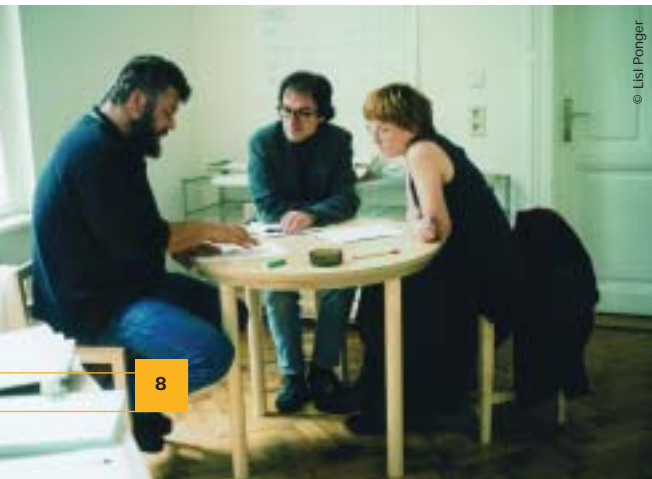
Although universities pay for the infrastructure, the science shops’ main asset is the “time which the students and their supervisors contribute,” he adds.

### Enterprising mediation

The Bonn Science Shop has operated for the past two decades as an independent organisation in the former West German capital. Established in 1984 by environmentally concerned students, it quickly grew into a professional centre promoting citizen involvement in knowledge transfer.

With a staff of 25, the Bonn Science Shop focuses on civil society and sustainability, environment and health, as well as the labour market. It co-operates with NGOs, universities and government authorities both within and outside the city.

The Bonn Science Shop does not receive any permanent subsidies or financial support. In addition to grants for specific projects, the core of its work is funded by the income from publications and paid services, as well as through the training activities offered by its education centre. ■



## NEW SCIENTIFIC AVENUES

*The Città della Scienza aims to promote a culture of science and innovation in the south of Italy (Naples). It also endeavours to find and propose “new roads” to development. Città della Scienza’s operations are divided into two main divisions: a Science Centre and a Business Innovation Centre.*

*The Business Innovation Centre promotes innovation, entrepreneurship and sustainable development through supporting the start-up and growth of innovative enterprises in the community. It also campaigns for the participation of civil society in the decision-making process.*

*The Science Centre is a member of the*



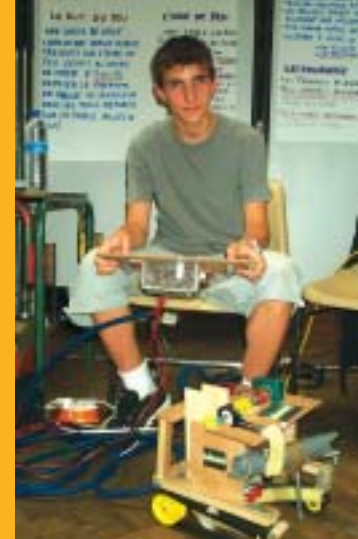
*European Collaborative for Science, Industry and Technology Exhibitions (ECSITE), and works to boost scientific awareness and culture in the surrounding community. The local community views it as a debating forum where civil society can meet policy-makers and the scientific community to discuss contemporary issues.*

## SCIENTIFIC CULTURE CLUBS

*Almost a quarter of a century ago, some local universities, research centres and authorities in France launched an initiative that they hoped would help bolster flagging public interest in science and instil it into the popular culture.*

*In 1979, the first Centre de Culture Scientifique Technique & Industrielle (CCSTI) was set up in Grenoble. Today, there are more than 30 such centres across the length and breadth of France. “Our principal mission is to promote a technical and industrial scientific culture among the general public,” says Laurent Chicoineau, the director-general of CCSTI-Grenoble.*

*Interactivity is the buzzword at CCSTI-Grenoble. “The public should be able to experiment with the latest technologies,” Chicoineau insists. The centre organises interactive exhibitions, workshops on scientific discovery, and public meetings with scientists and researchers. Among its flagship events are the Festival of Science and the Festival of the Internet. “Another strong concern of CCSTI-Grenoble lies in the promotion of scientific and technological careers for young people,” Chicoineau points out. The centre’s efforts to spark the scientific curiosity of the young include assisting them in producing their own science projects, as well as inviting leading scientists to step into the classroom and speak in the public squares throughout the scenic alpine town. CCSTI has extended its traditional target audience of civil society to encompass the scientific community, promoting a two-way flow between the two groups. “Traditionally, we have focused on public understanding of science. Today, we are also working on the reverse: promoting scientists’ understanding of the public – which is also a concern shared by science shops.”*



The Grenoble CCSTI organised a robotics workshop, the products of which were displayed in the city’s main museum.

# Science Shops

Talking shops

## Winning political recognition

*Science shops have acquired a good reputation and have won some influential supporters. They have attracted growing interest from local, regional and national governments, all of which appreciate the important role these organisations play in ensuring that science better serves the community.*

“In a knowledge society that aims to be more than a knowledge economy, science shops have a special place,” explains Maria van der Hoeven, Dutch Minister of Education, Culture and Science. The Dutch minister is a particular admirer of the “unique bottom-up approach” of science shops.

“By supporting citizens in their quest for knowledge, people are given more possibilities to take responsibility for shaping their own life and their living environment,” she says. “Citizens’ demands for knowledge also provide an important input for research that complements other scientific or commercially-driven ways of finding research topics.”

A growing number of local officials regard science shops as being good for their towns and regions. “The City of Vienna (AT) has initiated a huge number of actions to safeguard intellectual capital,” says the mayor of the Austrian capital, Michael Häupl. “Science Shop Vienna contributes to the fact that [the city] is not only a capital of culture but also a colourful capital of science and research.” “The Science Shop Vienna is an important institution whose work constantly oscillates between the generation and the dissemination of knowledge,” explains Hubert Christian Ehalt, Head of Vienna’s Department of Science and Research. Science shops and other similar structures are also seen as engines of creativity that

help promote a culture of science. “Innovation has been the foundation of our development for more than a century. [It] is not only technological but it is also societal,” notes Michel Destot, the mayor of Grenoble (FR), adding that these organisations help “spread a true science and innovation culture”. “This makes it possible to meet the challenge of building a knowledge society... and to support the development of responsible science, close to the citizen and shared by all of us,” he adds.





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The Dutch Underwater Sports Association called upon the services of the Wageningen science shop to help improve water quality in a recreational lake used by divers.

### Divining the future

Science shops are finding strength in number. The closer networking and integration of their activities is paving the way to a bright future. "As science shops become stronger organisations, they can improve the quality of their work," says Caspar De Bok, co-ordinator of Improving Science Shop Networking (ISSNET), an international network run by a consortium of 13 community-based research organisations from nine countries.

"Other scientists often look at science shops as something not entirely scientific or serious. We need to address the issue that, just because research does not always appear in peer-reviewed journals, it doesn't mean it's less important," De Bok adds.

The research community has good reason to sit up and take note of the important role of science shops in society. "Science shops

are the best ambassadors for S&T because they are altruistic," insists Jan Staman, director of the Rathenau Institute (NL). "They are also an extremely effective way of learning about people's problems and finding ways of solving them."

The future role of the EU will be to continue its efforts to lay the groundwork to help science shops operate more effectively. "EU support is essential in facilitating [cross-border] co-operation between science shops," De Bok notes. "The EU should not support individual projects at local level, that's too ad hoc. It should be supporting infrastructure projects between science shops."

One of the aims of promoting networking will be to reach synergy and create complementary links between existing and new networks, such as between networks of science shops and, for instance, science museums. ■

# Science Shops

## The rewards of community work

*Enthusiasm and motivation are key drivers of science shops. Researchers say they are drawn to science shops for the enriching experience of working close to the community.*

“I was certain that I did not have the ambition to work at a laboratory – I preferred a job that was more directly relevant to society,” explains Annet Beukema, a Dutch biologist who was a student researcher at the Utrecht Science Shop. Beukema, who had carried out research on behalf of a patient group into the effectiveness of alternative medicines in treating cancer, echoes the view of many science shoppers that bringing science to ordinary people makes their hard work seem worthwhile.

### Sharing passions

Community research also carries its own challenges. These include high staff turnover, which leads to a loss of tacit expertise and know-how. But student researchers – who are involved in some 70% of the research conducted by science shops, according to one recent study – bring energy and enthusiasm.

Céline Darmon, who volunteered at the CCSTI in Grenoble (FR) while she was working on her doctorate, found herself having to explore the complex world of genetics with local teenagers.

“To explain the reality of scientific research to high-school students was a real challenge,” recalls Darmon who now works at the French Institute for Health and Medical Research. “It’s a question of sharing your passion for science.”

### A unique learning experience

There is a growing realisation among science shops that they need to provide students with other incentives besides altruism. “In a large number of science shops students get course credits for their work,” notes Henk Mulder, vice-chairman of the science shop at Groningen Chemistry Shop (NL).

“Offering students work on science shop projects as part of their curriculum, with regular staff supervision, greatly expands

the capacity of a science shop... Moreover, it offers students a unique learning experience,” he adds.

### Scientific stepping stones

Some volunteers find that their time at a science shop can open up job opportunities and help map out their future career path. Beukema found that her work on alternative medicine at the Utrecht science shop was ideal preparation for a similar project – which she heard about through an ex-student – at a Dutch consumer organisation. “I applied for the job, got it, and I’m still working at the Consumentenbond,” she notes.

Science shops are “an invaluable stepping stone from unskilled student to someone who can design, manage and complete a piece of research,” stresses Andy Kirkcaldy of Interchange, a research ‘brokerage’ in Liverpool (UK).



# Science Shops

Europe: international trendsetter

*This section explores the community-based research movements in the United States and Canada and how European science shops helped shape their transatlantic counterparts.*

## Reformulating the research equation



The United States is a major investor in research and development. However, research targeted specifically at the community has sometimes been a neglected sphere of attention. Inspired by the science shop experience across the Atlantic,

American community-based researchers are grouping their disparate efforts into a movement.

An article in 1995 by Richard Sclove of the Loka Institute, a non-profit research and advocacy organisation, first brought European science shops to widespread attention.

A flurry of interest ensued with over 200 organisations from across the country reacting favourably to the article – Sclove had obviously tapped into a deep-seated need. This was the kernel for community-based

research organisation in the United States to team up and make their voices heard.

“We can put a man on the moon,” states the Loka Institute in a special report into the subject. “Why can’t we empower distressed communities and groups to help understand and address their own problems?”

The report goes on to explain: “We aren’t properly investing the resources readily available for building the social infrastructure that would make empowerment-through-mutual-learning universally accessible.”

To address this shortfall, the Loka Institute spearheaded the creation of the Community Research Network (CRN) to boost the capacity of community-based research centres. In the eight years since its inception, the network has scored a number of successes. It has created a platform – rather like in Europe – for US centres to share experi-

ences and expertise. It has also made links with other networks across the world including in Europe.

However, there remains a transatlantic gap. “On a per capita basis the Dutch are investing in community-based research at 15 times the US rate,” Loka estimates.

“[There is] a striking mismatch between the United States’ generously endowed, mainstream R&D agenda and the urgent needs of countless communities across the country.”

The institute has a simple solution to this situation: divert some mainstream R&D expenditure. “To create a US community research system that would provide a service as comprehensively and accessibly as does the Dutch system would cost in the order of \$450 million annually... [or] less than 0.3% of total US R&D expenditure.” →



## Gaining ground in Canada



Canada has been pushing ahead in recent years with a collection of programmes aimed at making scientific research more relevant to society.

Community-based research entered the public domain in a big way five years ago when the federal government, recognising its importance, began funding it directly.

“Community-university research is now considered a core programme activity and is a central component of the strategy of supporting excellence in research,” explains Peter Lévesque, a senior officer at the Social Sciences and Humanities Research Council of Canada (SSHRC) which is one of two government-backed agencies channelling funds to community-based research activities.

The Community-University Research Alliances (CURA) and the Community Alliances for Health Research (CAHR) programmes were created specifically to support partnerships between university-based researchers and community-based organisations.

When designing these two instruments, Canadians not only relied on domestic

experiments but also looked across the Atlantic to draw lessons from the European experience.

“The science shop movement in Europe and elsewhere had a significant effect on the thinking that went into the creation of these programmes,” Lévesque noted.

Canadian officials, he explained, paid several top-level visits to science shops in the Netherlands and “the lessons learned in Europe were combined [with] a long history in North American universities of ‘service-learning’, ‘action-research’, and ‘service to the collective’.”

The SSHRC plans to make community-based research a more central focus of its activities. The organisation is moving away from being a ‘granting council’ and is now repositioning itself as a ‘knowledge council’ dedicated to ‘knowledge mobilisation’.

“[This] is an effort to find the best methods to mobilise the results of its research, so that the people who need the results – [community groups], policy-makers, business leaders, service providers, teachers, the media – have what they need, when they need it, in a form that they can use,” says Lévesque.



# Science Shops



## Activities funded by the Commission

*As scientific development picks up pace, the European Commission has been working on the premise that scientific progress must be better harnessed in the service of society.*

In its Science and Society Action Plan, the Commission has recognised science shops as one of the instruments in its efforts to close the gap between European citizens and the research community.

The Commission is helping to boost the important role of science shops as a medium for improving both public access to, and public awareness of, science and technology.

Commission support has taken a variety of forms, including the financing of in-depth studies – SCIPAS and Interacts – to find out how best to support these independent research organisations.

“From a European perspective, science shops can help expand participation in scientific research and its benefits to all levels and segments of societies, thus contributing to social justice, social and civic integration, mutual understanding, collaboration, and mutual benefit,” concluded a SCIPAS study.

### Getting connected

The Commission recently helped to set up an international network of science shops (ISSNET\*). In a similar vein to the EU’s emerging European Research Area (ERA), ISSNET strives to integrate local, regional and national structures into a pan-European network that will help bring knowledge to life for ordinary citizens.

It aims to provide added-value to its members by promoting the exchange of research, knowledge, ideas and good practice. The network will enhance the collaboration between science shops helping them make the most of their limited resources.

It will also help the movement to re-expand following the turbulence it faced in the 1990s. Through a strong peer support mechanism, new shops will be able to shorten their learning curve and reduce the risks associated with setting up shop.

\*See page 18 for more information on Improving Science Shop Networking (ISSNET)

### Exploring options

Under its Sixth Framework Programme for research, the Commission is currently examining a variety of new ways of strengthening and promoting the role of science shops. In June, it concluded a special ‘expressions of interest’ process to canvass science shops for project ideas.

Based on these expressions of interest, the Commission, in its 2004 Science and Society work programme, has decided to launch calls for proposals on networking between science shops or equivalent organisations, as well as innovative pilot communications activities.

By so doing, the Commission aims to promote and enable the creation of new science shops, the production of on-line information, training materials, guidelines, etc. It also plans to reinforce the European dimension of science shops by supporting dissemination activities and by creating specific tools for communicating scientific expertise and advice.

# Science Shops

## Setting up shop

*Institutes or individuals interested in setting up a science shop need not reinvent the wheel. As European science shops forge closer networks, those wishing to establish a new shop can learn from the experiences of others and tap into their expertise.*

New science shops can benefit from existing models and draw lessons from their counterparts elsewhere. Examples abound of new shops being lent a hand by their more experienced partners in other countries and regions.

Science shops should avoid creating a carbon copy of the model applied elsewhere. "There is no single 'best-way' to start a science shop; local circumstances play a large role and must inform the way in which a shop is to be established," stresses the SCIPAS report.

### A Belgian revival

Science shops had pretty much disappeared in Belgium until last December when two were set up, under the same umbrella, on university campuses in Brussels and Antwerp. "Citizens currently do not have a channel to pose questions to researchers. Establishing a science shop in Flanders seemed like an opportunity to fill this void," said Dirk Van

Mechelen, Flemish Minister for Science and Technological Innovation. "[Regional] government can play a significantly stimulating part in this."

As the latest Belgian experience underscores, science shops can also help each other. "From the very start, we established close contact with shops in the Netherlands," says Sofie Van Den Bossche of the science shop at the Vrije Universiteit Brussel (VUB). The new Belgian shops were able to draw on the three decades of existing science shop experience. "[The Dutch] assisted in the development of the concept and advised in the practical organisation," she explains.

### Evolutionary paths


The model used in the Netherlands could not simply be copied across the border. "The education and research cultures are quite different," notes Van Den Bossche. "Dutch science shops evolved essentially out of student asso-


ciations, while, in Belgium, the demand... came from the top of the universities and from the government."

The science shops have created a database of ongoing research activities to help them answer urgent research questions. They have also carried out a needs analysis among local NGOs to find out their future research requirements and expectations. "We asked some 3 000 [associations] for their opinion. Out of 586 responses, 44% grapple with societal questions and problems that could lead to a case for the science shop," says Van Den Bossche.

### Enlargement and mentoring

Romania's science shop experience began with a simple question, and has culminated in the country's very own chain of shops, which was all made possible thanks to a mix of Dutch mentoring and proactive local partnership.

In 1997, a local environmental NGO asked a Dutch science shop whether the concept could be transferred to the eastern European country. "Six years and eight science shops later we can definitely answer 'yes,'" asserts 



Henk Mulder, vice-chairman of the Groningen Chemistry Shop (NL).

Along with two other science shops and a consultancy firm, Groningen managed to secure funding from the Dutch Foreign Ministry. One of the reasons behind the Ministry's decision was because this would help the development of the new democracies in central and eastern Europe by giving civil society more means of shaping its own future.

The Dutch team decided to help set up four science shops in the region of Moldavia that would focus on the most important of Romania's pressing environmental problems. "We used university and NGO networks to find active staff at various universities... [and] we approached the university's top-level to get their support," Mulder adds.

### Local adaptations

Although the Romanian science shops are modelled on the decentralised approach, they still had to be adapted to local conditions. This involved intensive and intimate co-operation between the Dutch with their science shop experience and the Romanian

researchers with their local expertise and commitment to modernisation and building up their own momentum.

"The co-operation between the Netherlands and Romania can be seen as a good example of 'mentoring'," notes Mulder. "Best practices are shared and support is given by experienced science shops, with a good eye on, and ability to adapt to, differences in local situations."

The success of the experiment has prompted the Dutch Foreign Ministry to put up a further €400 000. A national network of science shops, InterMediuNet Romania, has now been established, and its first president, Carmen Teodosiu, is participating in EU-funded science shop activities.

"The network intends to strengthen the individual shops, both in terms of their role in universities and their reach in civil society organisations," she explains.

"The continuation of science shop activities in Iasi, Galati and Bacau even after Dutch core funding stopped was made possible through the development of new project initiatives and participating in EU-funded projects," she adds. ■

### CATCHING ON

*EU-backed networking has spread the science shop concept to the French-speaking part of Belgium.*

*Scité – a network of science diffusion centres in five Walloon universities – attended a number of Science and Society meetings at the European Commission. This exposure to other science shops led Scité members to plan to add community-based research activities to their current mandate of improving the relationship between science and society through innovative communication activities.*

*"We plan to expand our service to the local communities around our centres by providing them with research capacity," explains Scité's Dominique Saintraint. "In addition to inspiring us, meeting fellow science shoppers has made us feel that tapping into their experience will make the task we've set ourselves simpler."*

### FRENCH CONNECTION

*Thanks to the ISSNET network, science shops are reappearing on the French landscape. After a meeting with Dutch and Canadian science shoppers, students at the elite Ecole Normale Supérieure de Cachan – supported by the Citizens Science Foundation – set up a 'Boutique de Science'. "We hope this will give science shops in France a second lease of life," said Claudia Neubauer of the Citizens Science Foundation. "In addition to providing citizens with useful science, the science shop will help satisfy students seeking studies that are more closely connected to society and teachers wishes for new and interesting research subjects," explained Fabien Amiot, the student at the Ecole responsible for setting up the science shop with the support of ten other students and two professors.*

# Science Shops

ISSNET



The Improving Science Shop Networking (ISSNET) network was officially launched in February 2003 – with €400 000 of Commission funding – to enable science shops in Europe and beyond to share expertise and know-how with the aim of improving citizen access to scientific knowledge.

ISSNET defines a science shop as “a unit that provides independent, participatory research support in response to concerns experienced by civil society”. According to the network, the mission of science shops is to:

- Help improve people's quality of life through research
- Provide an affordable service
- Promote and support public access to and influence on science and technology
- Enhance understanding of civil society among policy-makers and the scientific community

ISSNET, which is led by Utrecht University (NL), publishes a magazine called Living Knowledge three times a year to help network members share knowledge and expertise. The network is made up of 13 partners:

- Science Shop for Biology, Utrecht University (NL)
- Centre for Social Scientific Research, Education and Information FBI, Innsbruck (AT)

- Science Shop Vienna (AT)
- Science Shop Technical University of Denmark (DK)
- The Co-operation and Consulting Centre for Environmental Questions (KUBUS), Technical University Berlin (DE)
- Wissenschaftsladen Bonn (DE)
- Pax Mediterranea, Sevilla (ES)
- Citizen Science Foundation, Paris (FR)
- Chemistry Shop, University of Groningen (NL)
- Science Shop, Queen's University, Belfast (UK)
- Interchange, Department of Sociology, Liverpool University (UK)
- InterMEDIU Information, Consultancy and ODL Department, Technical University of Iasi (RO)
- Centre for Urban Research and Learning, Loyola University Chicago (US)
- The international science shop network, ISSNET:  
<http://www.scienceshops.org/>

## More information

If you require further information, have questions about the contents of this brochure, or would like to set up a science shop, contact:

→ European Commission  
Research Directorate-General  
Science and Society Directorate  
“Public understanding of science; young people and science” Unit

E-mail: [jette.gents@cec.eu.int](mailto:jette.gents@cec.eu.int)

Contact: Georges Vlandas, Jette Gents  
B-1049 Brussels

Tel: (32-2) 29-99909

Fax: (32-2) 29-58220

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Science shops – grass-roots research organisations – are a crucial interface between scientists and citizens that directly serve, through a bottom-up approach to research, the scientific needs of local communities across Europe. Standing at the junction between science and society, their mix of the local and the pan-European makes science shops candidates for EU support. By cutting away the layers separating science and society, they are helping to pave the way towards science for society.



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