



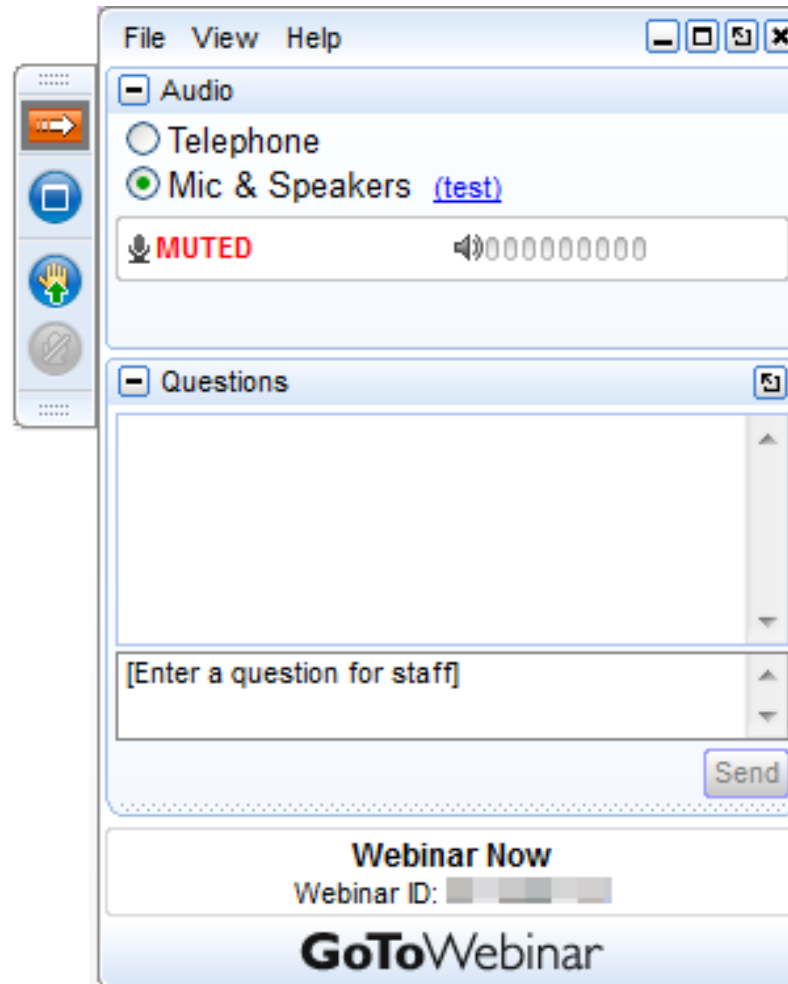
# Research4Life: ARDI, HINARI, AGORA, and OARE

Geneva  
November 26, 2014

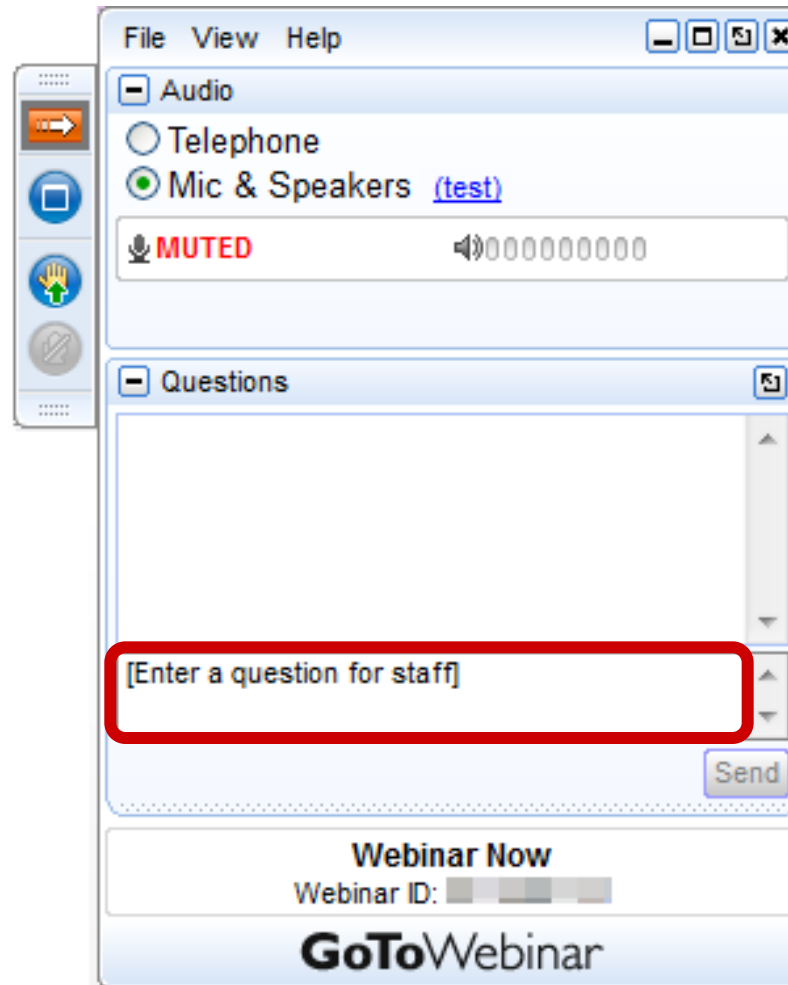
Mussadiq Hussain

Program Officer, Innovation and Technology Support Section

# Webinar: Asking questions

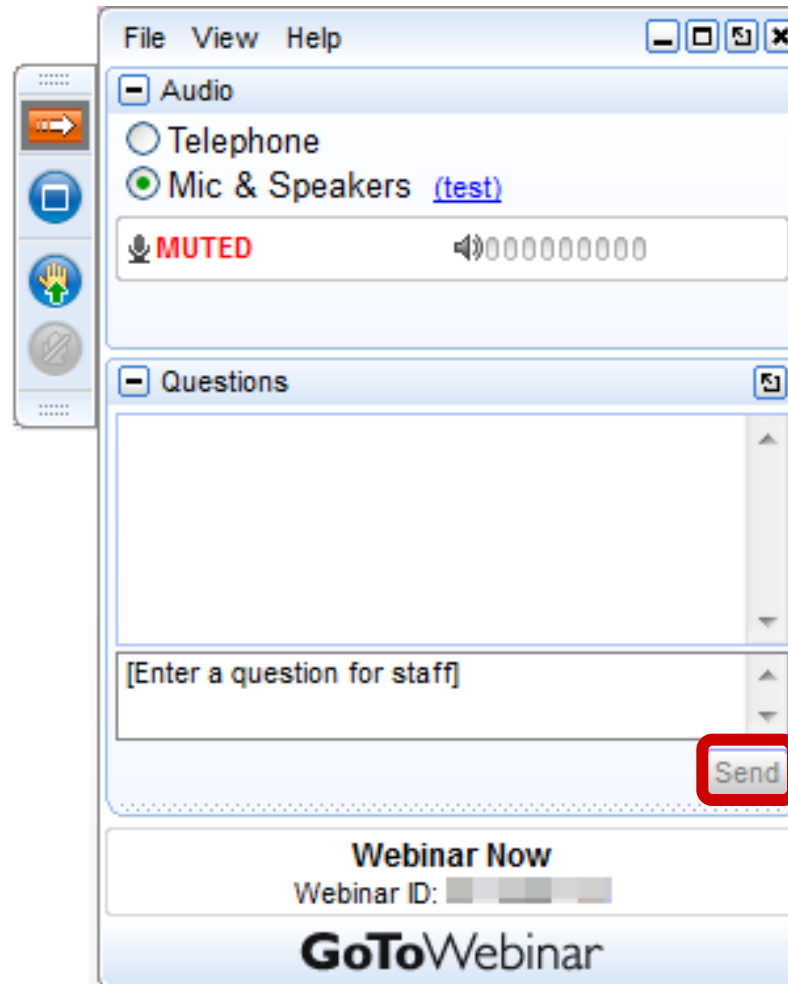


# Webinar: Asking questions



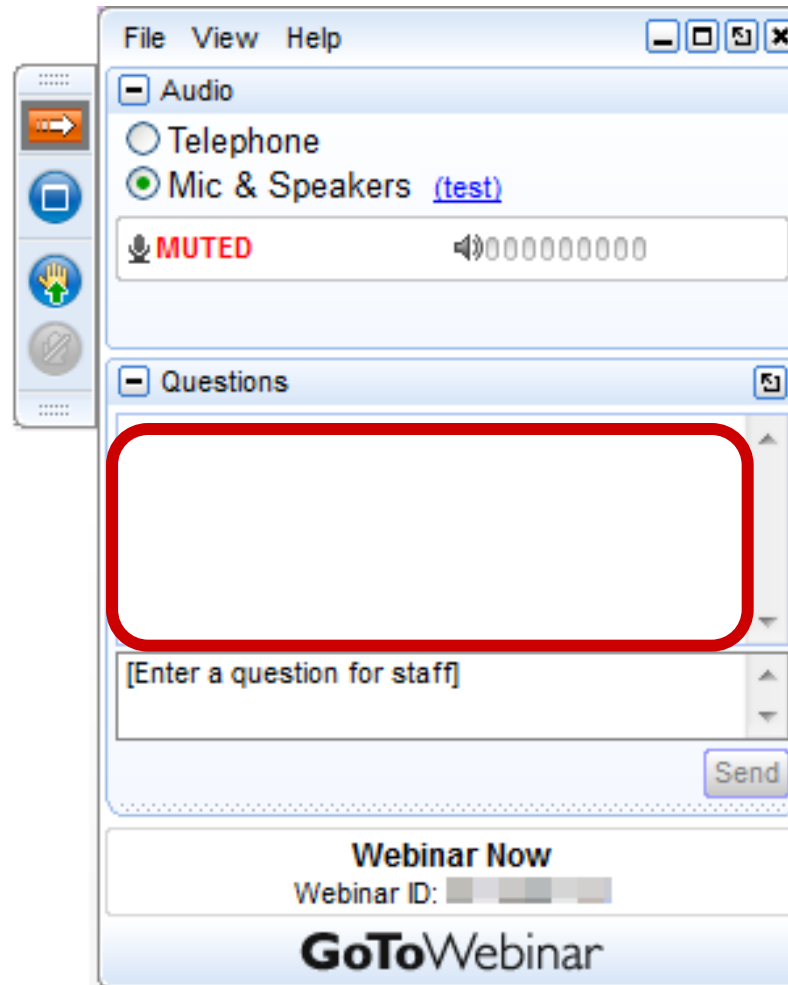
→ Enter your question

# Webinar: Asking questions



→ Press "Send"

# Webinar: Asking questions



→ See your questions and answers

# Overview

- What is Research4Life (R4L)?
- How can I sign up for ARDI and other R4L programs?
- How can I use ARDI?

# Research4Life: Background

- Free or low-cost access to academic and professional peer-review content online for institutions in developing countries
- Over 44'000 journals, books, and databases from over 150 contributing publishers

# Research4Life: Partnership

- Public-private partnership
  - WIPO, FAO, UNEP, WHO
  - Cornell University and Yale University
  - International Association of Scientific, Technical & Medical Publishers
  - Microsoft (technology partner)
- Objective: Reducing the scientific knowledge gap between industrialized countries and the developing world (→ Millennium Development Goals)



# Research4Life: Programs

**ARDI**  
Research for Innovation



World Intellectual Property  
Organization

**HINARI**  
Research in Health



World Health Organization

**AGORA**  
Research in Agriculture



Food and Agriculture Organization of  
the United Nations

**OARE**  
Research in the Environment



United Nations Environment  
Programme

**WIPO**  
WORLD  
INTELLECTUAL PROPERTY  
ORGANIZATION

# Research4Life: Eligibility (countries)

- Group A (Free access)
  - Inclusion in the UN list of LDCs
  - HDI less than 0.63
  - GNI per capita at or below \$1600
- Group B (Low-cost access)
  - HDI at or below 0.67
  - GNI per capita less than \$5000

→ Not all publishers provide access to all eligible countries

# Research4Life: Eligibility (institutions)

- Local, non-profit institutions
  - universities and colleges
  - professional schools
  - research institutes
  - agricultural extension centers and experiment stations
  - teaching hospitals
  - government offices
  - national libraries
  - local NGOs

# Research4Life: Beneficiaries

- Participation in Research4Life on institution basis (institutional username and password)
  - Access available to all Authorised Users (employees, permanent or visiting faculty, or students)
  - Access available to Walk-in Users while on-site
  - Limited downloading and printing permitted  
→ electronic reserves and course packs
  - Content not to be made available to third parties

# ARDI Homepage (wipo.int/ardi)

The screenshot shows the ARDI homepage on the WIPO website. The header features the WIPO logo and navigation links for Media, Meetings, Contact Us, My Account, and English. Below the header is a navigation bar with links for IP Services, Policy, Cooperation, Reference, About IP, and Inside WIPO, along with a search bar. The main content area has a breadcrumb trail (Home > Reference > ARDI) and a title "ARDI – Research for Innovation". The text describes the ARDI program's goal to increase the availability of scientific and technical information in developing countries. A list of objectives includes reinforcing the capacity of developing countries and supporting researchers. It also states that 17 publishers provide access to around 20,000 journals, books, and reference works for 117 developing countries and territories. At the bottom, there are "Login" and "Request an account" buttons, with the latter highlighted by a red box.

WIPO  
WORLD INTELLECTUAL PROPERTY ORGANIZATION

Media | Meetings | Contact Us | My Account | English ▾

IP Services | Policy | Cooperation | Reference | About IP | Inside WIPO | Search WIPO 🔍

Home | Reference | ARDI

## ARDI – Research for Innovation

The Access to Research for Development and Innovation (ARDI) program is coordinated by WIPO together with its partners in the publishing industry with the aim to increase the availability of scientific and technical information in developing countries.

By improving access to scholarly literature from diverse fields of science and technology, ARDI seeks to:

- reinforce the capacity of developing countries to participate in the global knowledge economy; and
- support researchers in developing countries in creating and developing new solutions to technical challenges faced on a local and global level.

Currently, 17 publishers provide access to around 20,000 journals, books, and reference works for 117 developing countries and territories through ARDI.

Login | Request an account

**More about ARDI**

- Background
- Eligibility
- Partners
- FAQs
- Login (old portal)

# Step 1: Check registration status

Registration form is available in three languages: [English](#) , [Spanish](#) and [French](#)



If your institution is an academic, government or research institution in a developing country, you may be eligible to join one or more of the Research4Life Programmes ( [check eligibility](#) ).

Your institution might already be registered with one of the programmes. If so, it can register again for a different programme, but before proceeding, please check the list of registered institutions ( [registered universities and professional schools by programme](#) ) before proceeding.

*Please note that (1) Only one registration per programme is required per institution, and (2) More than one contact is required to register an institution. (3) Individuals are not eligible to register, only institutions. (4) Only one programme can be selected for registration at a time. (5) Registration instructions are available in: English, español and français at <http://www.research4life.org/howtoregister2/>*

Once we review your registration, we will issue a common username and password for all staff at your institution. As HINARI, AGORA, OARE and ARDI are in fact virtual libraries, we suggest that your institution's librarian be our main contact point. Should your institution not have a library, your director will be the main contact.

# Step 1: Check registration status

The screenshot shows the HINARI website interface. At the top right, there are language options: عربي, 中文, English, Français, Русский, and Español. The HINARI logo is on the left, and a 'Login to HINARI' button is on the right. Below the header is a search bar with a 'Search' button. The main content area is titled 'Select a programme' and lists several options with download icons and file sizes. The option 'ARDI - Registered Universities and Professional Schools By Countries, Areas and Territories pdf, 127kb' is highlighted with a red rectangular box. To the right of the list are 'Share' and 'Print' icons. On the left side, there is a vertical navigation menu with links: HINARI, About HINARI, Access the content, Eligibility, Partners, Training materials, Promoting HINARI, and Contributions.

العربي 中文 English Français Русский Español

**HINARI**  
Research in Health

Login to HINARI

Search

**Select a programme**

- HINARI - Registered Universities and Professional Schools By Countries, Areas and Territories pdf, 299kb
- AGORA - Registered Universities and Professional Schools By Countries, Areas and Territories pdf, 237kb
- OARE - Registered Universities and Professional Schools By Countries, Areas and Territories pdf, 218kb
- **ARDI - Registered Universities and Professional Schools By Countries, Areas and Territories pdf, 127kb**
- Register

Share Print

HINARI

About HINARI

Access the content

Eligibility

Partners

Training materials

Promoting HINARI

Contributions

# Step 1: Check registration status

<b>Sri Lanka</b>		
	<b>Jaffna</b>	
	University of Jaffna	ARDI
	<b>Nugegoda</b>	
	University of Sri Jayewardenepura	ARDI



# Step 2: Complete registration form

<b>Programme (REQUIRED):</b> Please select one programme based on the information needs of your organization. More information on the content available in each programme is available by clicking on the programme logos above.	<b>HINARI:</b> <input type="radio"/> <b>AGORA:</b> <input type="radio"/> <b>OARE:</b> <input type="radio"/> <b>ARDI:</b> <input type="radio"/>
<b>Country, area, or territory (REQUIRED):</b>	<input type="text"/>
<b>Type of institution (REQUIRED):</b>	<input type="text"/>
<b>Institution name full (REQUIRED):</b>	<input type="text"/>
<b>Institution postal address:</b>	<input type="text"/>
<b>Institution city (REQUIRED):</b>	<input type="text"/>
<b>Telephone country code:</b> <input type="text"/>	<b>Telephone city code:</b> <input type="text"/>
<b>Institution telephone number (REQUIRED) (NOTE: exclusively numeric: no symbols, no spaces allowed):</b>	<input type="text"/>
<b>Institution fax number:</b>	<input type="text"/>
<b>Institution website:</b>	<input type="text"/>
<b>Describe briefly your institution and its activities (NOTE: max 255 characters):</b>	<input type="text"/>

# Step 3: Start using ARDI

Dear Sir/Madam,

Thank you for your interest in the Access to Research for Development and Innovation (ARDI) program, administered by the World Intellectual Property Organization in cooperation with its partners in the scientific and technical publishing community. Through ARDI, your institution can benefit from low-cost access to an extensive collection of scientific and technical journals, books, and other resources.

We are pleased to hereby provide you with the login details required to access to resources made available through ARDI and request that you return the attached Institution User License agreement to us at your earliest convenience and no later than one month after receiving this email.

Your institution's login details are as follows:

Username:  
Password:  
Portal: <http://ardi2.wipo.int>

Please note that you are encouraged to share your organization's login details with all employees, permanent or visiting faculty, and students at your institution. The login details may not be shared with users outside of your organization. However, users outside of your organization may use ARDI resources while on the premises of your organization, e.g. if an employee logs into ARDI for them. More information about the use of ARDI resources can be found in the ARDI Frequently Asked Questions (FAQs) at: <http://wipo.int/ardi/en/faq/>

To begin accessing the resources available through ARDI, please follow these steps:

1. Go to the ARDI homepage (<http://www.wipo.int/ardi>) and click the "Login" button, or navigate directly to the login page at: <http://ardi.wipo.int>

- Username and password
- Instructions on using ARDI

# Step 4: Sign Institution User License

## INSTITUTION USER LICENCE

The Access to Research for Development and Innovation (ARDI) program is coordinated by the World Intellectual Property Organization (WIPO) in collaboration with science and technology publishers and content providers. It is intended to provide access to scientific and technical information to national patent offices and academic and research institutions so as to stimulate innovation and promote the use of industrial property rights in least developed and developing countries. Access to this information will generally be provided at no cost by the Publishers to designated institutions in certain countries (Group A) that fulfil at least one of the following criteria: status as a least developed country, a Human Development Index score below 0.63 or gross national income per capita equal to or below 1600 US dollars. Access to this information will generally be provided at low cost by the Publishers to designated institutions in certain countries (Group B) that do not meet the criteria for Group A but do fulfil the following criteria: a Human Development Index score equal to or below 0.67 or gross national income per capita below 5000 US dollars. Access will be governed by the terms of this Licence.

In order to benefit from this offer, qualifying institutions in Group A and Group B countries that sign up for access to the content made available through ARDI will maintain their existing journal subscriptions, as of the year of their registration with ARDI.

This Licence constitutes a formal and legal agreement between

.....(Institution)

- Outlines rights and responsibilities of participating institutions

# Scenario

- You have carried out a search in a patent database for inventions related to antifouling coatings for ship hulls and have come across a particularly interesting patent application.

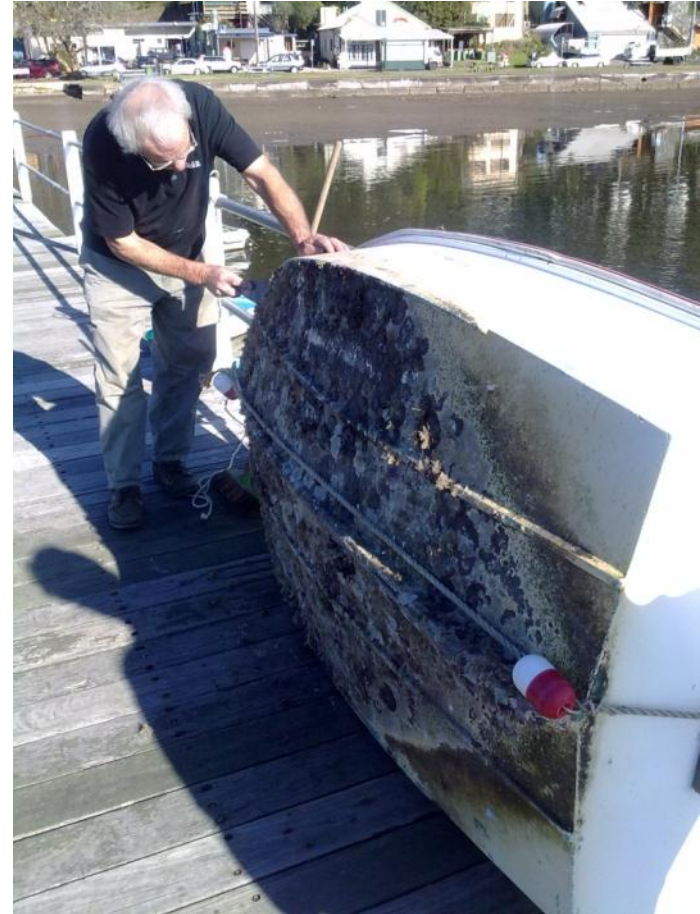


Photo source: Doug Beckers

# Scenario

- You review the search report associated with the patent application to find related publications.

# International Search Report

INTERNATIONAL SEARCH REPORT		International application No.
C (Continuation).		<b>PCT/AU2013/001416</b>
Category*	DOCUMENTS CONSIDERED TO BE RELEVANT	Relevant to claim No.
X	MONTERROSO, S. C. C. et al. "Mixed polyelectrolyte coatings on glassy carbon electrodes: Ion-exchange permselectivity properties and analytical application of poly-L-lysine-poly(sodium 4-styrenesulfonate)-coated mercury film electrodes for the detection of trace metals", <i>Talanta</i> , 2006, 68, 1655-1662 Abstract; Columns 5-6, 14-15	1-3, 8-13
X	BEATTY, S. T. et al. "Comparison of novel and patented silica-polyamine composite materials as aqueous heavy metal ion recovery materials", <i>Separation Science and Technology</i> , 1999, 34, 2723-2739 Abstract; Page 2727-2728, 2730, 2738	1-6, 8, 12-14
X	WO 1992/007037 A1 (A.B.O.E. PTY LTD) 30 April 1992 Abstract; Page 3, Lines 22-26; Page 4, Line 23 through Page 5, Line 14; Page 7	1-3, 8, 12-13
X	NAGAOKA, T. et al. "Self-assembled monolayer-based electrodes for selective determination of Cu <sup>2+</sup> and Ag <sup>+</sup> ions with antifouling activity against protein adsorption", <i>Analytical Sciences</i> , 1999, 15, 857-862 Abstract; Columns 1-4, 7	1, 8-10, 12-13

# ARDI homepage (wipo.int/ardi)

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IP Services | Policy | Cooperation | Reference | About IP | Inside WIPO

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Home | Reference | ARDI

## ARDI – Research for Innovation

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Login | Request an account

**More about ARDI**

- Background
- Eligibility
- Partners
- FAQs
- Login (old portal)

# ARDI content portal

عربي | **English** | Español | Français | Português | Русский

**ARDI**  
Research for Innovation

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ARDI

**Log in**

Content Home

Find by:

**Subject**

**Language**

**Publisher**

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The ARDI portal is hosted by the World Health Organization



# R4L login



Type your user name and password.

User name:

Password:

Our expanded authentication system is currently requiring a second login of your HINARI, AGORA, OARE or ARDI access accounts for some publishers. We apologise for the inconvenience and are working to reduce the need for this second login request.

Nuestro sistema de autenticación ampliado está solicitando el inicio de una segunda sesión en HINARI, AGORA, OARE y ARDI para tener acceso al contenido de ciertas editoriales. Solicitamos disculpas por las molestias y le informamos que estamos

# ARDI content portal (logged in)

ARDI  
Research for Innovation

عربي | English | Español | Français | Português | Русский

Logged in from: Sri Lanka

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The ARDI portal is hosted by the World Health Organization

# Tip!

- Keep the portal page open until you are finished using ARDI

# ARDI content portal: Journal list (S)

عربي | **English** | Español | Français | Português | Русский

**ARDI**  
Research for Innovation

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## Journals by Title

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[Accessible Content](#)

[All Items](#)

You have full access to this content through ARDI.

You do not have full access to this content through ARDI.

- [Safety and Health at Work](#) (Elsevier) v. 1 (2006) - current issue
- [Safety Science](#) (Elsevier) v. 18:3 (1995) - current issue
- [SAS Journal](#) (Elsevier) v. 1 (200) - current issue
- [Sauvegarde de l'Enfance](#) (Elsevier) v. 57 (2002) - v. 58 (2003)
- [Scandinavian Journal of Disability Research](#) (Taylor & Francis) v. 1 (1999) - current issue
- [Scandinavian Journal of Management](#) (Elsevier) V. 11 (1995) - current issue
- [Scandinavian Journal of Pain](#) (Elsevier) v. 1 (2009) - current issue
- [Schizophrenia Research](#) (Elsevier) v. 14:2 (1995) - current issue
- [Science](#) (American Association for the Advancement of Science) v. os-1 (1880) - current issue
- [Science & Justice](#) (Elsevier) v. 35 (1995) - current issue
- [Science & Sports](#) (Elsevier) v. 10 (1995) - current issue
- [Science and Technology](#) (Scientific & Academic Publishing) v. 1 (2011) - current issue

# ARDI content portal: Journal list (S)

- **Seminars in Ultrasound, CT and MRI** (Elsevier) v. 16 (1995) - current issue
- **Seminars in Vascular Surgery** (Elsevier) v. 15 (2002) - current issue
- **Seminars in Virology** (Elsevier) v. 6 (1995) - v. 8:6 (1998)
- **Sensors and Actuators A: Physical** (Elsevier) v. 46 (1995) - current issue
- **Sensors and Actuators B: Chemical** (Elsevier) v. 23 (1995) - current issue
- **Separation and Purification Reviews** (Taylor & Francis) v. 1 (1972) - current issue
- **Separation and Purification Technology** (Elsevier) v. 11 (1997) - current issue
- **Separation Science & Technology** (Taylor & Francis) v. 1 (1966) - current issue
- **Separation Science and Technology** (Elsevier) v. 1 (1998) - current issue
- **Separations Technology** (Elsevier) v. 5 (1995) - v. 6 (1996)
- **Serials Review** (Elsevier) v. 21 (1995) - current issue
- **Serodiagnosis and Immunotherapy in Infectious Disease** (Elsevier) v. 7 (1995) - v. 8:40606 (1997)
- **Service Science and Management Research** (Science and Engineering Publishing Company) v. 1 (2012) - current issue

# Journal homepage



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- Most read articles
- Most cited articles
- Authors and submissions



## Separation Science and Technology



Taylor & Francis

Publication History

Sample copy

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ISSN

0149-6395 (Print), 1520-5754 (Online)

Publication Frequency

18 issues per year

Most read

Most cited

**Existing and Prospective Sorption Technologies for the Removal of Arsenic in Water**

Laurent Dambles  
Volume 39, Issue 3, 2005

**Separation of CO<sub>2</sub> from Flue Gas: A Review**

Douglas Aaron, et al.  
Volume 40, Issue 1-3, 2005

**State-of-the-art Adsorption and Membrane Separation**

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# Journal homepage

List of issues

Latest articles

- + Volume 49 2014
- + Volume 48 2012-2013
- + Volume 47 2012
- + Volume 46 2010-2011
- + Volume 45 2009-2010
- + Volume 44 2009
- + Volume 43 2008
- + Volume 42 2007
- + Volume 41 2006
- + Volume 40 2005
- + Volume 39 2004-2005
- + Volume 38 2003
- + Volume 37 2002
- + Volume 36 2001
- + Volume 35 2000
- + Volume 34 1999
- + Volume 33 1998
- + Volume 32 1997

# Article list

 Original Articles

**Film Model Approximation for Particle-Diffusion-Controlled Multicomponent Ion Exchange**

GIORGIO CARTA & REBECCA K. LEWUS  
pages 2685-2697

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**DOI:** 10.1081/SS-100100799  
**Published online:** 25 Oct 2012  
**Citing Articles:**  
CrossRef (5) | Web of Science (13) | Scopus (13)  
**Article Views:** 14  
**Further Information**  
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**Numerical Simulation of Elution Chromatography for Separation of H<sub>2</sub>-HD-D<sub>2</sub> Mixtures Using a Palladium Particle Bed**

SATOSHI FUKADA  
pages 2699-2721

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**DOI:** 10.1081/SS-100100800  
**Published online:** 25 Oct 2012  
**Citing Articles:**  
CrossRef (1) | Web of Science (2) | Scopus (2)  
**Article Views:** 10  
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# Article list

**Comparison of Novel and Patented Silica-Polyamine Composite Materials as Aqueous Heavy Metal Ion Recovery Materials**

SUSAN T. BEATTY, ROBERT J. FISCHER, EDWARD ROSENBERG & DAVID PANG  
pages 2723-2739

**DOI:** 10.1081/SS-100100801

**Published online:** 25 Oct 2012

**Citing Articles:**

CrossRef (10) | Web of Science (15) | Scopus (18)

**Article Views:** 34

**Further Information**

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# Article: Text

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<h2>Abstract</h2>	<a href="#">Jump to section</a> ▾
<p>A novel silica-polyamine composite material, WP-1, was synthesized according to a new patented procedure for aqueous heavy metal ion removal. The effects of pH and initial concentration of metal ions on adsorption were investigated. Results showed that WP-1 has metal ion capacities in the order Cu(II) &gt; Ni(II) &gt; Fe(II) and generally works best in the 2-4 pH range. Kinetic studies showed the Cu(II) adsorption reaction occurs in a second-order fashion with a rate constant of <math>4.4 \times 10^{-4} \text{ s}^{-1}</math>. Two similar silica-polyamine materials, prepared by different procedures cited in the literature, were compared with WP-1 for Cu(II) ion capacity and mechanical durability. These tests showed that capacities were more than twice as high when the new patented procedure was used, indicating much better coverage of the silica gel. During repeated metal loading and unloading tests, WP-1 maintained up to 94% of its initial Cu(II) capacity and its mechanical integrity for 3000 cycles, whereas testing of the other materials had to be stopped prematurely due to degradation of the materials.</p>	
<h2>INTRODUCTION</h2>	<a href="#">Jump to section</a> ▾
<p>The use of silica gel as a matrix for grafting organic molecules is well known and has many applications in separation technology [1a], [1b], [1c]. The chief drawback of silica gel is that incomplete coverage of the surface with a functionalized silane reagent renders the composite susceptible to dissolution at pH extremes [3a]. In Wirth's study of preparing silica-based materials for application in high-performance liquid chromatography (HPLC), it was found that humidification of the gel yields a monolayer of water adsorbed to the silica surface [2]. Subsequent horizontal polymerization of mixed trifunctional silanizing reagents produces a silanized material with increased substrate coverage compared to conventionally prepared silica gel. These steps protect the material from degradation at pH extremes by significantly reducing the number of exposed silanol groups on or near the silica surface.</p> <p>Traditionally, chelating groups are bound to silica gel by first reacting the chelating group with a functionalized silane followed by bonding to the silica surface (Fig. 1B and C) [3a], [3b], [3c]. These organosilanes hydrolyze then bind to the silanol sites on the silica through the process of hydrogen bonding followed by covalent bond formation with concomitant loss of water [4]. When large molecules such as polymers are introduced, steric hindrance becomes a factor in preventing uniform coverage of the silica surface (Fig. 1A and B). Typical silica surface coverage with organochlorosilanes for reverse-phase chromatography coatings is less than 50% due to steric effects [5]. The presence of water in the hydrolysis step (either added, on the substrate surface, or from the atmosphere) will produce polymeric oligomers, increasing steric effects and causing the polymer to deposit on the silica surface in clumps rather than in uniform sheets. As a consequence, many silanol sites on the silica surface remain unreacted. The regeneration of many chelating materials involves a step in which the material is rinsed in base. Attack of the unreacted silanol groups by base results in eventual disintegration of the silica, rendering the silica-chelate systems prepared in this manner inappropriate for use in remediation or industrial recovery projects.</p>	


# Article list


**Comparison of Novel and Patented Silica-Polyamine Composite Materials as Aqueous Heavy Metal Ion Recovery Materials**

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## Comparison of Novel and Patented Silica–Polyamine Composite Materials as Aqueous Heavy Metal Ion Recovery Materials

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SUSAN T. BEATTY, ROBERT J. FISCHER,  
and EDWARD ROSENBERG\*

DEPARTMENT OF CHEMISTRY  
THE UNIVERSITY OF MONTANA  
MISSOULA, MONTANA 59812, USA

DAVID PANG

PURITY SYSTEMS INC.  
3116 OLD POND ROAD, MISSOULA, MONTANA 59802, USA

### ABSTRACT

A novel silica–polyamine composite material, WP-1, was synthesized according to a new patented procedure for aqueous heavy metal ion removal. The effects of pH and initial concentration of metal ions on adsorption were investigated. Results showed that WP-1 has metal ion capacities in the order Cu(II) > Ni(II) > Fe(II) and generally works best in the 2–4 pH range. Kinetic studies showed the Cu(II) adsorption reaction occurs in a second-order fashion with a rate constant of  $4.4 \times 10^{-4} \text{ s}^{-1}$ . Two similar silica–polyamine materials, prepared by different procedures cited in the literature, were compared with WP-1 for Cu(II) ion capacity and mechanical durability. These tests showed that capacities were more than twice as high when the new patented procedure was used, indicating much better coverage of the silica gel. During repeated metal loading and unloading tests, WP-1 maintained up to 94% of its initial Cu(II) capacity and its mechanical integrity for 3000 cycles, whereas testing of the other materials had to be stopped prematurely due to degradation of the materials.

### INTRODUCTION

The use of silica gel as a matrix for grafting organic molecules is well known and has many applications in separation technology (1). The chief

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