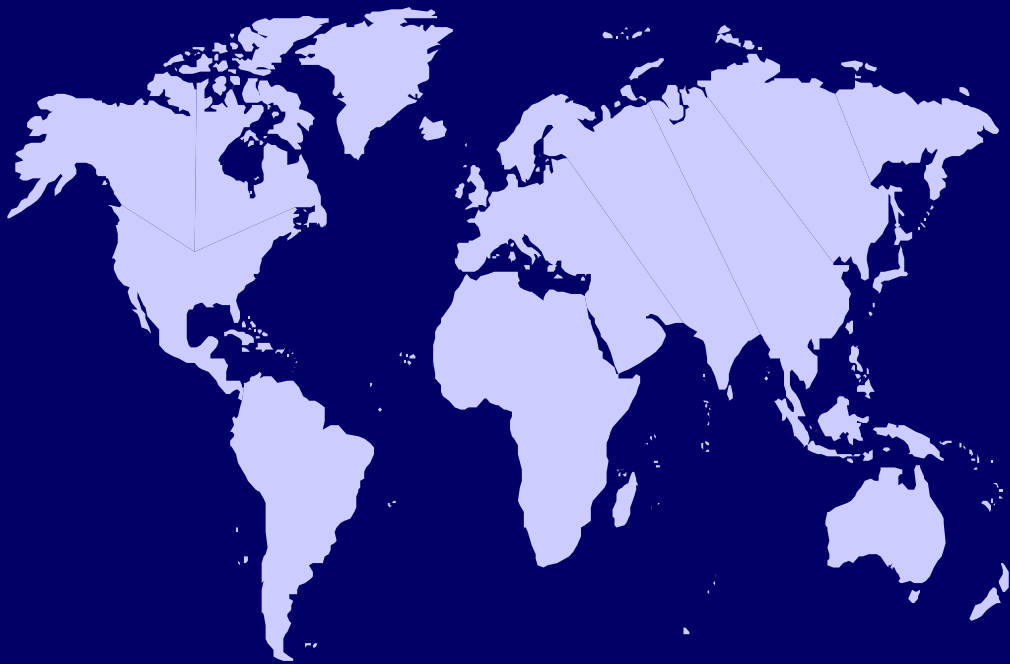


# The ISAAC Story

**The International Study of Asthma and Allergies in Childhood**



The ISAAC Story  
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# The ISAAC Story

The International Study of Asthma and Allergies in Childhood

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M. Innes Asher, David P. Strachan, Neil Pearce & Luis García-Marcos, Eds.

# The ISAAC Story

## Acknowledgements

### Funding of ISAAC Phase One

ISAAC was open to any collaborator who agreed to adhere to the protocol. Countries in which there was little existing information about asthma, rhinoconjunctivitis and eczema were particularly encouraged to participate. Each centre was responsible for obtaining its own funding. There were many field workers and funding agencies who supported data collection and national, regional and international meetings, including the meetings of the ISAAC Steering Committee. Unfortunately, these are too numerous to mention and are acknowledged elsewhere in local publications.

The ISAAC International Data Centre was funded by:

- The Health Research Council of New Zealand,
- The Asthma and Respiratory Foundation of New Zealand,
- The National Child Health Research Foundation,
- The Hawke's Bay Medical Research Foundation,
- The Waikato Medical Research Foundation,
- Glaxo Wellcome New Zealand
- Astra New Zealand.

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The Research foundation of Hacettepe University, Faculty of Medicine.

#### Greece: (Athens, Thessaloniki)

The Thorax Foundation Research Center.

#### France: (Créteil)

French Institute of Health and Medical Research (Institut National de la Santé et de la Recherche Médicale (INSERM), grant code IDS 337/4D001D and 737/69480),

Ministère de l'Emploi et de la Solidarité (grant code 227/7HL02D),

Mutuelle Générale de l'Education Nationale (grant code 257/8PL01F),

Agence de l'Environnement et de la Maitrise de l'Energie ADEME/PRIMEQUAL 96 (grant code FJ012B).

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German Ministry of Education and Research (grant code 01 EE 9411-3; Dresden, Munich),

Rudolf and Clothilde Eberhardt-Foundation (Ulm).

#### Italy: (Rome)

Lazio Regional Health Authority.

#### New Zealand: (Hastings)

Health Research Council of New Zealand,

Asthma and Respiratory Foundation of New Zealand,

Hawkes Bay Medical Research Foundation.

#### Sweden: (Linköping, Östersund)

The Swedish Foundation for Health Care Sciences and Allergy Research.

#### India: (Mumbai)

Jaslok Hospital & Research Centre.

#### West Bank: (Ramallah)

Al-Quds University, Directorate General for International Cooperation and Belgian Technical Cooperation.

#### The Netherlands: (Utrecht)

Dutch Ministries of the Environment, of Health and of Transport.

#### UK: (West Sussex)

South Thames National Health Service Regional and Development project SPGS.

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## Funding Organisations



# The ISAAC Story



## Funding of ISAAC Phase Three

As with ISAAC Phase One, ISAAC Phase Three was open to any collaborator who agreed to adhere to the protocol and each centre was requested to provide its own funding. The programme was funded by the many funding bodies throughout the world that supported the individual ISAAC centres and collaborators and their meetings. In New Zealand ISAAC was funded by:

- The Health Research Council of New Zealand,
- The Asthma and Respiratory Foundation of New Zealand,
- The Child Health Research Foundation,
- The Hawke's Bay Medical Research Foundation,
- The Waikato Medical Research Foundation,
- Glaxo Wellcome New Zealand,
- The NZ Lottery Board
- Astra Zeneca New Zealand.

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# The ISAAC Story



## Centres

### Regions

72-88

Countries Cont.

*Africa*  
*Asia-Pacific*  
*Eastern Mediterranean*  
*Indian Sub-Continent*  
*Latin America*  
*North America*  
*Northern and Eastern Europe*  
*Oceania*  
*Western Europe*

*Nicaragua*  
*Nigeria*  
*Niue*  
*Norway*  
*Nouvelle Calédonie*  
*Pakistan*  
*Palestine*  
*Panamá*  
*Paraguay*  
*Peru*  
*Philippines*  
*Poland*  
*French Polynesia*  
*Portugal*  
*Republic of Ireland*  
*Republic of Macedonia*  
*République de Guinée*  
*Republique Democratique du Congo*  
*Reunion Island*  
*Romania*  
*Russia*  
*Samoa*  
*SAR China*  
*Serbia and Montenegro*  
*Singapore*  
*South Africa*  
*South Korea*  
*Spain*  
*Sri Lanka*  
*Sudan*  
*Sultanate Of Oman*  
*Sweden*  
*Syria*  
*Taiwan*  
*Thailand*  
*Togo*  
*Tokelau*  
*Tonga*  
*Trinidad and Tobago*  
*Tunisia*  
*Turkey*  
*Ukraine*  
*United Kingdom*  
*Uruguay*  
*USA*  
*Uzbekistan*  
*Venezuela*  
*Vietnam*

### Countries

89-164

*Albania*  
*Algeria*  
*Argentina*  
*Australia*  
*Austria*  
*Barbados*  
*Belgium*  
*Bolivia*  
*Brasil*  
*Bulgaria*  
*Cameroon*  
*Canada*  
*Channel Islands*  
*Chile*  
*China*  
*Colombia*  
*Congo*  
*Cook Islands*  
*Costa Rica*  
*Cote d'Ivoire*  
*Croatia*  
*Cuba*  
*Ecuador*  
*Egypt*  
*El Salvador*  
*Estonia*  
*Ethiopia*  
*Fiji*  
*Finland*  
*France*  
*Gabon*  
*Georgia*  
*Germany*  
*Ghana*  
*Greece*  
*Honduras*  
*Hungary*  
*Iceland*  
*India*  
*Indonesia*  
*Iran*  
*Isle of Man*  
*Italy*  
*Japan*  
*Jordan*  
*Kenya*  
*Kuwait*  
*Kyrgyzstan*  
*Latvia*  
*Lebanon*  
*Lithuania*  
*Malaysia*  
*Malta*  
*Mexico*  
*Morocco*  
*Netherlands*  
*New Zealand*

### Centres

165-352

*A Coruña, Spain*  
*Addis Ababa, Ethiopia*  
*Adelaide, Australia*  
*Akola, India*  
*Aleppo, Syria*  
*Algiers, Algeria*  
*Al-Khod, Sultanate Of Oman*  
*Almeria, Spain*  
*Alor Setar, Malaysia*  
*Amman, Jordan*  
*Anglia and Oxford, United Kingdom*  
*Ankara, Turkey*  
*Antwerp, Belgium*  
*Apia, Samoa*  
*Aracaju, Brasil*  
*Ascoli Piceno, Italy*  
*Asturias, Spain*

# The ISAAC Story

## Centres Cont.

*Asunción, Paraguay*  
*Athens, Greece*  
*Auckland, New Zealand*  
*Bali, Indonesia*  
*Balykchi, Kyrgyzstan*  
*Bandung, Indonesia*  
*Bangalore, India*  
*Bangkok, Thailand*  
*Barbados, Barbados*  
*Barcelona, Spain*  
*Bari, Italy*  
*Barranquilla, Colombia*  
*Bay of Plenty, New Zealand*  
*Beijing, China*  
*Beirut, Lebanon*  
*Belgrade, Serbia And Montenegro*  
*Belo Horizonte, Brasil*  
*Benslimane, Morocco*  
*Bikaner, India*  
*Bilbao, Spain*  
*Birjand, Iran*  
*Bishkek, Kyrgyzstan*  
*Bogotá, Colombia*  
*Bombay (17), India*  
*Bombay (16), India*  
*Bombay (18), India*  
*Bombay (29), India*  
*Borivali, India*  
*Boulmene, Morocco*  
*Brasília, Brasil*  
*Brazzaville, Congo*  
*Buenos Aires, Argentina*  
*Cádiz, Spain*  
*Cairo, Egypt*  
*Calama, Chile*  
*Cali, Colombia*  
*Cape Town, South Africa*  
*Caracas, Venezuela*  
*Cartagena, Spain*  
*Caruaru, Brasil*  
*Casablanca, Morocco*  
*Castellón, Spain*  
*Central Santiago, Chile*  
*Chandigarh, India*  
*Chantaburi, Thailand*  
*Chapel Hill, Usa*  
*Chennai (3), India*  
*Chiang Mai, Thailand*  
*Chiangrai, Thailand*  
*Chicago (3), Usa*  
*Chicago (4), Usa*  
*Chiloe, Chile*  
*Chongqing, China*  
*Christchurch, New Zealand*  
*Ciudad de México (1), Mexico*  
*Ciudad de México (3), Mexico*  
*Ciudad de México (4), Mexico*  
*Ciudad Victoria, Mexico*  
*Cluj, Romania*  
*Coimbra, Portugal*  
*Colleferro-Tivoli, Italy*  
*Conakry, République De Guinée*  
*Córdoba, Argentina*  
*Cosenza, Italy*  
*Costa Rica, Costa Rica*  
*Cremona, Italy*  
*Crétail, France*  
*Cuernavaca, Mexico*  
*Curitiba, Brasil*  
*Davangere, India*  
*David-Panamá, Panamá*  
*Dresden, Germany*  
*Eldoret, Kenya*  
*Emilia-Romagna, Italy*  
*Empoli, Italy*  
*Feira de Santana, Brasil*  
*Firenze, Italy*  
*Frosinone, Italy*  
*Fukuoka, Japan*  
*Funchal, Portugal*  
*Grand Tunis, Tunisia*  
*Greifswald, Germany*  
*Guangzhou, China*  
*Guayaquil, Ecuador*  
*Guernsey, Channel Islands*  
*Hamilton, Canada*  
*Hawkes Bay, New Zealand*  
*Helsinki, Finland*  
*Ho Chi Minh City, Vietnam*  
*Hong Kong 13-14, Sar China*  
*Hong Kong 6-7, Sar China*  
*Ibadan, Nigeria*  
*Ipoh, Malaysia*  
*Islamabad, Pakistan*  
*Isle of Man, Isle Of Man*  
*Itajaí, Brasil*  
*Jaipur, India*  
*Jalalabat, Kyrgyzstan*  
*Jersey, Channel Islands*  
*Jima, Ethiopia*  
*Jodhpur, India*  
*Karachi, Pakistan*  
*Kärnten, Austria*  
*Kaunas, Lithuania*  
*Kharkiv, Ukraine*  
*Khartoum, Sudan*  
*Khon Kaen, Thailand*  
*Kinshasa, République Democratique Du Congo*  
*Kintampo, Ghana*  
*Klang Valley, Malaysia*  
*Kota Bharu, Malaysia*  
*Kottayam, India*  
*Krakow (1993), Poland*  
*Kraków (1995), Poland*  
*Kuopio County, Finland*  
*Kutaisi, Georgia*  
*Kuwait, Kuwait*  
*La Habana, Cuba*  
*Lapland Area, Finland*  
*Lattakia, Syria*  
*Lima, Peru*  
*Linköping, Sweden*  
*Lisbon, Portugal*  
*Lome, Togo*  
*Lucknow, India*  
*Ludhiana, India*  
*Maceió, Brasil*  
*Madras (2), India*  
*Madras (3), India*  
*Madrid, Spain*  
*Malta, Malta*  
*Managua, Nicaragua*  
*Manaus Amazonas, Brasil*  
*Mantova, Italy*  
*Marrakech, Morocco*  
*Marseille, France*  
*Melbourne, Australia*  
*Mérida, Mexico*  
*Metro Manilla, Philippines*



# The ISAAC Story



## Centres cont.

*Mexicali Valley, Mexico*  
*Milano, Italy*  
*Monterrey, Mexico*  
*Montevideo, Uruguay*  
*Montpellier, France*  
*Moscow, Russia*  
*Muar, Malaysia*  
*Mumbai (16), India*  
*Mumbai (18), India*  
*Mumbai (29), India*  
*Munich, Germany*  
*Münster, Germany*  
*Nagpur, India*  
*Nairobi, Kenya*  
*Nakorn Pathom, Thailand*  
*Narva, Estonia*  
*Nelson, New Zealand*  
*Netherlands, Netherlands*  
*Netherlands (Utrecht), Netherlands*  
*Neuquén, Argentina*  
*New Delhi (7), India*  
*Neyveli, India*  
*Nis, Serbia And Montenegro*  
*Niue Island, Niue*  
*North east and Yorkshire, United Kingdom*  
*North Gaza, Palestine*  
*North Thames, United Kingdom*  
*North West, United Kingdom*  
*Nouvelle Calédonie, Nouvelle Calédonie*  
*Nova Iguaçu, Brasil*  
*Novi Sad, Serbia And Montenegro*  
*Novosibirsk, Russia*  
*Nuku alofa, Tonga*  
*Orissa, India*  
*Östersund, Sweden*  
*Palermo, Italy*  
*Pamplona, Spain*  
*Panevezys, Lithuania*  
*Passo Fundo, Brasil*  
*Paysandú, Uruguay*  
*Perth, Australia*  
*Pessac, France*  
*Pichincha, Ecuador*  
*Pimpri, India*  
*Podgorica, Serbia And Montenegro*  
*Polokwane, South Africa*  
*Polynesie Francaise, French Polynesia*  
*Port-Gentil, Gabon*  
*Portimao, Portugal*  
*Porto, Portugal*  
*Porto Alegre, Brasil*  
*Poznan, Poland*  
*Provincial Korea, South Korea*  
*Pune, India*  
*Punta Arenas, Chile*  
*Quito, Ecuador*  
*Rabat, Morocco*  
*Ramallah, Palestine*  
*Rarotonga, Cook Islands*  
*Rasht, Iran*  
*Rasta Peth, India*  
*Recife, Brasil*  
*Rep. Of Ireland, Republic Of Ireland*  
*Reunion Island, Reunion Island*  
*Reykjavik, Iceland*  
*Rīga, Latvia*  
*Rijeka, Croatia*  
*Roma, Italy*  
*Rosario, Argentina*  
*Rosario City, Argentina*  
*Rural Kharkiv, Ukraine*  
*Rural Latvia, Latvia*  
*Rural Santa Maria, Brasil*  
*Salta, Argentina*  
*Salvador, Brasil*  
*Salzburg, Austria*  
*Samarkand, Uzbekistan*  
*San Pedro Sula, Honduras*  
*San Salvador, El Salvador*  
*San Sebastián, Spain*  
*Santa Cruz, Bolivia*  
*Santa Maria, Brasil*  
*Santo Andre, Brasil*  
*São Paulo, Brasil*  
*São Paulo West, Brasil*  
*Sarasota, Usa*  
*Saskatoon, Canada*  
*Scotland, United Kingdom*  
*Seattle, Usa*  
*Semarang, Indonesia*  
*Seoul, South Korea*  
*Shanghai, China*  
*Siauliai, Lithuania*  
*Siena, Italy*  
*Singapore, Singapore*  
*Skopje, Republic Of Macedonia*  
*Sofia, Bulgaria*  
*Sombor, Serbia And Montenegro*  
*Sousse, Tunisia*  
*South and West, United Kingdom*  
*South Santiago, Chile*  
*South Thames, United Kingdom*  
*Sri Lanka, Sri Lanka*  
*St Augustine, Trinidad And Tobago*  
*Stockholm/Uppsala, Sweden*  
*Strasbourg, France*  
*Sunderland, United Kingdom*  
*Surrey/Sussex, United Kingdom*  
*Suva, Fiji*  
*Svábhegy, Hungary*  
*Sydney 13-14, Australia*  
*Sydney 6-7, Australia*  
*Szeged, Hungary*  
*Taipei, Taiwan*  
*Tallinn, Estonia*  
*Taoyuan, Taiwan*  
*Tartous, Syria*  
*Tashkent, Uzbekistan*  
*Tbilisi, Georgia*  
*Tehran, Iran*  
*Thessaloniki, Greece*  
*Tibet, China*  
*Tiranë, Albania*  
*Tobago, Trinidad And Tobago*  
*Tochigi, Japan*  
*Tokelau, Tokelau*  
*Toluca, Mexico*  
*Tong Zhou, China*  
*Torino, Italy*  
*Trent, United Kingdom*  
*Trento, Italy*  
*Tromsø, Norway*  
*Turku and Pori County, Finland*  
*Urban Cote d'Ivoire, Cote D'Ivoire*  
*Urfahr-Umgebung, Austria*  
*Uruguaiana, Brasil*  
*Valdivia, Chile*  
*Valencia, Spain*  
*Valladolid, Spain*  
*Vancouver, Canada*

# The ISAAC Story

Centres cont.

*Verona, Italy*  
*Villahermosa, Mexico*  
*Viterbo, Italy*  
*Vitória da Conquista, Brasil*  
*Wales, United Kingdom*  
*Wellington, New Zealand*  
*West Algiers, Algeria*  
*Wilaya of Algiers, Algeria*  
*West Marne, France*  
*West Midlands, United Kingdom*  
*West Sussex, United Kingdom*  
*Wulumuqi, China*  
*Wulumuqi(9), China*  
*Yaounde, Cameroon*  
*Zanjan, Iran*

## Appendices

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# The ISAAC Story



- 1.96 million children
- 306 research centres
- 105 countries
- 53 languages
- >500 publications
- >20 years of research

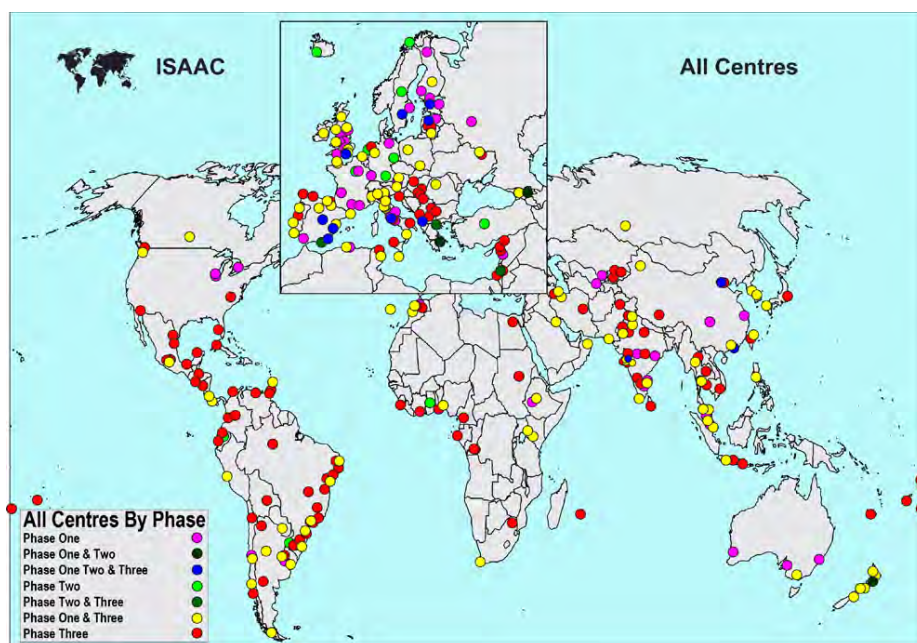


Welcome to the ISAAC Story, a website presentation of the history and findings of the International Study of Asthma and Allergies in Childhood. The story can be explored online through the menus on this website.

This is the story of a unique global collaboration, sustained over more than twenty years through the enthusiasm of contributing research groups, the generosity of numerous funding agencies, and the goodwill of parents and children, schools, hospitals and universities around the world. We take this opportunity to thank all of them most sincerely for their invaluable contributions to ISAAC.

Few scientific studies can claim a place in the Guinness Book of World Records. ISAAC is one of them. Detailed information about the results from ISAAC and access to ISAAC datasets can be found at the ISAAC website.

The ISAAC Story is dedicated to the memory of Stephan Weiland, a founder member of the consortium, who led the development of ISAAC Phase Two until his untimely death in March 2007.



## Editors

### Introduction

### Contributors

### Tribute to

Stephan Weiland



# The ISAAC Story


[Editors](#)[Introduction](#)[Contributors](#)[Tribute to](#)[Stephan Weiland](#)

## Contributors

### ISAAC Executive

Name	Years
Innes ASHER	1993-present
Richard BEASLEY	1993-1998 2000-2003
Bengt BJÖRKSTÉN	1997-2007
Luis GARCIA-MARCOS	2007-present
Neil PEARCE	1999-present
David STRACHAN	1993-present
Stephan WEILAND	1997-2007

### ISAAC Steering Committee

Name	Years
Nadia AÏT-KHALED	1999-present
Gabriel ANABWANI	1993-1999
Ross ANDERSON	1991-present
Innes ASHER	1991-present
Richard BEASLEY	1992-present
Bengt BJÖRKSTÉN	1993-present
Bert BRUNEKREEF	2005-present
Michael BURR	1991-2002
Julian CRANE	1991-present
Bill COOKSON	2000-2007
Philippa ELLWOOD	2002-present
Carsten FLOHR	2008-present
Sunia FOLIAKI	2001-present
Francesco FORASTIERE	2008-present
Luis GARCIA-MARCOS	2006-present
Ulrich KEIL	1991-present
Chris LAI	1993-present
Javier MALLOL	1993-present
Fernando MARTINEZ	1991-2004
Ed MITCHELL	1991-present
Stephen MONTEFORT	1994-present
Joseph ODHIAMBO	1999-present
Neil PEARCE	1991-present
Colin ROBERTSON	1991-present
Jayant SHAH	1994-2006
Bonnie SIBBALD	1991-1993
Alistair STEWART	1997-present
David STRACHAN	1991-present
Erika VON MUTIUS	1991-present
Stephan WEILAND	1991-2007
Gudrun WEINMAYR	2007-present
Hywel WILLIAMS	1992-present
Gary WONG	2006-present

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Professor Bengt Björkstén	Northern and Eastern Europe
Dr Sunia Foliaki	Oceania
Prof Dr Ulrich Keil	Western Europe
Dr Christopher Lai	Asia-Pacific
Professor Javier Mallol	Latin America
Professor Stephen Montefort	Eastern Mediterranean
Dr Joseph A Odhiambo	Africa
Dr Jayant Shah	Indian Sub-Continent

# The ISAAC Story



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Dr Oscar Aldrey	Venezuela
Professor H Ross Anderson	United Kingdom
Dr Isabella Annesi-Maesano	France
Professor Innes Asher	New Zealand
Dr Carlos E Baena-Cagnani	Argentina
Dr Manuel Baeza-Bacab	Mexico
Dr Etienne Bahati	Republique Democratique du Congo
Prof Dr Karmen Baratawidjaja	Indonesia
Dr Sergio Barba	Ecuador
Dr Sylvie Barny	Nouvelle Caledonie
Professor Zoubida Bouayad	Morocco
Dr Lennart Bråbäck	Sweden
Dr Agustin Bueso-Engelhardt	Honduras
Mme Christine Catteau	Reunion Island
Dr René Chansin	French Polynesia
Professor Denis Charpin	France
Professor Yu-Zhi Chen	China
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Tribute to

Stephan Weiland

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Phase Three: Nis

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Phase Three: Nis

Phase One: Valdivia, Phase Three: Valdivia

Phase Three: Tochigi

Phase Three: Metro Manila

Phase Three: Rarotonga

Phase Three: Alor Setar

Phase Three: Bay of Plenty

Phase Three: Rural Santa Maria, Santa Maria, São Paulo

Phase Three: Jalalabat

Phase Three: Guayaquil

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Phase Three: Lisbon

Phase Three: Lima

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# The ISAAC Story



## In Memoriam of Professor Dr Med Stephan Weiland

Professor Dr Med Stephan KM Weiland, 25 December 1958 to 19 March 2007. Professor of Epidemiology, Head of the Institute of Epidemiology, University of Ulm, Coordinator of Phase Two of the International Study of Asthma and Allergies in Childhood (ISAAC) and Executive member of the ISAAC Steering Committee.

Stephan, our much loved friend and colleague, died suddenly and unexpectedly on the 19th March 2007. Stephan was one of the founding members of ISAAC and made an enormous contribution to the scientific development of the study through his long service on the ISAAC Executive and as Phase Two Coordinator. Indeed, without Stephan's leadership, stamina and diplomatic skills, there would probably have been no ISAAC Phase Two. Above all, he cared about people and dedicated his life to health

prevention and health promotion, especially asthma and allergies in children.

Stephan was born and grew up in North-West Germany. He went to medical school in Cologne (1978-1985) and obtained his MD degree in 1987. During this time he became interested in the prevention of disease at a population level. This took him to McGill University in Montreal where he graduated in 1989 with a Masters degree in Epidemiology. He then joined the University of Bochum as assistant professor where he developed an interest in environmental and occupational epidemiology. He was a key individual in the archetypal studies that uncovered unexpected differences in the prevalence of asthma between Western Germany and the recently liberated and heavily polluted East. He moved with Professor Ulrich Keil's department to Münster in 1993, and four years later was promoted to Associate Professor. In 2002, Stephan moved to Ulm, in southern Germany, to take up the Chair of Epidemiology and set up a new Institute of Epidemiology. This took him closer to the mountains which he had loved since he was a young boy. He was an active hiker, climber and skier and enjoyed these outdoor activities whenever he was able to escape from his heavy workload and responsibilities.

Stephan was an outstanding unit director, an internationally respected scientist and an integral member of the ISAAC Steering Committee. Stephan promoted the idea that the ISAAC partnership should be used to investigate specific factors predisposing to asthma, and led the formation of ISAAC Phase Two with that aim. His coordination of 33 ISAAC Phase Two centres in 22 countries and his leadership of a successful application to European Union Fifth Framework Programme led to the establishment of the ISAAC Phase Two Data Centre in Ulm under his direction. Shortly before he died, Stephan received the good news that the first of a series of papers from Phase Two had been accepted for publication, showing how the relationship between atopy and asthma differs between centres in affluent and less affluent countries. A number of papers have followed, due to the research momentum he established in Ulm.

Stephan's welcoming smile, warm compassion and lively sense of humour will be greatly missed, but always remembered – he will be forever part of ISAAC. To us we have lost a great friend and collaborator. To Epidemiology, we have lost a great scientist. Our hearts go out to his family.

The ISAAC Steering Committee

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