UNIVERSITÉ DE GENÈVE

UNEP

Faculté de droit **Economics and Trade Branch**

Colloquium / *Colloque*

Tuesday, October 11, 2005, 9.00 h – 18.00 h
Mardi 11 octobre 2005, 9.00 h. - 18.00 h.

TRADE AND SUSTAINABLE DEVELOPMENT – THE ROLE OF LAW AND SCIENCE

COMMERCE ET DÉVELOPPEMENT DURABLE – LE RÔLE DU DROIT ET DE LA SCIENCE

This Colloquium is being jointly organized by the University of Geneva's Faculty of Law and by the UNEP Economics and Trade Branch. UNEP for over a decade has been working to enhance the capacity of countries, especially of developing countries and countries with economies in transition, to integrate environmental considerations into development planning and macroeconomic policies, including trade policies. The Faculty of Law, on the other hand, is now in its fifth year of a Swiss National Science Foundation research project 'Trade, the Environment, and the International Regulation of Biotechnology.'

The purpose of the Colloquium is to offer researchers and diplomats a forum where they can discuss the relationship between law and science in the development of trade and environmental policies and in the implementation of related legal agreements primarily at the multilateral level. Presentations will center on the decisions of the Dispute Settlement Body of the WTO in relation with risk assessment, precautionary approach, and international standards. It will provide participants with useful information in relation to the upcoming Hong Kong Ministerial Conference and contribute to the understanding of the highly complex interaction between law and science.

Le présent colloque est organisé conjointement par la Faculté de droit de l'Université de Genève et par le Programme des Nations Unies pour l'Environnement (PNUE). Le PNUE s'efforce, depuis plus de dix ans de développer la capacité des Etats, en particulier des pays en développement et en transition, à intégrer la protection de l'environnement dans leurs politiques de développement économique, y compris les politiques commerciales. A la Faculté de droit un groupe de recherche financé par le Fonds National Suisse de la recherche mène à terme un projet de recherche sur l'intégration des politiques commerciales et environnementales dans le domaine de la biotechnologie, qui a abouti à une série de publications.

Le colloque a pour but d'offrir un cadre de discussion approfondie sur la relation entre le droit et la science dans la formulation et la mise en œuvre des politiques environnementales à l'échelle nationale et internationale. Les discussions porteront en général sur l'évolution des décisions de l'Organe de Règlement des Différends de l'OMC relatives à l'évaluation des risques, au statut du principe de précaution et au rôle des standards internationaux. Le colloque devrait ainsi permettre tant de clarifier certains aspects de la relation complexe entre droit et science que de partager des informations pertinentes et utiles dans la perspective de la Conférence Ministérielle de l'OMC qui se tiendra à Hong-Kong en 2006.

Speakers and panelists / *orateurs et participants aux débats*:

BERNABE Johannes, Philippine Permanent Mission, on leave presently with ICTSD Geneva

DE SADELEER Nicolas, Professeur, Facultés universitaires Saint-Louis, EU Marie Curie Chair holder, Saint-Louis, Belgique

FOOTER Mary, Professor, Amsterdam Centre for International Law, Amsterdam

OLIVA Julia, Staff Attorney, Center for International Environmental Law, Geneva

PERREZ Franz Xaver, Dr. jur., OFEFP, Head of Global Affairs Section, Berne

PYTHOUD François, Dr. sc. nat., Office fédéral de l'agriculture, Berne

SCHLUNDT Jorgen, Dr., Director, Food Safety Department, WHO, Geneva

SHENG Fulai, Economic Affairs Officer, UNEP-ETB, Geneva

ROBERTS Michael, Counselor, Agriculture and Commodities Division, WTO, Geneva

YAMAGUCHI Hiroyuki, First Secretary, Permanent Mission of Japan to the WTO, Geneva

ZARRILLI Simonetta, Legal Officer, Division on International Trade and Commodities, UNCTAD, Geneva

Welcoming address / *Bienvenue*

09.00 **Prof. Philippe Burrin,** Director, Graduate Institute of International Studies HEI, Genève

Hussein Abaza, Chief, Economics and Trade Branch,
UN Environment Programme (UNEP), Geneva

Prof. Anne Petitpierre, Faculté de droit, Unviversité de Genève

09.30 **Morning Session / *Session du matin***
Chair: Prof. Thomas Cottier, World Trade Institute, University of Berne

Opening Presentations / *Présentation des thèmes*

Prof. Mary Footer, Amsterdam Centre for International Law
Trade and Environment Policies: the Interface of Law and Science at the National and Multilateral Levels

Politiques en matière de commerce et environnement : les points de rencontre du droit et de la science au niveau national et multilatéral

Prof. Nicolas de Sadeleer, Facultés universitaires de Saint-Louis,
EU Marie Curie Chair holder
Scientific expertise and trade measures
Expertise scientifique et restrictions commerciales

10.30 Pause

11.00 **Panel: Law and Science in National Policy Development**
Débat: Le droit et la science dans le développement de politiques nationales

- **Fulai Sheng,** Economic Affairs Officer, UNEP-ETB, Geneva
  UNEP's Case Studies on Experiences with Integrated Assessments of Trade Liberalization
  *Études de cas menées par le PNUE : expérience acquise en matière d'évaluation environnementale de la libéralisation du comm*erce

- **Jorgen Schlundt,** Dr., Director, Food Safety Department, WHO, Geneva
  The Role of WHO and FAO as providers of Scientific Advice for international standard setting.
  Le rôle de l'OMS et de la FAO comme centres d'expertise scientifique dans l'élaboration de normes internationales

- **François Pythoud,** Dr. sc. nat., Office fédéral de l'agriculture, Berne
  The Role of Risk Management in the Development of National Policies
  Le rôle de la gestion du risque dans le développement des politiques nationales

11.40 Discussion

12.30 Lunch

14.30 **Afternoon Session**
Chair: Ricardo Meléndez-Ortiz, Director, ICTSD, Geneva

Opening Presentations / *Présentation des thèmes*

Franz Xaver Perrez, Head of Global Affairs Section, OFEFP, Berne
Trade and Environment: The Challenge of Making them Mutually Supportive
Commerce et environnement: le défi des synergies

Michael Roberts, Counsellor, Agriculture and Commodities Division, WTO
The SPS, the TBT and the GATT Agreements: What do they have to say about the Justification of Trade Measures and the Management of Risks?
Les accords SPS, TBT et GATT : Quel est leur rôle dans la justification de mesures commerciales et la gestion du risque ?

15.30 Pause

16.00 **Panel: Law, Scientific Expertise, and the WTO**
Débat: Droit, expertise scientifique et OMC

- **Julia Oliva,** Staff Attorney, Center for International Environmental Law, Geneva
  The Status of International Standards in WTO Case Law
  Le statut des standards internationaux dans la jurisprudence de l'OMC

- **Hiroyuki Yamaguchi,** First Secretary, Permanent Mission of Japan to the WTO, Geneva
  Johannes Bernabe, Philippine Permanent Mission, on leave with ICTSD, Geneva
  The Appropriate Level of Sanitary Protection and WTO Rules: National Experiences
  Le niveau approprié de protection sanitaire et les règles de l'OMC : expériences nationales

- **Simonetta Zarrilli,** Legal Officer, Division on International Trade and Commodities, UNCTAD, Geneva
  GMO Regulations and WTO Law: Developing Country Concerns
  La régulation des produits transgéniques et l'OMC: Quels sont les préoccupations des pays en développement ?

16.40 **Discussion**

17.30 **Conclusion**
Prof. Laurence Boisson de Chazournes, Faculté de droit, Université de Genève

Dr. Philippe Roch, Former head of the Swiss Agency for Environment, Forests and Landscape; Consultant

Venue/Lieu:
Graduate Institute of International Studies
Institut universitaire de Hautes Etudes Internationales (HEI)
Auditoire Jacques Freymond
Rue de Lausanne 132
1202 Genève

Situated in the park adjacent to the WTO Buildings
Situé dans le parc à côté des bâtiments de l'OMC

Public transport: tram 13 or 15 (direction "Nations") from the Railway Station to "Butini".
Transports publics*: tram 13 ou 15 (direction Nations) à la gare de Cornavin, jusqu'à "Butini."*

Co-organization
Prof. Anne Petitpierre, Faculty of Law
Prof. Laurence Boisson de Chazournes, Faculty of Law
Hussein Abaza, Chief, Economics and Trade Branch, UNEP

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Lunch can be taken at the Cafeteria of HEI in a reserved section.
Le déjeuner peut être pris à la cafétéria de HEI dans une section réservée

The Colloquium will be followed by a reception at the Cafeteria of HEI.
Le colloque sera suivi d'une réception à la cafétéria de HEI.

A) SHORT PRESENTATION OF THE RESEARCH PROJECT: TRADE, THE ENVIRONMENT AND THE INTERNATIONAL REGULATION OF BIOTECHNOLOGY

This research carried out by a small group of researchers at the Faculty of Law of the University of Geneva is financed by the Swiss National Science Foundation and is benefiting from cooperation with the Swiss Agency for the Environment, Forests and Landscape, the Swiss Federal Office of Public Health, and the Swiss Federal Office for Agriculture. Furthermore, this research has been greatly facilitated and enriched through numerous contacts and exchanges with Geneva-based intergovernmental and specialized non-governmental organizations that are active in the domain of the regulation of trade and environment policies and agreements, especially in the domain of biodiversity considerations of raw (i.e. fertile) GMOs, and of food safety concerns of GM food (i.e. environment-related food safety).

Thus we have been able to collaborate with experts at organizations in Geneva such as the WTO, UNEP, WHO, UNCTAD at the intergovernmental level, but also at non-governmental organizations such as CIEL, ICTSD and IISD. The focus of this research has been put on WTO law and its interaction with UN-administered agreements and standards, such as especially the Cartagena Protocol on Biosafety of the Convention on Biological Diversity and the Codex Alimentarius (administered jointly by FAO and WHO). The research project started in the summer of 2001 and the second phase will be concluded in the summer of 2006.

In response to the valuable input from these organizations, we have taken innovative initiatives aimed at enhancing the synergies and at strengthening the cooperation of *la Genève internationale* with the Faculty of Law and with academia more broadly in Switzerland and abroad through three Roundtables and more recently the Colloquium presented in this Report. The topic of the first one was risk assessment with regards to GMOs (January, 2002). The discussions were focused on the Biosafety Protocol's contributions to risk assessment and on its complex relationship with the WTO's agreements and jurisprudence. The overlapping, interdependent and iterative relationship between risk assessment and risk management were at the center of this Roundtable. A key difference between the provisions of the Biosafety Protocol and of the WTO Agreements refers to risk management: the Protocol contains an Article (Art. 16) with several provisions describing an acceptable risk management process, whereas the WTO agreements are essentially silent on this crucially important question.

The Biosafety Protocol does not really differ from the WTO in its scientific approach to risk assessment except that in both the assessment and the management of risk it contains provisions regarding the application of the precautionary principle. It leaves open, however, a number of issues for which the negotiations did not manage to reach a consensus. This concerns especially the issues of liability and redress, labelling, compliance, and socio-economic considerations which saw continued negotiations at the Protocol's first two Meetings of the Parties in 2004 and 2005.

The Codex Alimentarius is closely related in spirit to the SPS Agreement thanks to its heavy reliance on scientific risk assessment with relatively detailed and highly procedural provisions, it was the subject of the second Roundtable (June 2002). Its positioning between the promotion of fair trade practices and the protection of food safety largely defines the dynamics of its functioning. The Codex turned out to be a very fruitful case study of the nature, the role and the importance of internationally harmonized standards because of the vast economic importance of food trade which it regulates, and because of the fact that it is explicitly recognized by the WTO's SPS and indirectly by the TBT Agreements. Furthermore, it is particularly interesting for this research project because the Codex and the Protocol have an overlapping mandate with regard to the regulation of trade in raw genetically modified food, but these two jurisdictions are not synchronized with each other. On the other hand, some of the unresolved issues are the same in Codex and Protocol, especially the politically thorny question of the labelling of GM food which is considered to be misleading and unnecessary by the US but necessary by most other countries, especially in Europe where adequate information on all products, particularly food products, are considered an unalienable consumers' right. The Codex traditionally emphasizes truthfulness and commercially relevant information in its labelling whereas the Protocol has gone a step further by introducing a temporary solution which stipulates that packages containing raw GM food or feed crops for must be labeled as "may contain" living modified organisms. The Codex has not found a solution yet on the two very divisive issues of GM labelling and of precautionary trade restrictions.

In spite of the acknowledged fact that after more than forty years of activity the Codex is the most important collection of food standards, its legitimacy is not undisputed. The status of the Codex Alimentarius was therefore the subject of the third Roundtable in March, 2003. Its main focus was the question of the impact which the only two pertinent rulings of the WTO so far have had on this standard *(EC-Hormones and EC-Sardines)*. Its legal standing has undoubtedly been enhanced thanks to the WTO's rulings in the 2003 *EC-Sardines* case which confirmed its stature in international trade law. The question of the role of international standards in WTO law has also been the theme of a scientific workshop at the Université Paul Cézanne Aix-Marseille III (CERIC) in June 2005 in which our group, fully represented, participated very actively, and also in the submission of chapters for the Proceedings which are expected to be published shortly.

Where does this research stand now and where does it fit into the wider trade and environment framework? It turns out that the title we had chosen for the report of our recent Colloquium "Trade and Sustainable Development – the Role of Law and Science" (October 2005) is highly topical in light of two particularly contentious and politicized cases presently before the WTO' Dispute Settlement Body. First of all, the WTO has been confronted, in 2003, with its first GMO-related dispute *EC-Biotech* of which the panel Report – several times delayed - is presently awaited with much anticipation. Some of the WTO's earlier rulings are particularly important for the development of international biosafety regulations. We may mention e.g. the 2000 *EC-Asbestos* case which allows the consideration of minority scientific opinions for determining the acceptable level of risk. At the same time the Appellate Body has stepped back from the more flexible approach of the Biosafety Protocol by insisting on a rather artificial distinction between a qualitative possibility and a quantitative probability of risk in the 1998 Australia Salmons. In the same vein it has introduced a new questionable distinction

between scientific uncertainty and the insufficiency of scientific evidence in the 2003 Japan-Apples ruling.

Probably the most significant precursor for GMO disputes, however, is the 1998 case *EC-Hormones* which concluded that the precautionary principle "finds reflection" in the much-cited Article 5.7 of the Agreement on Sanitary and Phytosanitary Measures (SPS). The repercussions of the *EC-Hormones* dispute, however, have failed to change the position of the European Union: it continues to outlaw domestic as well as imported beef with raised with growth hormones and prefers to pay a fine to the US and Canada. More importantly, they have given raise to the second presently ongoing dispute that is very significant for the wider question of WTO law and science. *EC-Hormones* has shown the difficulties and the political resistance toward a risk assessment and risk management process based strictly on scientific evidence in complete isolation from other deep-rooted societal considerations. *EC-Hormones* indeed is not really concluded yet because a new dispute has recently been launched by the European Union which claims that new scientific evidence justifies its position and makes the US countervailing duties WTO-illegal.

We may observe that the presently established relationship between on one hand the complexities of risk assessment and risk management regarding threats to biodiversity and certain aspects of food safety, and on the other hand the relative simplicity of import restrictions allowed under WTO agreements based on traditional science-based risk assessment procedures is becoming more and more difficult to maintain. This research project on the legal ramifications of import restrictions and of trade law with regard to genetically modified products has contributed a considerable number of publications on the implications and limits of scientific evidence in the presence of complex, diffuse and scientifically not adequately explained risks to biodiversity and to certain aspects of food safety.

The broad conclusion of the nearly-finished research project is that the WTO's relatively narrow interpretation of risk assessment methods does not sufficiently take into consideration the nature of recent scientific discoveries and processes. The international community needs to arrive at a reconciliation of principles, rules, standards and procedures which have been negotiated under disparate legal frameworks with often divergent objectives. We can see a wide consensus over the need to work toward the twin notions of mutual supportiveness and legal agreements that pay deference to each other in their respective domain of authority such as biodiversity and trade in the cases of the Biosafety Protocol and the WTO. Our research shows that this objective is not only legally coherent but also politically legitimate and realistic.

DISCLAIMER

This Report has been edited by Urs P. Thomas with the objective of harmonizing the format of the contributions which the chairs and paper presenters have provided. He is responsible for all misrepresentations, omissions and other errors.

B) BIOGRAPHIC PARAGRAPHS

ABAZA, HUSSEIN

Chief, Economics and Trade Branch, UNEP Geneva. Received his B.A in Economics from the American University in Cairo (1973), and his M.Phil. in Urban Housing planning from the University of Bradford (1981).

Has joined the United Nations Environment Programme in 1982, where he has worked in different capacities. These included: Chief of the Economics and Trade Branch (March 97 to date), where he is responsible for assisting countries, particularly developing countries and countries with economies in transition, to enhance their capacities to integrate environmental considerations in development planning and decision-making; Chief of the Environment and Economics Unit (January 93 to February 97), responsible for the initiation and development of an integrated programme on Environment and Economics, which was endorsed by the Seventeenth Session of the Governing Council; Coordinator of the Committee of International Development Institutions on the Environment (CIDIE) (March 91 to December 92), where he was responsible for the realization of the objectives of the CIDIE Declaration, Communique, and Action Programme. He also functioned as the assistant to the Executive Director of UNEP (June 89 to February 91) on issues related to and the general operation and management of the organization and priority programme areas initiated by UNEP, and Coordinator of the African Ministerial Conference on the Environment (AMCEN) (March 88 - June 89), where he was responsible for strengthening cooperation between African countries in economic, technical and scientific activities of the region.

Prior to joining UNEP, he worked as the Financial and Administrative Manager of a United Nations Physical and Urban Planning project in Saudi Arabia (1973-1979), Managing Director of the Center of Planning and Architecture in Cairo, Egypt (1980), and Manager of the Islamic Investment Company, Central and Northern Region, Saudi Arabia (1981). He has contributed in the preparation and production of a number of reference manuals and publications on environmental impact assessment, integrated assessment, trade and environment, and sustainable development.

BERNABE, Johannes

Philippine Permanent Mission,
on leave presently with ICTSD Geneva

BOISSON DE CHAZOURNES, LAURENCE

Professeure ordinaire à la Faculté de droit de l'université de Genève depuis 1999, Laurence Boisson de Chazournes est directrice du Département de droit international public et organisation internationale et professeur invité à l'Institut universitaire de hautes études internationales.

Laurence Boisson de Chazournes a poursuivi ses études de droit et sciences politiques en France et en Suisse et a été "visiting scholar" aux Universités de Michigan et de Georgetown. Elle a été chargée de cours à la Faculté de droit de l'Université de Genève et à l'Institut universitaire de hautes études internationales entre 1992 et 1995. Conseiller principal chargée des questions de droit international et de droit de l'environnement auprès de la Banque mondiale de 1995 à 1999, elle agit en tant qu'expert auprès de diverses organisations internationales (ONU, UNITAR, Banque mondiale et OMS).

Laurence Boisson de Chazournes est également membre de nombreuses sociétés académiques et instituts de recherche tels l'American Society of International Law (ASIL), la Société française de droit international (SFDI), l'International Law Association (ILA), l'Institut du développement durable et des relations internationales (IDDRI, France) et le Program on International Courts and Tribunals (PICT). Elle est membre des comités scientifiques ou de publication de nombreuses revues scientifiques: European Journal of International Law; Georgetown International Environmental Law Review; International Organisations Law Review; Leiden Journal of international Law; Review of European Community and International Environmental Law et The Law & Practice of International Courts and Tribunals.

Domaines d'activités : Droit international public, Organisation internationale, Règlement des différends, Droit international de l'environnement, Protection internationale des eaux, Droit international économique.

COTTIER, THOMAS

Dr. Jur. LLM, Professor of Law, Attorney, University of Berne, Director of the World Trade Institute, Berne.

Educated at University of Bern Law School, including bar examination (1971-77), Professor Cottier was a Member of the Swiss negotiating team at the GATT Uruguay Round (1986-1993), Head of legal services of the GATT Division, Department of Foreign Economic Relations, Bern (1986-89), Deputy Director-General, the Swiss Federal Intellectual Property Office, Bern. He was also the Head of the governmental task force on patentability of life forms, and a Member of various dispute settlement panels in WTO/GATT, chairman of panels EC v. USA on U.S. automobile taxes (1994), Costa Rica v. USA on textile restriction (1996), USA v. EC and Canada v. EC on Measures concerning Meat and Meat Productions (Hormones), including arbitration (1996/7, 1999), USA v. India on patent pipeline protection (1997).

He is a Full Professor of European and International Economic Law at the University of Bern, Director of the Institute of European and International Economic Law (1994 -), Director of the MILE Program (Master of International Law and Economics) (1999-). He was Council and Member of Division I of the Swiss National Research Foundation (1997 - 2004); Member of the Board of Trustees, IPGRI

(International Plant Genetic Resources Institute, Rome) (1997-2004). He is presently Chairman, ILA Committee on Biotechnology (2003-), Member of the Committee of Distinguished Advisors, Institute of International Economic Law, Georgetown University, Washington D.C.; Member of the Board of Trustees, Max Planck Institute for Intellectual Property, Competition and Tax Law, Munich; Advisor, China Business Council, and of Counsel, Baker & McKenzie, International Law Firm, WTO Practice Group (1998-). Director, National Centre of Competence in Research, International Trade Regulation: "From Fragmentation to Coherence," 2005-2008.

DE SADELEER, NICOLAS

Professeur, Facultés universitaires Saint-Louis, Belgique.

Nicolas de Sadeleer is Marie Curie Chair holder at the University of Oslo where he is in charge of a EU sponsored research programme on risk and precaution. He is also a Professor of environmental law at the Facultés universitaires Saint-Louis and at the Institut d'études européennes de l'Université catholique de Louvain and post doctoral research fellow at the Faculty of Law of the Vrijie Universiteit Brussels. From 1998 to 2003, he has been Visiting Professor at Universités Paris I, Paris XII, Lille-Charles de Gaulle and at Pontifica Universidad Catolica del Peru, and one of the holders of the 8th Gleverbel Chair in European Studies.

His other professional experiences includes serving as a Director from 1990 to 2003 of the Environmental Law Center at the Facultés universitaires Saint-Louis and as a legal adviser for different environmental departments in Belgium, France and Luxemburg. In addition, he was a consultant for the Institut royal des sciences naturelles in Brussels in 1988 and was a barrister in Brussels from 1988 to 1990. His areas of research and teaching include EC and International environmental law, health and consumer law, free movement of goods, Belgian environmental law, subjects on which he publishes and speaks extensively.

He was from 2000-2002 the Vice-President of the Belgian Environmental Law Association. He has published widely on environmental issues, e.g. *Environmental Principles: From Political Slogans to Legal Rules*. Oxford, 2002; *Droit international et communautaire de la biodiversite*, Dalloz, 2004, and more than 120 articles in law journals in Belgium, France, UK, Netherlands, Italy, Portugal and Spain.

FOOTER, MARY E.

Mary Footer is Deputy Director of the Amsterdam Center for International Law and an Associate Professor in the Faculty of Law, Department of International Law, University of Amsterdam. She has previously lectured at the Erasmus University Rotterdam (1999-2001) and University College London (1988-1995) and was Senior Program Legal Counsel at the International Development Law Organization, Rome (1995-1999). She is a Member of the ILA Committee on International Trade Law and the ILA Committee on International Law and Biotechnology and has been a consultant to both international organizations and governments. Dr. Footer publishes widely on various aspects of international economic law and regulation and is author of the book *An Institutional and Normative Analysis of the World*

Trade Organization (Martinus Nijhoff Publishers: Leiden/Boston, 2006). She has been appointed to a Chair in Law at the University of Nottingham and will be taking up her position on 1 January 2006 where she will specialise in international economic law and also retain her research interests in the socio-economic aspects of (agro)biotechnology and international law.

MELÉNDEZ-ORTIZ, RICARDO

Director, International Centre for Trade and Sustainable Development, Geneva

OLIVA, JULIA

María Julia Oliva is a Staff Attorney at the Center for International Environmental Law in Geneva, Switzerland, where she is Director of the Project on Intellectual Property within the Trade and Sustainable Development Program. She has written extensively on intellectual property and sustainable development issues and has represented CIEL in numerous intellectual property meetings and events. She also analyzes biotechnology issues and participated in CIEL's *amicus brief* before the World Trade Organization on the European Community-Biotech case. Ms. Oliva is a Member of the Board of Directors of IP-Watch, a non-profit independent news service reporting on international intellectual property issues. During her LLM studies she was awarded first place in the Davis, Wright and Tremaine International Law Writing Competition and interned at the Office of the Solicitor of the U.S. Department of the Interior. Previously, she earned her law degree at the University of Mendoza, in Argentina, where she also practiced law in the civil society sector.

PERREZ, FRANZ XAVER

Dr. jur., OFEFP, Head of Global Affairs Section, Berne.

Franz Xaver Perrez is Head of Section Global Affairs in the International Division of the Swiss Agency for the Environment, Forests and Landscape. He formerly served as legal advisor in the WTO Division of the State Secretariat for Economic Affairs and as legal counsel to the Department of Public International Law, Swiss Department of Foreign Affairs. J.S.D. 1998, New York University, LL.M. 1996, New York University, attorney at law, 1992 Bern. Additional studies at University of Bern School of Law and Université de Paris II. Dr. Perrez is Switzerland's lead-negotiator in several international environmental processes. He has been publishing in the field of international environmental law, WTO-law and Sovereignty. He is currently involved in research projects by the University of Geneva and New York University School of Law on regulatory approaches to genetic engineering.

PETITPIERRE, ANNE

Professeure ordinaire à la Faculté de droit depuis 1993, Anne Petitpierre est également avocate au Barreau de Genève (depuis 1970). Dans le cadre de la

Faculté de droit, elle a enseigné le Droit commercial comparé (1987) et le Droit des papiers-valeurs (1988-1993), puis le droit commercial (cours I et II, actuellement Droit commercial I) et le droit de l'environnement. Ce dernier cours est ouvert aux étudiants d'autres Facultés.

Elle a en outre donné des enseignements de droit comparé en droit des sociétés à l'Université Bocconi de Milan (1990), et en droit de l'environnement à la Faculté internationale pour l'enseignement du droit comparé à Strasbourg (1981 et 1982) ainsi qu'à la Faculté de droit de Limoges (1984 et 1999).

Anne Petitpierre a exercé diverses fonctions parlementaire (députée au Grand Conseil de Genève 1977-1985) et extra-parlementaires (Commission fédérale de l'énergie, Commissions pour une éthique de l'expérimentation animale, Fonds suisse pour la protection du paysage, Conseil du développement durable, Conseil pour la recherche agronomique)en relation avec les problèmes environnementaux. Elle est également membre du Comité international de la Croix-Rouge (CICR) depuis 1987 dont elle assume la vice-présidence depuis 1998, ainsi que de la Commission de la concurrence depuis janvier 2003.

Domaines d'activités : Droit commercial et arbitrage, Droit de l'environnement.

PYTHOUD, FRANÇOIS

Dr. sc. nat., Office fédéral de l'agriculture, Berne.

François Pythoud is a plant biologist by training and holds a PhD in natural sciences. He worked for the Swiss Agency for the Environment, Forests and Landscape on biotechnology and biosafety-related issues from 1990 to 2005. He chaired the OECD working group on harmonisation of regulatory oversight in biotechnology from 1997 to 2002. He was closely involved in the development of the Cartagena Protocol as the Swiss main negotiator. He chaired the Commodities Contact Group during the final round of negotiations in January 2000 in Montreal. From 2000 to 2004, he was a member of the Bureau of the Intergovernmental Committee for the Cartagena Protocol and vice-president of the 1st Meeting of the Parties in Kuala Lumpur in 2004. He is now the officer in charge for the International Treaty on Plant Genetic Resources at the Swiss Federal Office for Agriculture.

ROBERTS, MICHAEL

Counselor, Agriculture and Commodities Division, WTO.

Michael Roberts is a Counselor with the Agriculture and Commodities Division working on the Sanitary and Phytosanitary Measures Agreement. Before joining the WTO in 2001, Mr Roberts worked in the Russian Federation on agriculture and food trade issues with an EU funded technical assistance project. Previous work experience also focused on the issue of agriculture and food trade issues and included a stint with the European Commission. Mr Roberts' academic background is in agricultural and development economics.

ROCH, PHILIPPE

Former head of the Swiss Agency for Environment, Forests and Landscape; Consultant.

Philippe Roch was born in Lancy (canton of Geneva) on 13 September 1949. Having received his doctorate in biochemistry from the University of Geneva in 1977, he immediately became involved in the field of conservation and environmental protection. He began his career as head of the WWF office in the French-speaking part of Switzerland and then became a member of the national WWF management team and Director general of WWF Switzerland. In 1992, he was appointed Director of the Swiss Agency for the Environment, Forests and Landscape (SAEFL) by the Federal Council. After 13 years at the helm, Philippe Roch resigned his directorship with effect from 1 October 2005.

As well as being responsible for the management of SAEFL, Philippe Roch was active at the national level to support, in particular, the implementation of the law on the reduction of CO2 emissions, the development of legislation in the area of biotechnology, the introduction of Swiss forest certification labels, the conservation of the wetlands on the Southern shores of Lake Neuchâtel, and the protection of threatened animal species such as the lynx. In addition, Philippe Roch was a member of the Research Steering Committee, which is responsible for the planning and coordination of research within the federal administration.

At the international level, he represented Switzerland (acting in the capacity of State Secretary) in negotiations on environmental matters. Here, he worked in favour of strengthening UNEP and the global environmental regime, particularly in the areas of biodiversity, climate change, wastes, chemicals and water, and also supported the introduction of liability for environmental damage. Philippe Roch was a member and twice co-chairman of the Council of the Global Environment Facility (GEF)). He chaired the Conference of the parties to the Basle Convention (1999-2002) and the Conference of the Parties to the Rotterdam Convention (2004-2005). He is a member of the Foundation Board of the Geneva International Academic Network (GIAN).

He is acting now as an independent consultant.

SCHLUNDT, JORGEN

Dr., Director, Food Safety Department, WHO, Geneva.

Jørgen Schlundt has primarily worked in the area of health effects related to micro-organisms and chemical substances in food and in the environment. JS has participated in scientific evaluations and management activities in a number of international bodies including WHO, FAO and OECD scientific bodies, EU Scientific Committees and the Codex Alimentarius Commission. Recently JS has participated in international activities aimed at an optimisation of the present Food Safety systems with an increased focus on risk analysis principles and a coherent farm-to-fork set up enabling continuous risk reduction.

Main research areas: Survival of zoonotic pathogens in the environment, the intestinal colonisation process, test methodology for GM organism assessment, and microbiological risk assessment.

Main positions: Environmental Protection Agency of Denmark: Head of Bacteriology Section; Veterinary Research Laboratory, Zimbabwe: Head of Microbiological Division; Danish Veterinary and Food Administration: Head of Division of Microbiological Safety; WHO Department for Food Safety, Zoonoses and Foodborne Diseases: Director.

SHENG, FULAI

Economic Affairs Officer, UNEP-ETB, Geneva.

Fulai Sheng joined the Economics and Trade Branch of UNEP in March 2005. He is currently Economics Affairs Officer based in Geneva chiefly responsible for UNEP's programmes on integrated assessment of public policies. In the 20 years before joining UNEP, Mr. Sheng served as an economist at Conservation International, the World Wide Fund for Nature, the World Bank, and the Chinese Ministry of Finance. His publications cover the themes of environmental-economic accounting, macroeconomic policies and poverty, economic instruments for biodiversity conservation, and comparative assessment of development options.

YAMAGUCHI, HIROYUKI

First Secretary, Permanent Mission of Japan to the WTO, Geneva.

He obtained a B.A. at the Faculty of Law, University of Tokyo in 1991, and an MA in international politics at the Graduate School of Law and Politics, University of Tokyo, in 1993, as well an MA in international relations at the School of Advanced Studies, Johns Hopkins University in 1999.

In 1993 he entered the Ministry of Agriculture, Forestry and Fisheries. Since June, 2003, he is the First Secretary at the Permanent Mission of Japan in Geneva, in charge of the following negotiations at the WTO: forestry and fisheries-related negotiations (NAMA, fisheries subsidies, trade and environment), SPS, part of agriculture.

ZARRILLI SIMONETTA

Legal Officer, Division on International Trade and Commodities, UNCTAD, Geneva.

Simonetta Zarrilli (Italian) is a Legal Officer in the Division on International Trade and Commodities of the United Nations Conference on Trade and Development (UNCTAD) Secretariat. She joined UNCTAD in 1988 and since then she has been working on a number of trade and development related issues - such as preferential tariff treatments, trade and environment, standards and regulations, trade in services, intellectual property rights, and non-trade concerns in international trade. She has carried out a number of analytical, intergovernmental and technical cooperation activities in these areas. Since March 2002, she has been participating in the energy/agriculture - trade law research group at the University of Dundee, UK, as research associate. In March 1985 she was admitted to the Italian Bar. She is a member of the ILA Committee on Biotechnology and International Trade.

C) SHORT SUMMARIES OF THE PRESENTATIONS

The ideas expressed in this contribution are those of the authors and do not necessarily reflect the view of their Governments or organizations.

MARY E. FOOTER
Trade and Environment Policies: the Interface of Law and Science at the National and Multilateral Levels

The GATT had essentially been limited to the negotiation of trade barriers, especially tariffs, whereas the WTO now has a much further reach, and it has resulted in harmonized rules in many areas. This applies especially to the SPS Agreement and the protection of food safety. As a result, international standards have become much more important in the regulation of international trade. The negotiation of standards as well the policy making process for WTO agreements and for Multilateral Environmental Agreements (MEAs) occurs in the political interface between these two regimes. This interface can be seen as a network of rules and mostly science-based standards such as the Codex Alimentarius which is incorporated in the SPS Agreement. One may argue that the general trend is a shift from a risk discourse to a safety discourse. As in other multilateral agreements, developed and developing countries have common but different responsibilities and rights which are - to some extent - spelled out in the GATT's enabling clause and in UNCTAD's General System of Preferences.

MEAs are the building blocks of what is often called International Environmental Governance. They are not fundamentally different from national legislation, in both cases adaptations and more detailed provisions become necessary as scientific knowledge advances. On the other hand, the compliance with environmental norms differs from the trading system: enforcement and dispute settlement in the environmental realm is still at the early stages, national sovereignty predominates in many cases. The normative character is also very different in the two kinds of regimes. MEAs tend to emphasize regulatory aspects and are often bilateral, whereas the WTO agreements have a very strong procedural emphasis. The role of law and science in the two kinds of agreements can be seen in the fact-finding process. The scientific perspective justifies trade barriers based on facts and evidence to protect public health and the environment, whereas the legal approach tends to use complex procedures to establish the scientificity of facts.

NICOLAS DE SADELEER
Scientific expertise and trade measures

The WTO's Dispute Settlement Body (DSB) has already tackled the precautionary principle in a number of cases concerning health measures. In two decisions of 18 August 1997, a WTO Panel determined that identification of the risk posed by hormones in meat was a condition sine qua non for the risk assessment required by Article 5 of the Agreement on the Application of Sanitary and Phytosanitary

Measures (SPS Agreement). The Appellate Body in this case, for its part, accorded a broader role to the precautionary principle but left open the way in which it should be applied. While the Appellate Body stated that it was 'unnecessary, and probably imprudent' for it to take a position on the legal status of the precautionary principle, it nevertheless confirmed that the precautionary principle 'finds reflection in Article 5(7) of the Agreement', where it is not expressly recognized. However, the precautionary principle does not by itself, and without a clear textual provision to that effect, relieve a Panel of the duty to apply the normal principles of treaty interpretation. The Appellate Body consequently held that the EC ban on hormone-treated beef was incompatible with the SPS Agreement: a principle such as precaution may not override the provisions of Articles 5(1) and 5(2) of the SPS Agreement. It drew a clear distinction between risk assessment, which must be based on a scientific approach, and the political decision (risk management) that determines the level of protection, which may be 'zero risk'. The results of the risk assessment must sufficiently warrant - that is to say, reasonably support - the SPS measure at stake. Moreover, it agreed with the EC that risk assessment cannot be restricted to laboratory testing but must also address potentially adverse effects to human health in the real world. Furthermore, divergent scientific opinions coming from qualified and respected sources can be taken into account by Governments acting responsibly and in good faith.

The second dispute in which the precautionary principle was invoked, *Australia-Salmon*, arose from a decision by Australia to ban salmon coming from Canada. The Australian measure was based on a risk assessment that, according to the panel, 'addressed and to some extent evaluated a series of risk reduction factors, in particular, on a disease-by-disease basis'. Referring to its *EC-Hormones* Report, the Appellate Body stated in its 20 October 1998 report that in this kind of case a risk assessment must evaluate, among other things, the likelihood of adverse health effects: 'the "risk" evaluated in a risk assessment must be an "ascertainable risk"'; theoretical uncertainty is not the kind of risk which, under Article 5(1) of the SPS Agreement, is to be assessed. This does not mean, however, that a Member cannot determine its own appropriate level of protection to be 'zero risk'. However, in the *Australia-Salmon* case, the Appellate Body concluded that the import prohibition on fresh, chilled or frozen salmon was not based on a risk assessment as required by Article 5(1) of the SPS Agreement and that Australia had therefore acted at variance with this provision. Finally, in a report of 22 February 1999, Japan-Varietals, the Appellate Body again based a decision on the *EC-Hormones* case to reject direct application of the precautionary principle and ruled against a Japanese import prohibition that was not based on a risk assessment.

SHENG FULAI

UNEP's Case Studies on Experiences with Integrated Assessments of Trade Liberalization

Fulai Sheng of UNEP introduced the concept of integrated assessment as an interdisciplinary process of combining, interpreting, and communicating knowledge from various scientific disciplines in such a way that the system-wide cause-effect chain associated with a public project, program, or policy can be evaluated for the benefit of decision-making. He described several rounds of UNEP-supported integrated assessment projects beginning form 1997, which covered a wide range

of sectors in 20 countries. These projects are highly participatory and country driven with inter-ministerial coordination. All studies are conducted by local institutions. The major objective of these projects is to enhance the capacity of countries to integrate trade, environment, poverty reduction in development policies. One of the major achievements from these projects is the bringing of different ministries to the same table to discuss how to integrate social, economic, and environmental factors in making public policies.

On the relationship between law and science, he stressed the close linkages between the two. In addition, he commented that although many multilateral environmental agreements (MEAs) were based on sciences, their adoption by governments was not always scientific in the sense that often times governments rushed into signing those agreements without assessing their capacity to enforce those agreements. As far as the relationship between integrated assessment and laws/sciences is concerned, he emphasised two points. First, specific environmental laws and regulations including those from the MEAs can be used as benchmarks for integrated assessment. Second, it is important to involve scientists from different disciplines in integrated assessment. During the discussions focusing on risk assessment, he again pointed to the importance of taking a cross-sectoral approach.

SCHLUNDT JORGEN

Scientific advice from WHO & FAO in support of International Food Standards as Prepared through the Codex Alimentarius Commission

The value of the total global food trade in 1999 was estimated by WTO to be in the region of 450 billion Dollars, in effect only surpassed in monetary value by global trade in oil. In a broad sense this trade interacts with health though food safety in two major areas: the management of foodborne diseases, and the potential for economic development through the trade of safe food. If unsafe food is traded it results in the short term in disease in the importing country, but in the longer term the economical effect of restricted food export from some exporting countries will also have health effects in such (poor) countries. In addition, WHO underlines the win-win situation related to improving food safety efforts in exporting developing countries: a) improved health in the country itself through improved general food safety systems, and b) an improved economic development potential through a sustainable food export sector. The WTO's SPS Agreement refers to the FAO/WHO Codex Alimentarius Commission (Codex) as one of its international standard setting body. Codex receives scientific advice and policy input from its parent organizations FAO and WHO. Thus the WHO/FAO provide for the science-based "assessment of risk" referred to in the SPS agreement.

Furthermore, WTO Members have agreed to facilitate the provision of technical food safety assistance to other Members through via the SPS Agreement, especially developing country Members, either bilaterally or at international level. WHO considers it possible - and necessary - to lower the global disease burden through international standards based on health considerations. It is also possible to improve economic development through international trade of safer food. Therefore help to developing countries should not be given in a way costing lives in importing countries (i.e. by lowering current health-based standards) but in a way that improves food safety both in exporting and importing countries. In addition it

is important to support an inter-sectoral and comprehensive approach, 'From-Farm-to-Fork.'

FRANÇOIS PYTHOUD
Le rôle de la gestion du risque dans le développement des politiques nationales

Risk management procedures for GM products started to be applied in laboratories already in 1975. Subsequently, in 1985 the first tests in the field were carried out under these protective measures, and in 1995 commercial planting and distribution started. At the same time, discussions in a wider public started to include less narrowly scientific concerns, such as consumers' choice, the consumers' right to information, corporate control, or the socio-economic consequences especially for framers in developing countries. A particularly thorny question that is causing more and more debate is the issue of coexistence between GM crops and non-GM crops including organic ones.

FAO has started to use the broad term of 'Biosecurity' for the management of biological risks in a comprehensive methodology which includes aspects such as food safety, environmental concerns, or sustainable use; these considerations can be subsumed under the phrases of 'from farm to fork' or 'from boat to throat.' One of the key unresolved problems is the question of the application of precautionary measures which are difficult to translate into political consensus and specific practical solutions. In general one tends to take a step-by-step and case-by-case approach rather than to follow general guidelines. Risk management measures are evaluated and monitored on the basis of their proportionality and efficiency.

FRANZ XAVER PERREZ
Trade and Environment: The Challenge of Making them Mutually Supportive

Trade & Environment policies have been the focus of negotiations over many years, some fearing that free-traders want to prevent any effective regime for environmental protection, others fearing that environmentalists want to prevent any progress. In reality, however, things are not as dramatic. The two regimes in fact refer to each other in many different ways. The WTO Agreements stipulate the goal of sustainable development in their preamble, an they contain a number of provisions to protect the environment (GATT XX(b) and (g), TBT 2.2, TRIPS 8.1, GATS XIV). Furthermore, SPS as a whole represents an instrument that specifies measures for the protection of the environment. The WTO furthermore explicitly recognizes that each country can – under certain conditions - determine its appropriate level of protection. Some Multilateral Environmental Agreements (MEAs) on the other hand include trade measures: CITES, Basel, POPs, PIC, Biosafety (evolution from command & control to the use of economic instruments). At the same time, no MEA prescribes discrimination or protectionism or nontransparent provisions, and some of the more recent MEAs clarify that they are mutually supportive to the trade regime. It should be noted that there has been no conflict between the two kinds of regimes so far.

Nevertheless, we need to ask: What is the relationship other than "no conflict"? The objective has to be the negotiation of provisions in both kinds of regimes which make it clear that there is no hierarchy, that they are mutually

supportive, and that they pay deference to each others' mandate. The general principle of *pacta sunt servanda* is to be respected, furthermore Art. 31 of the Vienna Convention on treaty interpretation needs to be read in light of the trade & environment context. However, we should not be naïve, while there is little ground for fearing real conflict, there have been examples of negative impact (Biosafety negotiations, SAICM), and MEA negotiations have become more complicated because of an underlying fear that a conflict might occur or that new rules will be used to justify protectionism. Thus, in reality, there is no reason to assume that trade & environment must conflict, but there is indeed a lack of trust between the parties that rules might be misused for illegitimate trade interests. The main reasons for this fear and lack of trust can be seen in differences in sensibilities and values, differences in trust in certain technologies, or different preferred standards of protection. We may conclude by making sure that no artificial and unnecessary conflict is created, by preventing the adoption of conflicting rules or arbitrary or unjustifiably discrimination. At the same time we need to avoid that the WTO reassesses the necessity of MEA measures. Such negotiations need to be carried out at an overarching policy level (UN General Assembly), but also at the WTO. Most importantly, governments need to take a positive and constructive approach that accepts and appreciates the competences and the focus of each of the regimes, and that looks at common goals of both the trade and the environment agreements.

MICHAEL ROBERTS

The SPS, the TBT and the GATT Agreements: What do they have to say about the Justification of Trade Measures and the Management of Risks?

The key question in the relationship between trade measures and risk management is how to reconcile a country's 'Appropriate Level Of Protection' of the environment and of public health which under the WTO agreements it has the right to determine with considerable latitude with its obligation to avoid more or less disguised protectionist trade barriers. The framework which prohibits such discriminatory trade barriers is spelled out in the GATT Articles 1.1 and 3.4 which require equal treatment of competing countries (Most-Favored-Nation Treatment) and of imported and domestic products (National Treatment) for so-called *like products.* GATT Art. XX as well as the SPS and the TBT Agreements provide the details on exceptions to these two fundamental trade rules. In the historically important *US-Gasoline* dispute, the Appellate Body (AB) ruled that the trade measures as such that the US had instituted were in conformity with Art. XX, but not the way in which they were applied. Similarly, in *US-Shrimp Turtle,* the AB concluded that the trade measure was discriminating based on the fact that the US failed to consult the concerned parties.

All four SPS cases *(EC-Hormones, Australia-Salmon, Japan-Varietals* and *Japan-Apples)* were lost by the importing Members due to the fact that the AB concluded that their measures were not "based on" a risk assessment according to the agreement's provisions based on meaning that Members have the obligation to demonstrate a rational relationship between the risk assessment and the trade restrictions. Furthermore, SPS Art. 2.2 justifies exceptional measures only if they are "*necessary* to protect human, animal or plant life or health." Furthermore, where the relevant scientific evidence is insufficient, Art. 5.7 stipulates that trade

restrictive measures can be implemented, but on a provisional basis and provided that the Member state continues to review the necessity of the measure in light of new research. The SPS Agreement is thus characterized by a clear focus on scientific evidence, which distinguishes it from its sister agreement that leaves, in TBT Art. 2.2, a leeway for legitimate objectives that are not comprehensively and clearly circumscribed thanks to the *inter alia* clause. *EC-Sardines,* the only TBT case so far, is not really germane to the TBT Agreement's core issues (e.g. process and production measures) but it has forcefully established the relevance of international standards, i.e. of the Codex Alimentarius in this case, in their role of fulfilling a legitimate objective.

JULIA OLIVA
The Status of International Standards in WTO Case Law

SPS - The WTO legal framework found relevant in a particular case is of fundamental importance due to the different approaches, rights, obligations, and exceptions in each agreement. In the *EC-Biotech* case, for instance, the EC argued that its regulations should not be considered under the provisions of the SPS Agreement, because their objective is "environmental protection," a much broader notion that is better analyzed under the TBT Agreement. It affirmed that, even if parts of the measures could be considered sanitary and phytosanitary measures, other parts need to be considered under the TBT Agreement. Indeed, the TBT Agreement does present a number of advantages from the perspective of countries implementing measures. For instance, while requiring national measures to be no more trade-restrictive than necessary to achieve a legitimate objective, it does not require the same rigorous standard of scientific basis demanded in the SPS Agreement. Moreover, the open list of legitimate objectives includes the "protection of human health or safety, animal or plant life or health, or the environment." In addition, while the TBT Agreement encourages the use of international standards, it does not limit the standard setting bodies it recognizes. HOWEVER, the TBT may not be as beneficial in terms of national measures taken "on the basis" of international standards. The SPS Jurisprudence on the concept of "based on" is of importance here. In *EC – Hormones*, the Appellate Body (AB) reversed the Panel's finding that Article 3.2 "equates measures *based on* international standards with measures which *conform to* such standards". The Appellate Body first drew a distinction between the terms "based on" and "conform to." As a result, some authors, e.g. David Victor, consider that in the SPS Agreement international standards have not become a straightjacket, and the AB, in *EC-Hormones* and other cases, considering the political and social context in which the SPS Agreement and the WTO operate, gave importers a great deal of autonomy in setting SPS policy.

TBT (EC-Sardines) - The Panel interpreted the word "basis" to mean "the principal constituent of anything, the fundamental principle or theory, as of a system of knowledge." According to the European Communities, in order to determine whether a relevant international standard, or a part of it, is used "as a basis for" a technical regulation, the criterion to apply is not, as the Panel suggested, whether the standard is the principal constituent or the fundamental principle of the technical regulation, but, rather, whether there is a "rational

relationship" between the standard and the technical regulation on the substantive aspects of the standard in question. The AB stated: "We see no need here to define in general the nature of the relationship that must exist for an international standard to serve "as a basis for" a technical regulation. It agreed with the Panel's approach that there must be a very strong and very close relationship between two things in order to be able to say that one is "the basis for" the other. TBT language is open to procedural interpretation (international standards as the focus of the regulatory process); to the interpretation of the obligation as "aspirational" (one that WTO Members are expected to meet progressively); to requiring a "reasonable" relationship; BUT current interpretation gives "automatic legal force" to standards. When looking at the TBT and SPS and their consideration for national policy space it is important to consider some of the unanswered questions in relation to the right of countries to regulate beyond international standards.

YAMAGUCHI HIROYUKI

Japan – Apples: The Appropriate Level of Sanitary Protection and WTO Rules from a Japanese Perspective

This Panel was about a plant disease called fire blight. Because Japan is free from the disease, Japan took measures to prevent the entry, establishment and spread of the disease, which, from the US point of view, were in violation of several Articles of the SPS Agreement. The Panel's conclusion was that "mature, symptomless apples are (reasonably) safe with regard to the entry, establishment and spread of fire blight to fire blight-free countries." Since then, Japan went to the Appellate Body, and even to a second Panel. However, the conclusion did not change or even worsened from Japan's standpoint. Japan has now had to introduce, with the agreement of the United States, new measures with regard to fire blight. The new measures are very simple and composed of a sampling test of export apples to ensure that these apples are mature and the certification that shipments are free from fire blight. There was a problem for Japan in the fact that there is no real expert of this disease in our country because Japan is free from fire blight and we didn't know the experts who could be objective about the concerns between importing and exporting countries. And although of course we believe in the neutrality of the scientific experts, when we saw the scientific experts talking intimately with the American expert who was in the US delegation before and after the Panel's consultation with them, we had to realize that we were in a disadvantageous position.

On issue of the precautionary principle or provisional measures, Art. 5.7 of the SPS Agreement says that "In cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information." In connection with this part of Article 5.7, the Appellate Body Report in *EC-Hormones* said that the precautionary principle is indeed reflected in Article 5.7 of the SPS Agreement, and the Appellate Body Report in *Japan-Agricultural Products II* said that there are two requirements to be met in order for a measure to be justified as a provisional measure, which are (1) the measure is imposed in a situation where "relevant scientific evidence is insufficient"; (2) the measure is adopted on the basis of "available pertinent information". The Panel also followed this logic and focused on the first requirement. With regard to this, first, the Panel stated that "The current

situation, where scientific studies as well as practical experience have been accumulated for the past 200 years, is clearly not the type of situation Article 5.7 was intended to address. Article 5.7 was obviously designed to be invoked in situations where little, or no, reliable evidence was available on the subject matter at issue." As far as I know, this is a new interpretation of this Article and this interpretation virtually narrows the scope of this Article. In fact, I don't know if "insufficiency" means little or no reliable evidence available. I suppose, for example, that even though a lot of scientific evidence is available, if they are contradictory or conflicting with each other, this situation can be considered one of the "cases where relevant scientific evidence is insufficient", regardless of when the disease was found. Second, Japan uses Article 5.7 as an alternative defense, meaning that we provoke this Article when the Panel finds that the measure is maintained without scientific evidence within the meaning of Article 2.2. But the reasoning of the Panel seemed to restrict the possibility of this way of using Article 5.7.

SIMONETTA ZARRILLI

GMO Regulations and WTO Law: Developing Country Concerns

The debate about genetically modified organisms (GMOs) is vocal and passionate. This is probably the consequence of the diverging views among people and Governments of the actual or potential risks and benefits that GMOs and products thereof can bring about. The proliferation of domestic biosafety schemes is likely to further complicate international trade in agro-biotechnology products and to indirectly affect international trade in conventional agricultural products. For developing countries agro-biotechnology is a particularly challenging phenomenon. They could be the main beneficiaries of it, if indeed agro-biotechnology keeps its promises. But they could also be the main losers if agro-biotechnology negatively affects biodiversity or if patented biotechnology makes access to seeds more difficult or changes the structure of food production systems. At the multilateral trade level, rules on transboundary movement of GMOs have been agreed upon in a specific multilateral legal instrument, the Cartagena Protocol on Biosafety. The interaction between this instrument and WTO rules adds challenges to an already complex scenario.

While developed countries have established their national frameworks to deal with agro-biotechnology and biosafety focusing primarily on domestic priorities and strategies, most developing countries are doing so under less flexible circumstances. Instead of enjoying the freedom to assess risks and benefits that agro-biotechnology may bring about and act accordingly, developing countries seem to be increasingly expected to set up their national regulatory schemes based on the requests and expectations of their main trade partners. Developing countries must balance their trade interests with their responsibility to improve the quantity and quality of agricultural and food products made available to the population, as well as with their commitment to environmental preservation. Making these goals mutually supportive is not an easy task, especially for countries that still face major difficulties in dealing with the scientific aspects of agro-biotechnology. Additional capacity-building efforts seem necessary. Efforts may also be needed at the international level to set up a global strategy to deal with

new technological developments in a more coherent and systemic manner and avoid *ad hoc* solutions.

PHILIPPE ROCH
Conclusions

This cooperation between the Faculty of Law and UNEP has turned out to be very successful and fruitful. The leitmotif that has emerged throughout these presentations and discussions may be the realization that, contrary to wide-spread assumptions, the results of scientific research often do not represent the status of absolute truths and reference points. The very nature of scientific research in fact consists in questioning the status quo, in putting in doubt conventional explanations and certitudes, and in investigations beyond assumed limits. Even if science has to play a strong role to clearly guide decision-makers and judges, political choice or a ruling cannot wait for the elaboration of absolute scientific certainty and has to apply the precautionary principle.

It is in this very dynamic juridical-politico-scientific context that the concerns of trade on one hand and of the environment on the other hand have to find common ground and hopefully mutually supportive solutions. Thus it will be necessary for free trade policies to integrate environmental externalities and liabilities. There is a wide consensus that a considerable strengthening of the multilateral environmental agreements' (MEAs) is necessary, and that dispute settlement provisions is a key element in improving this reconciliation of different and often conflicting priorities. At the present time, there is no doubt that the consensus-based nature of these MEAs is a crucial weakness, especially because it slows down the legal process inordinately. The constantly increasing pressures of economic globalization demand a transparent and comprehensible basis of the negotiations and of the reasoning which led to the key agreements and rulings. Further requirements are an improved legislative precision which can reduce the ambiguity in the legal texts that often has to be filled through interpretation by the Dispute Settlement Body. A pure scientific basis is not capable to solve environment and trade disputes. The elaboration of legislation and decisions of panels and courts have to integrate ethical values, especially respect for the diversity of environmental, development and cultural situations.

LAURENCE BOISSON DE CHAZOURNES
Conclusions

We have to recognize the importance of science as a basis for sustainable development policy as well as for trade policy. It is nevertheless clear that in some areas like food safety, decisions cannot be based on science alone. Objective scientific analysis must be embedded in a broader decision-making process and it cannot answer all reasonable questions. The development and use of international standards plays a key role at the interface between science and law. Indeed, in international trade the use of scientific standards aims at the prevention of hidden protectionist trade measures or at abusive discriminations. They reflect the approval of certain governments and/or intergovernmental organizations which

have participated in their elaboration. The SPS and the TBT Agreements are essentially based upon international standards such as the Codex Alimentarius. Compliance with these standards is considered to provide a high level of certainty and confidence that a certain measure is WTO-compatible as shown by the *Sardines* case. The concept of "risk analysis" is a key concept for the appropriation of "science". Risk analysis is commonly represented as a process involving three phases: risk assessment, risk management and risk communication. In the risk assessment phase, scientific and quantitative tools are most intensively applied.

The risk management phase on the other hand involves the integration of broad social goals with science, and developing and choosing strategies for addressing risk. Risk communication also recognizes the need for a broad input from diverse segments of the public and for outreach to affected parties. These phases are interactive, iterative and often take place at the same time, making it difficult to categorize specific activities conducted in risk analysis as uniquely assigned to that one phase. The interaction between science and social and economic considerations for the most part operates smoothly. In order to enhance and maintain the credibility and integrity of national and international decisions, there is a need to integrate more explicitly "other legitimate factors" such as social, cultural, environmental and other values that must be inevitably incorporated in science-based environmental or sanitary decisions. To conclude, the rationale of conflict between trade and environment ought to be put aside and priority should be given to principles and criteria of coexistence, coherence and deference between MEAs and WTO law. Priority needs to be given to legal interpretations that would allow for the greatest harmonization of the norms of the MEA and of the WTO Agreements in order to reconcile opposing perspectives, and to identify the respective roles of science and law.