São Paulo Advanced School on Integrated Water Resources Management

September, 01st – 15th , 2017.

São Carlos – São Paulo State – Brazil

PROGRAMME OF ALL LECTURES

Date: 01/09	Date: 02/09		Date: 03/09		Date: 04/09	
	Hour	**Subject**	**Hour**	**Subject**	**Hour**	**Subject**
Arrival of participants	08:30 - 09:30	**Opening ceremony** FAPESP/Inter American NetWork of Academies of Science Chairman of School - Presentation of School Programme	08:30 - 09:30	**Lecture 6: Dr. Gabriel Roldan** Aquatic plants: biology and dynamical interactions	08:30 - 09:30	**Lecture 12: Dra. Blanca Jimenez** Climate change: challenges for water resources managers
	09:30 - 10:30	**Lecture 1: Dr. Gabriel Roldán** Undestanding the freshwater ecosystems their assemblages and function	09:30 - 10:30	**Lecture 7: Dr. Ivanildo Hespanhol** Conventional treatment systems for reuse	09:30 - 10: 30	**Lecture 13: Dr. José Galizia Tundisi** Watershed components: interactions ecological dynamics
	10:30 - 10:45	**Coffee break**	10:30 - 10:45	**Coffee break**	10:30 - 10:45	**Coffee break**
	10:45 -12:00	**Lecture 2: Dr. José Galizia Tundisi** Water Quality	10:45 - 12:00	**Lecture 8: Dra. Virgínia Ciminelli** Minerals, metals and water: complexation, dissolution and precipitation reactions	10:45 - 12:00	**Lecture 14: Dra. Virginia Ciminelli** Minerals, metals and water: redox reactions
Receptions	12:00 - 13:30	**Lunch**	12:00 - 13:30	**Lunch**	12:00 - 13:30	**Lunch**
	13:30 - 14:30	**Lecture 3: Dr. Silvio Crestana** The importance of agriculture related to the management of water resources	13:30 - 14:30	**Lecture 9: Dr. Silvio Crestana** The nexus: water-food-energy and agricultural production systems	13:30 - 14:30	**Lecture 15: Dra. Blanca Jimenez** Urban water cycle
	14:30 - 15:30	**Lecture 4: Dr. Ivanildo Hespanhol** Waste water use in agriculture	14:30 - 15:30	**Lecture 10: Dr. Ernesto Gonzalez** Fundamentals of Limnology	14:30 - 15:30	**Lecture 16: Dr. Odete Rocha** The diversity of life: biodiversity types in species genetic and ecosystem diversity
	15:30 - 15:45	**Coffee break**	15:30 - 15:45	**Coffee break**	15:30 - 15:45	**Coffee break**
	15:45 - 17:30	**Lecture 5: Dr. Virginia Ciminelli** Minerals engineering and water resources	15:45 - 17:30	**Lecture 11: Dr. Ivanildo Hespanhol** Advanced treatment systems for water reuses	15:45 -17:30	**Lecture 17: Dr. Ivanildo Hespanhol** Reuses of treated waste water in aquaculture
	17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students	17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students	17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students

Date: 05/09		Date: 06/09		Date: 07/09	
Hour	**Subject**	**Hour**	**Subject**	**Hour**	**Subject**
08:30 - 09:30	**Lecture 18: Dr. Ivanildo Hespanhol** Reuse of treated waste water in industry	08:30 - 09:30	**Lecture 24: Dra. Virginia Ciminelli** Assessment of potential impact of mineral tailings in water quality	08:30 - 09:30	**Lecture 30: Dr. Silvio Crestana** Oportunities for international cooperation on management of water resources
09:30 - 10:30	**Lecture 19: Dr. Silvio Crestana** The state of the research and management of water resources in agriculture	09:30 - 10: 30	**Lecture 25: Dra. Virginia Ciminelli** Risks and advances in improving water management in the mineral industry	09:30 - 10:30	**Lecture 31: Dra. Blanca Jimenez** Water initiatives: water and sustanaible development goals. Water nexus and science perspective
10:30 - 10:45	**Coffee break**	10:30 - 10:45	**Coffee break**	10:30 - 10:45	**Coffee break**
10:45 - 12:00	**Lecture 20: Virginia Ciminelli** Minerals, metals and water: kinetic factors	10:45 - 12:00	**Lecture 26: Dra. Blanca Jimenez** Water reuses	10:45 - 12:00	**Lecture 32: Ernesto Gonzalez** Examples of eutrophication of lakes and reservoirs and their recovery. Study cases in Venezuela
12:00 - 13:30	**Lunch**	12:00 - 13:30	**Lunch**	12:00 - 13:30	**Lunch**
13:30 - 14:30	**Lecture 21: Dr. Odete Rocha** Factors hypothesized to influence diversity	13:30 - 14:30	**Lecture 27: Dr. Silvio Crestana** Examples of sustainable technologies to management resources in agriculture	13:30 - 14:30	**Lecture 33: Dra. Odete Rocha** Pratical exercises in biodiversity measurement
14:30 - 15:30	**Lecture 22: Ivanildo Hespanhol** Comunicable diseases in water reuse	14:30 - 15:30	**Lecture 28: Dr. Ernesto Gonzalez** Eutrophication: history, definition, causes and consequences	14:30 - 15:30	**Lecture 34: Dr. José Galizia Tundisi** Water quality and its management in the Americas (I)
15:30 - 15:45	**Coffee break**	15:30-15:45	**Coffee break**	15:30 - 15:45	**Coffee break**
15:45 - 17:30	**Lecture 23: Dr. Ivanildo Hespanhol** Potable and non potable re-use and managed aquifer recharge	15:45 - 17:30	**Lecture 29: Dr. Gabriel Roldán** Proposal for integrated water manegment: conservation, use and recovery	15:45 - 17:30	**Lecture 35: Dr. Silvio Crestana** Capacity building in the use of water in agriculture
17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students	17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students	17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students

Date: 08/09		Date: 09/09		Date: 10/09	
Hour	**Subject**	**Hour**	**Subject**	**Hour**	**Subject**
08:30 - 09:30	**Lecture 36: Dra. Gabriel Roldán** Reservoirs: Limnology, eutrophization, and management plans	08:30 - 09:30	**Lecture 42: Dra. Blanca Jimenez** International Water Agenda: Water Cooperation/Water Diplomacy	08:30 - 09:30	**Lecture 48: Dr. Carlos Bicudo** Case study: Eutrophication of Garça Lake, SP: Causes and consequences
09:30 - 10:30	**Lecture 37: Dra. Blanca Jimenez** Climate change: adaptation, vulnerability and managing risks	09:30 - 10: 30	**Lecture 43: Dr. Ernesto Gonzalez** Eutrophication indexes	9:30 - 10:30	**Lecture 49: Dr. Wilson Tadeu Lopes da Silva** Rural Basic Sanitation: Technical and Social aspects
10:30 - 10:45	**Coffee break**	10:30 - 10:45	**Coffee break**	10:30 - 10:45	**Coffee break**
10:45 - 12:00	**Lecture 38: Dra. Odete Rocha** Measurements and scales of diversity	10:45 - 12:00	**Lecture 44: Dr. José Galizia Tundisi** Case study: the Barra Bonita reservoir (Middle Tietê River)	10:45 - 12:00	**Lecture 50: Dr. Wilson Tadeu Lopes da Silva** Recycling of treated sewage water in agriculture according to the sustainability point of view
12:00 - 13:30	**Lunch**	12:00 - 13:30	**Lunch**	12:00 - 13:30	**Lunch**
13:30 - 14:30	**Lecture 39: Dr. Ernesto Gonzalez** Lake and reservoir restoration from eutrophication	13:30 - 14:30	**Lecture 45: Dr. José Galizia Tundisi** Integration of ecohydrology watershed economy and water management. - Presentations of excursions and thematic visits & field work	13:30 - 14:30	**Lecture 51: Dr. Ernesto Gonzalez** Management and evaluation of eutrophication
14:30 - 15:30	**Lecture 40: Dr. José Galizia Tundisi** Reservoirs: Limnology and ecology management	14:30 - 15:30	**Lecture 46: Dr. Gabriel Roldán** Aquatic macroinvertebrates as bioindicator of water quality	14:30 - 15:30	**Lecture 52: Dra. Odete Rocha** Biodiversity conservation
15:30 - 15:45	**Coffee break**	15:30 - 15:45	**Coffee break**	15:30 - 15:45	**Coffee break**
15:45 - 17:30	**Lecture 41: Dr. José Galizia Tundisi** Case study: The Lobo/Broa reservoir and Itaqueri/Lobo watershed	15:45 - 17:30	**Lecture 47: Dr. Carlos Bicudo** Case study: 100 years of Guarapiranga reservoir, SP: lessons and challenges	15:45 - 17:30	**Lecture 53: Dr. Donato Seiji Abe** Macro Scale evaluation of Brazilian water bodies in terms of ion and nutrient concentrations
17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students	17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students	17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students

Date: 11/09		Date: 12/09		Date: 13/09	
Hour	**Subject**	**Hour**	**Subject**	**Hour**	**Subject**
08:30 - 09:30	**Lecture 54: Dr. Ricardo Hirata** Hydrogeological concepts applied to the groundwater exploitation management	08:30 - 09:30	**Lecture 60: Dr. Maciej Zalewski** Landscape management		
09:30 - 10:30	**Lecture 55: Dr. Ricardo Hirata** Overexploitation versus sustainable groundwater development	09:30 - 10: 30	**Lecture 61: Dr. Maciej Zalewski** Ecohydrology: systemic solutions for management		
				08:00	Leave: Sao Carlos to Hydrographic Basin UHE of Carlos Botelho (Lobo-Broa)
10:30 - 10:45	**Coffee break**	10:30 - 10:45	**Coffee break**		
10:45 - 12:00	**Lecture 56: Dr. Ricardo Hirata** Fate and transport of contaminants in aquifers	10:45 - 12:00	**Lecture 62: Dr. Ricardo Hirata** Aquifer and water sources quality protection		
12:00 - 13:30	**Lunch**	12:00 - 13:30	**Lunch**	12:30 - 13:30	**Lunch**
13:30 - 14:30	**Lecture 57: Dr. Maciej Zalewski** Land water interactions	13:30 - 14:30	**Lecture 63: Dr. Ricardo Hirata** Groundwater management and governance		
14:30 - 15:30	**Lecture 58: Dr. Maciej Zalewski** Basic concepts and definitions in the field of ecohydrology	14:30 - 15:30	**Lecture 64: Dr. Maciej Zalewski** Ecohydrology: case studies, examples overall evaluation		
15:30 - 15:45	**Coffee break**	15:30 - 15:45	**Coffee break**	18:00	Return at Sao Carlos
15:45 - 17:30	**Lecture 59: Dr. Donato Seiji Abe** Changing of the biogeochemical conditions from the lotic to the lentic system: A case study of the construction of the Belo Monte Hydropower Reservoir in the Xingu River (Amazon Basin)	15:45 - 17:30	**Lecture 65: Dr. Maciej Zalewski** Stream and rivers management		
17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students	17:30 - 18:30	**Summary and discussion of the day lectures.** All lectureurs and students		

Date: 14/09		Date: 15/09		Date: 16/09
Hour	**Subject**	**Hour**	**Subject**	**Subject**
08:00	Leave: Sao Carlos to Hydrographic Basin UHE of Barra Bonita - SP	08:30 - 09:30	Poster Session	Return of participants
		09:30 - 10: 30	Poster Session	
		10:30 - 10:45	**Coffee break**	
		10:45 -12:00	Poster Session	
12:00 - 13:30	**Lunch**	12:00 - 13:30	**Lunch**	
		13:30 - 14:30	Poster Session	
		14:30 - 15:30	Poster Session	
		15:30 - 15:45	**Coffee break**	
		15:45 - 17:30	Evaluation of course	
18:00	Return at Sao Carlos	17:30 - 18:30	Closing ceremony cultural performances	