

Sunday, 26.06.2022
PRE-CONFERENCE PROGRAMME

- 11:00–15:00 Open Workshop on “Spatio-temporal trend analysis of spatial climate data (temperature and rainfall) using Python”
University of Tartu, Vanemuise 46 building, room 202
- 14:00, 17:00 City tour (45 minutes), Town Hall square
- 16:00–18:00 Excursion in Estonian National Museum

BIOGEMON 2022

- 14:00–18:00 Registration in University of Tartu Delta Centre
- 18:30–21:30 Welcome reception in University of Tartu Delta Centre
Mr. Raimond Tamm, Deputy Mayor of Tartu
Prof. Jaak Vilo, Head of the Institute of Computer Science, Delta Centre, University of Tartu

Monday, 27.06.2022
University of Tartu Delta Centre
PLENARY SESSION IN ROOM 1037

- 08:30 Opening
Prof. Toomas Asser, Rector of the University of Tartu
- 08:45 **Plenary presentation: Curt Richardson**
PEATLAND CARBON ALCHEMY AND CLIMATE CHANGE SERVICES
- 09:30 **Plenary presentation: Josette Garnier**
NITROGEN CASCADES FROM LAND TO SEA: INTEGRATING THE WATER-AGRO-FOOD SYSTEM
- 10:15 *Coffee break*
- 11:00 **Plenary presentation: Kate Lajtha**
EXPECTING THE UNEXPECTED AND LEARNING FROM SCIENTIFIC SURPRISES: LESSONS FROM PLANT DETRITAL EFFECTS ON ECOSYSTEM FUNCTION
- 11:45 **Plenary presentation: Mari Pihlatie**
TOWARDS UNDERSTANDING THE DRIVERS AND DYNAMICS OF CANOPY METHANE EMISSIONS OF BOREAL TREES
- 12:30 *Lunch*

PARALLEL SESSIONS

ROOM 1037	ROOM 1021
III	I
Conveners: Junninen, Kasak, Lohila, Machacova, Soosaar	Conveners: Bodmer, Burdun, Montibeller, Tournebize, Uuemaa
14:00 III-O1 Noormets: WHAT DOES IT TAKE TO SEQUESTER CARBON?	I-O1 Bodmer: INTEGRATION OF AQUATIC AND TERRESTRIAL FLUXES TO IMPROVE LANDSCAPE-ATMOSPHERE CARBON EXCHANGE ASSESSMENTS
14:20 III-O2 Machacova: EUROPEAN BEECH STEMS SUBSTANTIALLY REDUCE METHANE (CH ₄) UPTAKE OF TEMPERATE MONTANE FOREST	I-O2 Shanley: PATTERNS OF ORGANIC CARBON QUANTITY AND QUALITY FROM TREE TOP TO RIVER MOUTH
14:35 III-O3 Ma: DIURNAL PATTERNS OF WHITE POPLAR (<i>POPULUS ALBA</i>) TREE STEM CH ₄ AND CO ₂ FLUXES USING HIGH-FREQUENCY MEASUREMENTS IN A TEMPERATE UPLAND WOODLAND	I-O3 Mena Correa: DISSOLVED ORGANIC CARBON FLUXES IN FORESTS UNDER DIFFERENT RAINFALL REGIMES: COUPLING HYDROLOGICAL AND CARBON FLUXES MODELS
14:50 III-O4 Kohl: CAN TREE STEM AND SHOOT EMISSIONS CLOSE THE GAP IN THE METHANE BUDGET OF A BOREAL SCOTS PINE FOREST DURING THE SUMMER MONTHS?	I-O4 Zhu: THE ROLE OF TERRESTRIAL PRODUCTIVITY AND HYDROLOGY IN REGULATING AQUATIC DISSOLVED ORGANIC CARBON CONCENTRATIONS IN BOREAL CATCHMENTS
15:05 III-O5 Tenhovirta: EFFECTS OF DROUGHT ON THE METHANE EMISSIONS FROM THE SHOOTS OF YOUNG SCOTS PINE SAPLINGS	I-O5 Klavins: ASSESSMENT OF ACIDITY AND EUTROPHICATION CRITICAL LOADS IN PRODUCTION FOREST DRAINAGE CATCHMENTS AND AFTER DIFFERENT INTENSITY REGENERATION FELLINGS
15:20 III-O6 Siljanen: METHANE DYNAMICS AND MICROBIAL ACTIONS IN BOREAL SPRUCE PHYLLOSPHERE	I-O6 Stals: RELATIONSHIPS BETWEEN VEGETATION COMPOSITION AND GROUNDWATER CHEMISTRY IN FORESTED RIPARIAN ZONE
15:35 <i>Coffee break</i>	
16:05 III-O7 Melling: LONG TERM GREENHOUSE GAS BUDGET IN THE MALUDAM SWAMP FOREST IN SARAWAK, MALAYSIA	I-O7 Kalbitz: SPATIAL AND TEMPORAL VARIABILITY OF DISSOLVED ORGANIC MATTER ACROSS THE TERRESTRIAL-AQUATIC CONTINUUM
16:25 III-O8 Nunes-Souza: WOOD STRUCTURE IS A MAJOR DRIVER OF METHANE EMISSIONS FROM AMAZONIAN FLOODED FORESTS	I-O8 Uuemaa: RANDOM FOREST-BASED MODELING OF STREAM NUTRIENTS AT NATIONAL LEVEL IN A DATA-SCARCE REGION
16:40 III-O9 Gerin: N ₂ O AND CO ₂ FLUXES MEASURED BY EDDY COVARIANCE TECHNIQUE IN A SHALLOW DRAINED AGRICULTURAL BOREAL PEATLAND OVER TWO CONTRASTING YEARS	I-O9 Henine: LONG-TERM RESEARCH OBSERVATORY OF THE CRITICAL ZONE
16:55 III-O10 Ranniku: GREENHOUSE GAS DYNAMICS IN A DRAINED PEATLAND FOREST: ANNUAL CH ₄ AND N ₂ O FLUXES FROM TREE STEMS AND SOIL	I-O10 Kram: BIOGEOCHEMISTRY AND ECOTOXICITY OF CHROMIUM IN A FORESTED CATCHMENT
17:10 III-O11 Krasnov: SIMPLE METHOD FOR IDENTIFYING THE (B)VOCS SOURCE CONTRIBUTION AREA USING UNMANNED AERIAL VEHICLE (UAV) AND METEOROLOGICAL DATA	I-O11 Tournebize: IMPROVING THE ESTIMATES OF NITRATE CONCENTRATIONS AT THE AGRICULTURAL CATCHMENT SCALE: THE POTENTIAL OF VARIATIONAL DATA ASSIMILATION USING A NEW WATER QUALITY MODEL
17:30 Plenary presentation: Dennis Baldocchi (online) LESSONS LEARNED FROM LONG-TERM EDDY COVARIANCE FLUX MEASUREMENTS OF CARBON DIOXIDE AND METHANE OVER NON-TIDAL AND TIDAL RESTORED WETLANDS IN THE SAN FRANCISCO BAY-DELTA ESTUARY	
18:15	POSTER SESSION

Tuesday, 28.06.2022
University of Tartu Delta Centre
PLENARY SESSION IN ROOM 1037

- 08:30 **Plenary presentation: Susannah Tringe**
MICROBIAL DRIVERS OF METHANE EMISSIONS FROM SAN FRANCISCO BAY WETLANDS

PARALLEL SESSIONS

ROOM 1037	ROOM 1021
III	IV
Conveners: Junninen, Kasak, Lohila, Machacova, Soosaar	Conveners: Helm, Imfeld, Öpik, Ostonen, Passeport, Ukonmaanaho
09:15 III-O12 Junninen: TERPENE EMISSIONS FROM BOREAL WETLANDS CAN INITIATE STRONGER ATMOSPHERIC NEW PARTICLE FORMATION THAN BOREAL FORESTS	IV-O1 Clesse: TREE SPECIES DRIVE SOIL FERTILITY CHANGE DURING THE 43 YEARS AFTER PLANTATION – A DUAL APPROACH (SOIL SAMPLING AND INPUT-OUTPUT MASS BALANCE) STUDY OF THE BREUIL-CHENUE COMMON GARDEN EXPERIMENT (BURGUNDY, FRANCE)
09:35 III-O13 Lipp: CONDITIONS FOR NANOPARTICLE CONCENTRATION INCREASE IN THE ATMOSPHERE OF HEMIBOREAL FOREST	IV-O2 Imfeld: ACCUMULATION, AGEING AND TOXICITY OF COPPER IN EUROPEAN VINEYARDS IN A CONTEXT OF REGULATORY CHANGE
09:50 III-O14 Männistö: EMISSIONS OF BIOGENIC VOLATILE ORGANIC COMPOUNDS FROM A BOREAL FEN AND BOG AS IMPACTED BY VEGETATION AND A PERIOD OF DROUGHT	IV-O3 Masta: UNDERSTANDING N ₂ O PRODUCTION AND CONSUMPTION PROCESSES IN PEAT SOIL WITH THE HELP OF ISOTOPIC AND MICROBIAL ANALYSIS
10:05 III-O15 Avramov: SOIL AMMONIA FLUXES FROM MAIZE FIELDS	IV-O4 Jia: A DECISION SUPPORT TOOL TO OPTIMIZE THE SELECTION OF ¹⁵ N ANALYSIS METHODS OF AMMONIUM AND NITRATE IN ENVIRONMENTAL RESEARCH
10:20 III-O16 Maljanen: EFFECT OF N-FERTILIZATION AND CUTTING HEIGHT ON GREENHOUSE GAS BALANCE OF GRASSLAND ON MINERAL SOIL IN EASTERN FINLAND	IV-O5 Tournebize: TEMPORAL VARIABILITY OF PESTICIDE REMOVAL FROM ARTIFICIAL WETLAND RECEIVING AGRICULTURAL DRAINED WATER
10:35 III-O17 Escuer-Gatius: CLOSING THE CARBON AND NITROGEN BUDGETS IN A WINTER RAPESEED FIELD	IV-O6 Lohila: ANNUAL CO ₂ BALANCE OF A BARLEY GROWING ON CLAY SOIL - COMPARISON OF DIRECT AND INDIRECT MEASUREMENTS
10:50 <i>Coffee break</i>	
V	IV
Conveners: Dise, Vile	Conveners: Helm, Imfeld, Öpik, Ostonen, Passeport, Ukonmaanaho
11:20 V-O1 Dise: PLANT COMMUNITY RESPONSES TO EXPERIMENTAL CLIMATE MANIPULATION IN A WELSH BOG AND THEIR PALAEOENVIRONMENTAL CONTEXT	IV-O7 Gebauer: STABLE ISOTOPES ELUCIDATE MORE AND MORE FACETS OF FUNGUS-TO-PLANT CARBON FLUXES IN SHARED MYCORRHIZAL NETWORKS
11:40 V-O2 Thayamkottu: IMPORTANCE OF SOIL WATER CONTENT FOR GHG EXCHANGE IN GLOBAL PEATLANDS	IV-O8 Hiiesalu: CONTRASTING DIVERSITY AND SPECIALIZATION PATTERNS OF ARBUSCULAR MYCORRHIZAL FUNGAL COMMUNITIES ALONG A STEEP ELEVATIONAL GRADIENT
11:55 V-O3 Könönen: COMPLEX TOOLS TO TACKLE COMPLEX DRAINED PEATLAND FOREST DYNAMICS	IV-O9 Vazquez: NITROGEN BUT NOT PHOSPHORUS ADDITION AFFECTS SYMBIOTIC N ₂ FIXATION IN GRASSLANDS LOCATED ON FOUR CONTINENTS
12:10 V-O4 Kinnunen: EFFECTS OF THE WATER TABLE LEVEL AND GLUCOSE ADDITION ON THE RELEASE AND BIODEGRADABILITY OF DISSOLVED ORGANIC CARBON IN A BOREAL PEAT COLUMN EXPERIMENT	IV-O10 Hruska: FOREST GROWTH RESPONDS MORE TO AIR POLLUTION THAN ACIDIFICATION
12:25 V-O5 Panitz: CARBON EXCHANGE RESPONSE OF SPHAGNUM DOMINATED PEATLAND TO MULTIPLE ASPECTS OF GLOBAL CHANGE	IV-O11 Navratil: QUARTER OF CENTURY LITTERFALL RECORD IN NORWAY SPRUCE STANDS HIGHLY IMPACTED BY ACID RAIN (ORE MOUNTAINS, CZECH REPUBLIC)
12:40 <i>Lunch</i>	
14:00 Plenary presentation: Vincent Gauci TROPICAL TREES AND METHANE EXCHANGE: HOW TREES HELP SOLVE PROBLEMS IN REGIONAL AND GLOBAL METHANE BUDGETS	

PARALLEL SESSIONS

ROOM 1037	ROOM 1021
V	II
Conveners: Dise, Vile	Conveners: Forsius, Knorr, Vymazal
14:45 V-O6 Larmola: DOES NITROGEN DEPOSITION LEAD TO A WEAKER OR STRONGER CARBON SINK IN NUTRIENT-POOR PEATLANDS?	II-O1 Forsius: LINKS BETWEEN CRITICAL LOAD EXCEEDANCE OF N AND S DEPOSITION AND MEASURED IMPACT INDICATORS AT IM-CATCHMENTS IN EUROPE
15:05 V-O7 Antonijejevic: THE UNEXPECTED LONG PERIOD OF EXTREME CH ₄ EMISSIONS FROM AN INUNDATED FEN MEADOW ENDED ONLY WITH CATTAIL	II-O2 Lau: ANOXIC AGE AS A NEW TOOL TO PREDICT BIOGEOCHEMICAL CONSEQUENCES OF OXYGEN DEPLETION IN LAKES
15:20 V-O8 Vile: EXPERIMENTAL NITROGEN ADDITION ALTERS STRUCTURE AND FUNCTION OF A BOREAL BOG: CRITICAL LOADS AND THRESHOLDS REVEALED	II-O3 McCarthy: SEDIMENT NITROGEN TRANSFORMATIONS DURING AN ICE-FREE WINTER IN A LARGE, SHALLOW, EUTROPHIC LAKE
15:35 V-O9 Ge: SPECIES-SPECIFIC RESPONSES TO CONTROLS REGULATE PLANT-MEDIATED METHANE EMISSIONS IN A NORTHERN BOREAL FEN	II-O4 Cremona: ABUNDANCE MULTIPLE STRESSOR EFFECT ON ZOOPLANKTON RICHNESS, BIOMASS AND COMMUNITY COMPOSITION IN TWO LARGE EUTROPHIC LAKES
15:50 V-O10 Veber: SIMPLE EMPIRICAL MODELS BASED ON SOIL, WATER AND VEGETATION PARAMETERS DESCRIBE GREENHOUSE GAS FLUXES ALONG DRAINAGE GRADIENT IN PEATLANDS	II-O5 Ercoli: SEASONAL AND SPATIAL VARIATION OF ALLOCHTHONOUS ORGANIC MATTER CONTRIBUTION IN LAKE FOODWEBS
16:05 <i>Coffee break</i>	
V	I
Conveners: Dise, Vile	Conveners: Bodmer, Burdun, Montibeller, Tournebize, Uuemaa
16:35 V-O11 Knorr: ELECTRON ACCEPTING CAPACITIES OF PEAT MATERIALS FROM AROUND THE GLOBE	I-O12 Peltomaa: IMPACT OF FOREST HARVESTING INTENSITY ON THE RELEASE AND BIODEGRADABILITY OF DISSOLVED ORGANIC CARBON IN DRAINED BOREAL PEATLANDS
16:55 V-O12 Espenberg: COMPOSITION OF N ₂ O-GOVERNING MICROBIAL COMMUNITIES IN PRISTINE AND MANAGED TROPICAL PEATLANDS	I-O13 Holmberg: SOURCES AND SINKS OF GREENHOUSE GASES IN THE LANDSCAPE
17:10 V-O13 Burdun: DERIVING TEMPORAL CHANGES IN WATER TABLE DEPTH POSITION IN NORTHERN PEATLANDS WITH OPTICAL SATELLITE DATA	I-O14 Dambrine: PARTICULATE ORGANIC MATTER TRANSPORT FROM STREAMS TO LAKES. RELATIONSHIPS TO RESERVOIR GHG EMISSIONS
17:25 V-O14 Apolinarska: THE TEMPORAL COMPLEXITY OF CARBONATE DEPOSITION AT PUSZCZA ROMINCKA CUPOLA ALKALINE FEN (NE POLAND) DURING THE HOLOCENE	I-O15 Jekabsons: ECOLOGICAL FLOWS AS INDICATOR OF HEALTHY RIVER ECOSYSTEMS
17:40	POSTER SESSION

Wednesday, 29.06.2022

- 08:00–16:30 6 technical tours (starting from Delta Centre)
- 19:00–22:00 Symposium dinner (University of Tartu Museum)

Thursday, 30.06.2022
University of Tartu Delta Centre
PLENARY SESSION IN ROOM 1037

- 08:30 **Plenary presentation: Ilona Riipinen**
INSIGHTS INTO FOREST-ATMOSPHERE-CLOUD-CLIMATE INTERACTIONS
- 09:15 **Plenary presentation: Eri Saikawa**
NITROUS OXIDE – LAUGHING GAS IS NO LAUGHING MATTER
- 10:00 **Plenary presentation: Pat Megonigal**
BLUE METHANE: BIOGEOCHEMICAL LIMITS AND OPPORTUNITIES FOR MANAGING WETLANDS TO MITIGATE CLIMATE CHANGE
- 10:45 *Coffee break*

PARALLEL SESSIONS

ROOM 1037	ROOM 1021
IV	II
Conveners: Helm, Imfeld, Öpik, Ostonen, Passeport, Ukonmaanaho	Conveners: Forsius, Knorr, Vymazal
11:00 IV-O12 Passeport: NATURAL ATTENUATION OF DICHLORONITROBENZENES AND DICHLOROANILINES IN CONSTRUCTED WETLANDS REVEALED BY COMPOUND SPECIFIC ISOTOPE ANALYSIS	II-O6 Kasak: HIGH GREENHOUSE GAS EMISSIONS AS TRADE-OFF FOR WATER TREATMENT IN CONSTRUCTED WETLANDS TREATING AGRICULTURAL RUN-OFF
11:20 IV-O13 Kram: HIGH-FREQUENCY MONITORING AT THE LYSINA CATCHMENT	II-O7 Lauringson: SUMMER GREENHOUSE GAS FLUXES IN DIFFERENT TYPES OF HEMIBOREAL LAKES
11:35 IV-O14 Galka: LONG-TERM INSIGHT INTO THE CHANGES OF THE VEGETATION OF PEATLAND ECOSYSTEMS IN ARCTIC ALASKA	II-O8 Palacin-Lizarbe: WINTER NITROGEN CYCLING IN SEDIMENTS OF BOREAL LAKES AFFECTED BY BROWNING AND MINING
11:50 IV-O15 Metrak: MORPHOLOGICAL AND BIOGEOCHEMICAL CHARACTERISTICS OF BIOLOGICAL SOIL CRUSTS FROM A DRY, HIGH-ALTITUDE GLACIER FORELAND IN THE NE PAMIR (TAJKISTAN) IN THE CONTEXT OF NUTRIENT ACCUMULATION	II-O9 Vymazal: EFFECT OF WATER DEPTH ON CARBON AND NUTRIENTS SEQUESTRATION IN FISHPOND LITTORALS
12:05 IV-O16 Vejvodova: EFFECT OF PEAT ORGANIC MATTER ON SULFIDE WEATHERING AND THALLIUM MOBILITY	II-O10 Kõiv-Vainik: THE EFFECT OF MACROPHYTES AND BIOCHAR ENHANCEMENT ON THE PERFORMANCE OF COLD CLIMATE TREATMENT WETLANDS IN MITIGATION OF PESTICIDE POLLUTION
12:20 IV-O17 de Nijs: CO-COMPOSTING ROSE WASTE, ASSESSING THE POTENTIAL AS SUSTAINABLE WASTE MANAGEMENT STRATEGY	II-O11 Passeport: FATE OF TRACE ORGANIC STORMWATER CONTAMINANTS IN A BIOTENTION CELL ASSESSED VIA A FIELD TRACER TEST WITH BENZOTRIAZOLE
12:35 IV-O18 Boruvka: DECLINE OF AVAILABLE PHOSPHORUS CONTENT IN MOUNTAIN FOREST SOILS OF THE CZECH REPUBLIC	II-O12 Perdana: COMMERCIAL MANGANESE OXIDES AS AN AMENDMENT FOR NATURE-BASED SYSTEMS TREATING GREYWATER IN COLD WEATHER
12:50	CLOSING SESSION IN ROOM 1037
13:30	<i>Lunch</i>

Friday–Saturday, 01.–02.07.2022
POST-CONFERENCE TOUR TO SAAREMAA ISLAND

- Friday 08:00 Departure from parking place behind the Town Hall

- Saturday 21:30 Arrival in Tallinn