

## SATURDAY 17 MAY

| Session                      | Chair         | Start Time | End Time | Presenter         | Title                      |
|------------------------------|---------------|------------|----------|-------------------|----------------------------|
|                              |               | 10:00      | 10:07    | Kato Yasuhiro     | 挨拶                         |
|                              |               | 10:07      | 10:37    | Roumiana Tsenkova | 「20年前からアクアフォトミクスが歩んだ道」     |
| Open Lecture<br>(Rokko Hall) | Kato Yasuhiro | 10:37      | 11:07    | Shigeaki Morita   | 「赤外分光とデータ解析による高分子の水和構造分析」口 |
|                              |               | 11:07      | 11:30    | Yoko Osafune      | 「美とアクアフォトミクス」              |
|                              |               | 11:30      | 12:00    | Shogo Shigeoka    | 「アクアフォトミクスの実用化と未来への展望」     |

Lunch Break  
(Takigawa Kaikan)

12:00 13:00

| Session   | Time          | Session  | Time          | Session                             | Time          |
|---|---------------|--|---------------|-------------------------------------|---------------|
| Aquaphotomics<br>School Beginner<br>English<br>(Rokko Hall) | 13:00 - 14:30 | Aquaphotomics<br>School Beginner<br>Japanese<br>(C101) | 13:00 - 14:30 | Aquaphotomics<br>Workshop<br>(B101) | 13:00 - 14:30 |

Coffee Break

14:30 14:50

|   |               |  |  |                                     |               |
|---|---------------|--|--|-------------------------------------|---------------|
| Aquaphotomics<br>School<br>Advanced<br>(Rokko Hall) | 14:50 - 17:50 |  |  | Aquaphotomics<br>Workshop<br>(B101) | 14:50 - 17:30 |
|---|---------------|--|--|-------------------------------------|---------------|

Welcome Reception  
(Takigawa Kaikan)

18:00

## SUNDAY 18 MAY

| Session   | Chair                | Start Time | End Time | Length                | Presenter                                    | Title   |
|---|----------------------|------------|----------|-----------------------|--|---|
| <b>Session 1:<br/>Aquaphotomics<br/>Overview</b>                      | Takaharu<br>Sasaki   | 9:00       | 9:25     | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Roumiana Tsenkova | Aquaphotomics: Past, Present, Future  |
|   |                      | 9:25       | 9:50     | 20 min +<br>Q&A 5 min | Yukihiro Ozaki                               | Noninvasive Analysis of Water Structure and Contents by use of Raman Spectroscopy   |
|   |                      | 9:50       | 10:15    | 20 min +<br>Q&A 5 min | Zoltan Kovacs                                | Recent Results of Near Infrared Spectroscopy and Aquaphotomics in Food science and Beyond   |
|   |                      | 10:15      | 10:40    | 20 min +<br>Q&A 5 min | Aleksandar Stoilov                           | A Modern Understanding of Water Coherence with NIR Aquaphotomics  |
| <b>Coffee Break</b>   |                      | 10:40      | 11:00    | 20 min                |  |   |
| <b>Session 2:<br/>Aquaphotomics in<br/>Agriculture</b>                | Stefka<br>Atanassova | 11:00      | 11:25    | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Stefka Atanassova | Aquaphotomics approach application in agriculture   |
|   |                      | 11:25      | 11:40    | 12 min +<br>Q&A 3 min | Shiromi Dissanayaka                          | NIR Aquaphotomics Approach for Soil-Plant-Water Interrelations: A Multivariate Spectral Evaluation of Phenological Stages and Soil Parameters                                     |
|   |                      | 11:40      | 11:55    | 12 min +<br>Q&A 3 min | Yuda Hadiwijaya                              | Non-Invasive Monitoring of Organic Fertilizer Effects on Soil and Plants using NIR Aquaphotomics  |
|   |                      | 11:55      | 12:10    | 12 min +<br>Q&A 3 min | Mariana Santos-Rivera                        | Aquaphotomics for Coffee: Monitoring the Impact of Microbial Post-Harvest Processing on Brewed Coffee Using NIR Spectroscopy  |
|   |                      | 12:10      | 12:25    | 12 min +<br>Q&A 3 min | Saba Behdad                                  | Detection of Egg Fertility in chicken by water and Aquaphotomics  |
| <b>Lunch and Short<br/>Poster Presentations</b>                       |                      | 12:25      | 13:25    | 60 min                |  |   |
| <b>Session 3:<br/>Quantum<br/>Electrodynamics<br/>(Part 1)</b>        | Paolo<br>Renati      | 13:25      | 13:50    | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Pierre Madl       | Quantumbiology  |
|   |                      | 13:50      | 14:15    | 20 min +<br>Q&A 5 min | Paolo Renati                                 | QED and Field Perspective applied to Water and Living Systems   |
|   |                      | 14:15      | 14:35    | 15 min +<br>Q&A 5 min | Nigel Dyer                                   | The room temperature super-fluidic properties of water  |
|   |                      | 14:35      | 14:55    | 15 min +<br>Q&A 5 min | Elmar Cristof Fuchs<br>(On-line)             | Measurable Effects of Vibrational Coupling of Water? In Search of Coherence Domain  |
|   |                      | 14:55      | 15:20    | 20 min +<br>Q&A 5 min | Livio Giuliani<br>(On-line)                  | Ion Cyclotron Resonance, the electricity of life: the needed role of geomagnetism and Schumann waves in living cells  |
| <b>Coffee Break</b>   |                      | 15:20      | 15:40    | 20 min                |  |   |
| <b>Session 4:<br/>Aquaphotomics in<br/>Medicine and<br/>Cosmetics</b> | Lian Li              | 15:40      | 16:05    | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Hengchang Zang    | Study on quality control of traditional Chinese medicine -- water as a probe  |
|   |                      | 16:05      | 16:30    | 20 min +<br>Q&A 5 min | Lian Li                                      | Aquaphotomics application in the analysis of biomolecular interactions  |
|   |                      | 16:30      | 16:50    | 15 min +<br>Q&A 5 min | Wieland Lackinger                            | Near-infrared spectroscopy combined with aquaphotomics as a non-invasive tool to measure parameters of human physiology: A review of own work and suggestions for future research |
|   |                      | 16:50      | 17:15    | 20 min +<br>Q&A 5 min | Ilina Iozdanova<br>(On-line)                 | Coming soon   |
|   |                      | 17:15      | 17:40    | 20 min +<br>Q&A 5 min | Michal Cifra<br>(On-line)                    | Ubiquitous Biological Autoluminescence Generated by Chemiexcitation   |
|   |                      | 17:40      | 17:55    | 12 min +<br>Q&A 3 min | Xiaobo Ma<br>(On-line)                       | Study on hyaluronic acid aquaphotomics-from one dimension to two dimension analysis   |
| <b>Poster Discussions</b>   |                      | 18:00      |          |                       |  |   |

# MONDAY 19 MAY

| Session   | Chair                        | Start Time | End Time | Length                | Presenter   | Title   |
|---|------------------------------|------------|----------|-----------------------|---|---|
| <b>Session 5:<br/>Quantum<br/>Electrodynamics<br/>(Part 2)</b>                            | Antonella<br>De Ninno        | 9:00       | 9:25     | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Giuseppe Vitiello                  | Bayes' rule, entanglement and free will in the dissipative quantum model of brain   |
|   |                              | 9:25       | 9:50     | 20 min +<br>Q&A 5 min | Antonella De Ninno  | From apparent chaos to order: the free-scale systems  |
|   |                              | 9:50       | 10:15    | 20 min +<br>Q&A 5 min | Luca Gamberale  | Between Order and Chaos: The Two-Fluid Symphony of Water's Anomalies  |
|   |                              | 10:15      | 10:40    | 20 min +<br>Q&A 5 min | Sumiyoshi Abe   | Similarity/dissimilarity between brain quakes and earthquakes   |
| <b>Coffee Break</b>   |                              | 10:40      | 11:00    | 20min                 |   |   |
| <b>Session 6:<br/>Aquaphotomics<br/>and<br/>Quantum<br/>Electrodynamics</b>               | Anirban<br>Bandyopa<br>dhyay | 11:00      | 11:25    | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Anirban Bandyopadhyay              | Aquaphotomics: Illuminating Water's Hydration Networks and Light - Mediated Information Flow in the Genesis of Consciousness                              |
|   |                              | 11:25      | 11:50    | 20 min +<br>Q&A 5 min | William Brown and<br>Nassim Haramein                          | From Vacuum Oscillations to Water Molecular Coherence   |
|   |                              | 11:50      | 12:15    | 20 min +<br>Q&A 5 min | Joachim Keppler   | Self-Organized Criticality in the Brain: Shedding Light on the Emergence of Synchronized Neural Activity Patterns and the Formation of Conscious States   |
|   |                              | 12:15      | 12:40    | 20 min +<br>Q&A 5 min | Jack Tuszyński<br>(On-line)                                   | Investigations of morphological, electro-conductive and metabolic changes in cancer cells resulting from exposure to low-intensity electromagnetic fields |
| <b>Lunch and Sponsor<br/>Presentation</b>   |                              | 12:40      | 13:40    | 60 min                | Shigeoka Co., Ltd.<br>Dr. Recella Co., Ltd.<br>Asue Co., Ltd. |   |
| <b>Session 7:<br/>Spectroscopy</b>  | Justyna<br>Grabska           | 13:40      | 14:05    | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Sylvie Roke                        | Quantifying hydrogen bonds in water and in aqueous systems  |
|   |                              | 14:05      | 14:30    | 20 min +<br>Q&A 5 min | Justyna Grabska   | Understanding Water Through Anharmonicity: A Theoretical and Spectroscopic Perspective  |
|   |                              | 14:30      | 14:50    | 15 min +<br>Q&A 5 min | Olga Yablonskaya<br>(On-line)                                 | Effects of Infrared-Irradiated Water Vapor on Aqueous Solutions and Biological Systems  |
|   |                              | 14:50      | 15:15    | 20 min +<br>Q&A 5 min | Masaru Tanaka   | Effect of water structure on cell/protein/material interactions: Intermediate water concept for advanced medical devices                                  |
| <b>Coffee Break</b>   |                              | 15:15      | 15:35    | 20 min                |   |   |
| <b>Session 8:<br/>Spectroscopy,<br/>Instrumentation and<br/>Chemometrics<br/>(Part 1)</b> | Shigeaki<br>Morita           | 15:35      | 16:00    | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Shigeaki Morita                    | Structure of Water in Polymer Matrices Investigated by Infrared Spectroscopy  |
|   |                              | 16:00      | 16:25    | 20 min +<br>Q&A 5 min | Krzysztof B. Bec<br>(On-line)                                 | State of water in various molecular environments – physical insights from combined vibrational spectroscopy, chemometrics and theoretical modelling       |
|   |                              | 16:25      | 16:50    | 20 min +<br>Q&A 5 min | Christian W. Huck<br>(On-line)                                | Modern Approaches in NIR Spectroscopy: Miniaturization, Interpretability, Method Design   |
|   |                              | 16:50      | 17:15    | 20 min +<br>Q&A 5 min | Akifum Ikehata  | Hydration and Hydrolysis Studies Using Near-Infrared Spectroscopy: Quantification by Extended Molar Absorption Coefficient                                |
|   |                              | 17:15      | 17:40    | 20 min +<br>Q&A 5 min | Federico Marini<br>(On-line)                                  | Coming Soon   |
| <b>General Assembly</b>   |                              | 17:40      | 18:30    | 50 min                |   |   |
| <b>Banquet Dinner</b>   |                              | 19:00      |          |                       |   |   |

## TUESDAY 20 MAY

| Session   | Chair                       | Start Time | End Time | Length                | Presenter  | Title   |
|---|-----------------------------|------------|----------|-----------------------|--|---|
| <b>Session 9:<br/>Spectroscopy,<br/>Instrumentation and<br/>Chemometrics<br/>(Part 2)</b> | Aleksandar<br>Stoilov       | 9:00       | 9:15     | 12 min +<br>Q&A 3 min | <b>Keynote Speaker:</b><br>Daniel Todorov        | VIS-NIR Spectral Measurements Complying with<br>Aquaphotomics Standards   |
|   |                             | 9:15       | 9:40     | 20 min +<br>Q&A 5 min | Marcello Vanzulli                                | Coming Soon   |
|   |                             | 9:40       | 9:55     | 12 min +<br>Q&A 3 min | Yasuhiro Kato                                    | Establishment of a Redox Evaluation Method Based on<br>Differences in Hydration Structure around GSH/GSS  |
|   |                             | 9:55       | 10:10    | 12 min +<br>Q&A 3 min | Matyas Lukacs                                    | Comparison of the performance and regression vectors of<br>various NIRS data-based regression models for the prediction<br>of caffeine content in aqueous solutions |
|   |                             | 10:10      | 10:25    | 12 min +<br>Q&A 3 min | Zoltan Gillay                                    | From Black Box to Clarity: Leveraging Explainable Neural<br>Networks in Aquaphotomics Research  |
| <b>Coffee Break</b>   |                             | 10:25      | 10:45    | 20 min                |  |   |
| <b>Session 10:<br/>Aquaphotomics in<br/>Food</b>  | Tiziana<br>M.P.<br>Cattaneo | 10:45      | 11:10    | 20 min +<br>Q&A 5 min | <b>Keynote Speaker:</b><br>Tiziana M.P. Cattaneo | The Importance of the Aquaphotomics Discipline for the Food<br>Sector: Why, When, Where and How   |
|   |                             | 11:10      | 11:25    | 12 min +<br>Q&A 3 min | Flora Vitalis                                    | Understanding water structure changes in fruit juices induced<br>by plant extracts using aquaphotomics  |
|   |                             | 11:25      | 11:40    | 12 min +<br>Q&A 3 min | Massimo Brambilla                                | Aquaphotomics for Quality Assessment by Chemical Markers in<br>Dehydrated Pineapple   |
|   |                             | 11:40      | 11:55    | 12 min +<br>Q&A 3 min | Muna E. Raypah<br>(On-line)                      | Bridging Spectroscopy and Water Functionality: Insights from<br>Aquaphotomics in Life and Food Science  |
|   |                             | 11:55      | 12:10    | 12 min +<br>Q&A 3 min | Uma Kamboj                                       | Coming Soon   |