| Record Nr. | UNINA9910598004803321 |
|-------------------------|--|
| Titolo | Photon-involving purification of water and air / / Pierre Pichat, editor |
| Pubbl/distr/stampa | Basel : , : MDPI AG - Multidisciplinary Digital Publishing Institute, , [2018] ©2018 |
| Descrizione fisica | 1 online resource (324 pages) |
| Disciplina | 628.162 |
| Soggetti | Water - Purification |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di contenuto | About the Special Issue Editor vii Preface to "Photon-Involving Purification of Water and Air" ix Section 1: Sun-Driven Processes in Natural and Treated Waters Yi Yang and Joseph J. Pignatello Participation of the Halogens in Photochemical Reactions in Natural and Treated Waters Reprinted from: Molecules 2017, 22(10), 1684; doi: 10.3390/molecules22101684 1 Luca Carena and Davide Vione A Model Study of the Photochemical Fate of As(III) in Paddy-Water Reprinted from: Molecules 2017, 22(3), 445; doi: 10.3390 /molecules22030445 25 Section 2: Ultraviolet and Solar Homogeneous Processes to Decontaminate Waters Stefanos Giannakis, Sami Rtimi and Cesar Pulgarin Light-Assisted Advanced Oxidation Processes for the Elimination of Chemical and Microbiological Pollution of Wastewaters in Developed and Developing Countries Reprinted from: Molecules 2017, 22(7), 1070; doi: 10.3390/molecules22071070 37 Grazia Maria Lanzafame, Mohamed Sarakha, Debora Fabbri and Davide Vione Degradation of Methyl 2-Aminobenzoate (Methyl Anthranilate) by H2O2/UV: Effect of Inorganic Anions and Derived Radicals Reprinted from: Molecules 2017, 22(4), 619; doi: 10.3390 /molecules22040619 58 Section 3: Assisted Photocatalytic Treatment of Water Fernando J. Beltran and Ana Rey Solar or UVA- Visible Photocatalytic Ozonation of Water Contaminants Reprinted from: Molecules 2017, 22(7), 1177; doi: 10.3390/molecules22071177 73 Cristina Pablos, Javier Marugan, Rafael van Grieken, Patrick Stuart |

1.

Morris Dunlop, Jeremy William John Hamilton, Dionysios D. Dionysiou and John Anthony Byrne Electrochemical Enhancement of Photocatalytic Disinfection on Aligned TiO2 and Nitrogen Doped TiO2 Nanotubes Reprinted from: Molecules 2017, 22(5), 704; doi: 10.3390 /molecules22050704 101 -- Sarka Pausova, Stepan Kment, Martin Zlamal, Michal Baudys, Zdenek Hubicka and Josef Krysa Transparent Nanotubular TiO2 Photoanodes Grown Directly on FTO Substrates Reprinted from: Molecules 2017, 22(5), 775; doi: 10.3390 /molecules22050775 116 Books MDPI iv -- Section 4: Photocatalysts: Modeling; Efficacy Effects of Composition, Characteristics, Supports and Modifications Zekive Cinar The Role of Molecular Modeling in TiO2 Photocatalysi -- Reprinted from: Molecules 2017, 22(4), 556; doi: 10.3390/molecules22040556 127 -- Yelda Y. Gurkan, Esra Kasapbasi, Nazli Turkten and Zekiye Cinar Influence of Se/N Codoping on the Structural, Optical, Electronic and Photocatalytic Properties of TiO2 Reprinted from: Molecules 2017, 22(3), 414; doi: 10.3390 /molecules22030414 145 -- Maria C. Nevarez-Martinez, Pawe Mazierski, Marek P. Kobylanski, Grazyna Szczepanska, Grzegorz Trykowski, Anna Malankowska, Magda Kozak, Patricio J. Espinoza-Montero and Adriana Zaleska-Medynska Growth, Structure, and Photocatalytic Properties of Hierarchical V2O5-TiO2 Nanotube Arrays Obtained from the One-step Anodic Oxidation of Ti-V Alloys --Reprinted from: Molecules 2017, 22(4), 580; doi: 10.3390 /molecules22040580 162 -- Maria C. Nevarez-Martinez, Marek P. Kobylanski, Pawe Mazierski, Jolanta Wokiewicz, Grzegorz Trykowski, Anna Malankowska, Magda Kozak, Patricio J. Espinoza-Montero and Adriana Zaleska-Medynska Self-Organized TiO2-MnO2 Nanotube Arrays for Efficient Photocatalytic Degradation of Toluene Reprinted from: Molecules 2017, 22(4), 564; doi: 10.3390/molecules22040564 178 Juan Carlos Colmenares and Ewelina Kuna -- Photoactive Hybrid Catalysts Based on Natural and Synthetic Polymers: A Comparative Overview Reprinted from: Molecules 2017, 22(5), 790; doi: 10.3390 /molecules22050790 192 -- Sami Rtimi, Stefanos Giannakis and Cesar Pulgarin Self-Sterilizing Sputtered Films for Applications in Hospital Facilities -- Reprinted from: Molecules 2017, 22(7), 1074; doi: 10.3390 /molecules22071074 208 -- Weng Chye Jeffrey Ho, Qiuling Tay, Huan Qi, Zhaohong Huang, Jiao Li and Zhong Chen Photocatalytic and Adsorption Performances of Faceted Cuprous Oxide (Cu2O) Particles for the Removal of Methyl Orange (MO) from Aqueous Media -- Reprinted from: Molecules 2017, 22(4), 677; doi: 10.3390/molecules22040677 221 -- Yun Zheng, Zihao Yu, Feng Lin, Fangsong Guo, Khalid A. Alamry, Layla A. Taib, Abdullah M. Asiri and Xinchen Wang -- Sulfur-Doped Carbon Nitride Polymers for Photocatalytic Degradation of Organic Pollutant and Reduction of Cr(VI) -- Reprinted from: Molecules 2017, 22(4), 572; doi: 10.3390/molecules22040572 240 -- Section 5: Modeling and Testing Photocatalytic Reactors for Air Purification Claudio Passalia, Orlando M. Alfano and Rodolfo J. Brandi Integral Design Methodology of Photocatalytic Reactors for Air Pollution Remediation Reprinted from: Molecules 2017, 22(6), 945; doi: 10.3390 /molecules22060945 257 Books MDPI v -- Eric Dumont and Valerie Hequet -- Determination of the Clean Air Delivery Rate (CADR) of Photocatalytic Oxidation (PCO) Purifiers for Indoor Air Pollutants Using a Closed-Loop Reactor. Part I: Theoretical Considerations -- Reprinted from: Molecules 2017, 22(3), 407; doi: 10.3390/molecules22030407 274 -- Valerie Heguet, Frederic Batault, Cecile Raillard, Frederic Thevenet, Laurence Le Cog and Eric Dumont -- Determination of the Clean Air Delivery Rate (CADR) of Photocatalytic Oxidation (PCO) Purifiers for Indoor Air Pollutants Using a Closed-Loop Reactor. Part II:

| | Experimental Results Reprinted from: Molecules 2017, 22(3), 408; doi: 10.3390/molecules22030408 285. |
|--------------------|--|
| Sommario/riassunto | The broad field of photon-involving purification of water and air has given rise to numerous papers, typically dispersed across many journals. Consequently, from time to time, there is a need for a book providing information concerning the different facets of this field in a handy way. In fact, the present book includes both detailed reviews and suitable examples of most of the diverse aspects of the current research. It thus covers processes using sunlight or ultraviolet lamps, chemical oxidants and/or photosensitive semiconductors. The fundamentals, the mechanisms, the materials, and the modeling aspects are all considered throughout the book various sections. The contributions have been written by well-known authors forming an group that guarantees the quality and interest of the book. |