

Literature Project Works @ Research Group Tailored Optical Materials, IOT, Dpt. Chemical Engineering, FH Münster University of Applied Sciences
 (20-25 pages, 20-25 citations, proposed citation style: authors, journal, volume, year, pages, doi)

No.	Topic	Name	Timeframe
1	(Magneto)Optical switches		
2	(Vertical) Urban indoor farming		
3	21 cm H-Absorption spectroscopy in radio astronomy		
4	2D 1H-NMR Spectroscopy		
5	Actinometry for calibration of light sources		
6	Advanced oxidation processes for air and water treatment		
7	PV in Agriculture		
8	Analytical Devices for space probes and planetary rovers		
9	Ancient and modern cosmetics		
10	Applications and properties of M(gly) ₂ with M = Mg, Ca, Zn, Fe		
11	Artificial bones and teeth		
12	Astrobiology and astrochemistry		
13	Bioluminescent animals and plants		
14	Blue pigments in history: From Egyptian blue to Prussian blue		
15	Chemical element synthesis during neutron star merger		
16	Chemistry of Saturn rings and Jupiters red spot		
17	Click Chemistry (Chemistry Noble Price 2022)		
18	Colour rendering and perception - Figures and technical norms		
19	Coordination chemistry of the 4f- and 5f elements		
20	Cryospheres in the solar system		
21	Deep UV-C LEDs (220 - 300 nm)		
22	Deep UV-C emitting materials (220 - 300 nm)		
23	Electroluminescent (EL) phosphors for thin film or powder EL devices		
24	EPR Spectroscopy in bioinorganic chemistry		
25	Eu ³⁺ Luminescence and ways for its sensitisation		
26	Evolution of RNA and DNA chemistry		
27	EXAFS and XANES - Physical basis and application areas		
28	Extreme UV lithography for the next generation integrated circuits		
29	Fe ^{2+/3+} glycinat chemistry		
30	Gamma-Ray Bursts (GRBs)		

31	Gene sequencing and BLAST (Basic Local Alignment Search Tool)		
32	Geochemistry of CO ₂ : The carbonate-silicate cycle		
33	Geological Hydrogen Storage		
34	Gravitation waves and the Einstein Telescope		
35	Greenhouse gases: Absorption spectra and their impact on climate of solar planets/moons		
36	History of blue pigments - From Egyptian to Prussian blue		
37	Human Centric Lighting (HCL)		
38	GPS calibration by quasars (quasi stellar radio sources)		
39	The Ice Giants Uranus and Neptune		
40	Impact of light on circadian biorhythms		
41	Infrared astronomy and the James Webb Space Telescope (JWST)		
42	Lifecycle of main sequence stars		
43	Light sources for algae reactor and biomass production		
44	Literature in science: Judgement criteria for journals and authors		
45	Luminescent materials for the near IR range		
46	Luminescent minerals		
47	Medical ceramics		
48	Melatonin suppression by blue light		
49	Metal-to-Metal bonds and Clusters		
50	Metal complexes as antiviral agents for Corona Viruses		
51	Methods for distance determination in astronomy: From Radar echo to red-shift		
52	The Miller experiment: Chemistry evolution in the Hadaikum and Archaikum		
53	Micro- and Nanoplastics		
54	Mn ⁴⁺ complexes for artificial photosynthesis		
55	Mobility based on alternative fuels - Hydrogen vs. Li ion batteries		
56	Mössbauer-Spectroscopy: Basics and application areas (⁵⁷ Fe or ¹⁵¹ Eu)		
57	Nanoscale phosphors: Nonsense and nano sense		
58	Nanotubes		
59	Nd ³⁺ and Sm ³⁺ based alloys for high performance magnets		
60	Neutron scintillators		
61	Neutrino mass and KATRIN		
62	Ni ²⁺ and Cr ^{3+/4+} NIR Emitting materials		
63	NIR emitting pigments in art paintings		

64	NIR Emitter based on Cr ³⁺ and Fe ³⁺ doped aluminates		
65	Nitrogen Fixation in Nature and Chemical Engineering		
66	NLO-Materials: Fundamentals, characterisation and application areas		
67	Novel Ru ²⁺ complexes for liquid Graetzel solar cells		
68	Novel VUV phosphors for plasma display panels		
69	OLEDs vs. LCDs vs. μ LEDs - Recent developments in display technology		
70	Olefin Oligomerization and Polymerization		
71	Optical thermography		
72	Organic Photovoltaics (OPV)		
73	Oxidative removal of microimpurities and microplastics from water		
74	Perm-Trias (PT) mass extinction event		
75	Photobiology in human skin		
76	Photocatalytic properties of mineral salts		
77	Phyto- and bacterio mining		
78	Pr ³⁺ activated UV emitting ultrafast scintillators		
79	Quantum Dots - Synthesis, properties and application in LED backlit LCD TVs		
80	Quasi crystals (Chemistry Noble Price 2012)		
81	Recycling of E-waste		
82	Recycling of fluorescent light sources		
83	Red and yellow tantalum oxynitride pigments		
84	Resonance Raman Spectroscopy in bioinorganic and coordination chemistry		
85	Second harmonic generation materials for NIR to VIS upconversion		
86	Spin-orbit coupling: Fundamentals and technical applications		
87	Supernovae: Types, Physics and Role in Heavy Element Enrichment in the ISM		
88	Synthetic biology (Craig Venter)		
89	T-Tauri stars		
90	The global rare earth cycle		
91	The human microbiome		
92	The search for exoplanets: Observation Techniques		
93	Transition metal activated luminescent materials		
94	Transition metals in ocean water-Driver for biological evolution		
95	Transparent conductive oxides for touchscreen displays		
96	Transparent laser ceramics for disc lasers		

97	Ultraviolet Photoelectron Spectroscopy (UPS)		
98	UV emitting cathode luminescence phosphors		
99	UV-C Afterglow Phosphors		
100	Water disinfection technologies		
101	Water purification by reactive Oxygen Species or deep UV radiation		
102	X-ray Astronomy and the Fermi Space Telescope		
103	X-ray Diffraction techniques		
104	X-ray Fluorescence in analytical chemistry and material science		
105	X-ray Phosphors		
106	X-ray Photon Electron Spectroscopy (XPS)		

Please contact me via phone (02551/9-62100), skype (thomasjuestel), or e-mail (tj@fh-muenster.de) to apply for a topic!

