Literature list about the MELiSSA Project and connected research (1988-2021) followed by seminal proceedings of 1987-1988

Legend of paper (or book chapters) topics/MELiSSA compartments:
LSS : Life Support Systems
SP: Space flight experiments and related studies (biocontamination, confined or extreme environments, space simulations (radiation, microgravity, low shear)
Mo: modelling
C1: MELiSSA first compartment (thermophilic, anaerobic, waste degradation)
C2: MELiSSA second compartment (anaerobic photosynthetic)
C3: MELiSSA third compartment (nitrifying)
C4a : MELiSSA fourth compartment (microbial food production (spirulines (*Limnospira indica* ex:*Arthrospira)*))
C4b: MELiSSA fourth compartment (plant food production)
C5: Consumers compartment
MPP: MELiSSA Pilot Plant.

Year	Authors	Topic/MELiSSA Compartment	Title	Journal	Volume	Pages/DOI/ PMID..
2021	Ciurans C, Bazmohammadi N, Poughon L, Vazquez J.C, Dussap C-G, Godia F, Guerrero J.M	MPP, Mo, LSS	Hierarchically Controlled Ecological Life Support Systems	Comp. Chem. Engineering	2021 Dec 5	DOI.org/10.1016/j.compchemeng.2021.107625
2021	Verbeelen T, Leys N, Guanigue R, Mastroleo F	C3,C2, LSS, SP	Development of Nitrogen Recycling Strategies for Bioregenerative Life Support Systems in Space	Front. Microbiol.	2021 Oct 13	DOI.org/10.3389/fmicb.2021.700810

2021	Garcia-Gragera D, Arnau C, Peiro E, Godia F, Dussap C-G, Poughon L, Gerbi O, Lamaze B , Lasseur C.	MPP, LSS	MELiSSA Pilot Plant Integration: building blocks for a regenerative life support platform	Front. Astronomy and Space Sciences, section Astrobiology	2021 Oct 19	DOI.org/10.3389/fspas.2021.750616
2021	Cabecas Segura P, De Meur Q, Tanghe A, Onderwater R, Dewasme L, Wattiez R, Leroy B.	C2	Effects of Mixing Volatile Fatty Acids as Carbon Sources on *Rhodospirillum rubrum* Carbon Metabolism and Redox Balance Mechanisms	Microorganisms	2021 Sept 21	DOI: 10.3390/microorganisms9091996. PMID: 34576891; PMCID: PMC8471276
2021	Bayon-Vicente G, Marchand E, Ducrotois J, Dufrasne FE, Hallez R, Wattiez R, Leroy B.	C2	Analysis of the Involvement of the Isoleucine Biosynthesis Pathway in Photoheterotrophic Metabolism of *Rhodospirillum rubrum*	Front Microbiol.	2021 Sept 21	DOI: 10.3389/fmicb.2021.731976. PMID: 34621257; PMCID: PMC8490811
2021	Paradiso R, De Pascale S	C4b	Bioregenerative systems to sustain human life in Space: the research on higher plants	Ital Hortus	2021 Sept	DOI: 10.26353/j.itahort/2021.2.0121
2021	Garcia-Gragera D, Peiro E, Arnau C, Cornet J-F, Dussap C-G, Godia F	C4a	Dynamics of long-term continuous culture of *Limnospira indica* in an air-lift photobioreactor	Microb Biotechnol	2021 Aug 2.	PMID: 34342154 DOI: 10.1111/175

						1-7915.13882
2021	Yadav A, Maertens L, Meese T, Van Nieuwerburgh F, Mysara M, Leys N , Cuypers A , Janssen P-J	C4a, SP	Genetic Responses of Metabolically Active *Limnospira indica* Strain PCC 8005 Exposed to γ-Radiation during Its Lifecycle	Microorganisms	2021 Jul 30 9(8):16-26.	PMID: 34442705 PMCID: PMC8400943 DOI:10.3390/microorganisms 9081626
2021	Fahrion J, Mastroleo F, Dussap CG, Leys N.	C4a, LSS	Use of photobioreactors in Regenerative Life Support Systems for Human Space Exploration	Front. Microbiol. June 29	12: 699525	DOI: 10.3389 PMID: 34276632
2021	Sachdeva N, Poughon L, Gerbi O, Dussap C-G, Lasseur C, Leroy B, Wattiez R.	C4a, LSS	Ground Demonstration of the Use of *Limnospira indica* for Air Revitalization in a Bioregenerative Life-Support System Setup: Effect of Non-Nitrified Urine–Derived Nitrogen Sources	Frontiers in Astronomy and Space Sciences	2021 June 8	DOI:10.3389/fspas.2021.700270
2021	Lasseur C, Mergeay M.	LSS	Closed ecological systems in extreme environments , current and future ways to closed life support systems : Virtual MELISSA conference , Ghent (B) (3-5 /11/2020). A review	Ecological Engineering and Environment Protection,	No 1, p. 25-35	DOI.org/10.32006/eeep.2021.1.2535
2021	Van Gerrewey T, El-Nakhel C, De Pascale S, De Paepe J, Clauwaert,	C4b	Root-Associated Bacterial Community Shifts in Hydroponic Lettuce Cultured with Urine-Derived Fertilizer	Microorganisms mdpi,1255426	9	DOI:10.3390/microorganisms9061326

	P, Kerckhof F-M, Boon N, Geelen D.					
2021	De Pascale S, Arena C, Aronne G, De Micco V, Pannico A, Paradiso R, Rouphael Y.	C4b, LSS, SP	Biology and crop production in Space environments: Challenges and opportunities.	Life Sci Space Res (Amst).	29: 30-37	DOI: 10.1016/j.lssr.2021.02.005. Epub 2021 Mar 2. PMID: 33888285 Review.
2021	Cockell CS, Santomartino R, Finster K, Waajen AC, Nicholson N, Loudon CM, Eades LJ, Moeller R, Rettberg P, Fuchs FM, Van Houdt R, Leys N, Coninx I, Hatton J, Parmitano L, Krause J, Koehler A, Caplin N, Zuijderduijn L, Mariani A, Pellari S, Carubia F, Luciani G, Balsamo M, Zolesi V, Ochoa J, Sen P, Watt JAJ, Doswald-Winkler J, Herová M, Rattenbacher B, Wadsworth J, Everroad RC, Demets R.	SP	Microbially-Enhanced Vanadium Mining and Bioremediation Under Micro- and Mars Gravity on the International Space Station.	Front Microbiol.	12 Apr 1	DOI: 10.3389/fmicb.2021.641387. eCollection 2021. PMID: 33868198
2021	Izzo LG, Mickens MA, Aronne G, Gómez C.	C4b	Spectral effects of blue and red light on growth, anatomy, and physiology of lettuce.	Physiol Plant. 2021	Mar 13.	DOI: 10.1111/ppl.13395. PMID: 33715155

2021	Izzo LG, Aronne G.	C4b	Root Tropisms: New Insights Leading the Growth Direction of the Hidden Half.	Plants (Basel). 2021	10(2):220 Jan 23	DOI: 10.3390/plants10020220. PMID: 33498761
2021	Ciurans C, Bazmohammadi N, Vazquez J.C, Dussap C-G , Guerrero J.M, Godia F	MPP, Mo, LSS	Hierarchical Control of Space Closed Ecosystems Expanding Microgrid Concepts to Bioastronautics	IEEE Industrial Electronic magazine 2021	January	1932-4529/21©2021IEEE
2020	Brunet J.	LSS , Mo	Ingénierie de la systémique Tome3 : Un système régénératif pour le spatial : Application au projet MELiSSA	Book 112pp	Tome 3	ISBN 9791034350391 (English version in prep.)
2020	Cockell CS, Santomartino R, Finster K, Waajen AC, Eades LJ, Moeller R, Rettberg P, Fuchs FM, Van Houdt R, Leys N, Coninx I, Hatton J, Parmitano L, Krause J, Koehler A, Caplin N, Zuijderduijn L, Mariani A, Pellari SS, Carubia F, Luciani G, Balsamo M, Zolesi V, Nicholson N, Loudon CM, Doswald-Winkler J, Herová M, Rattenbacher B, Wadsworth J, Craig Everroad R, Demets R.	SP	Space station biomining experiment demonstrates rare earth element extraction in microgravity and Mars gravity	Nature Commun.	11 (1) 5523. Nov 10;	DOI: 10.1038/s41467-020-19276-w. PMID: 33173035

2020	Aronne G, Romano L E, Izzo LG	C4b	Subsequent inclusion/exclusion criteria to select the best species for an experiment performed on the ISS in a refurbished hardware	Life Sciences in Space Research	27: 19-26	
2020	Santomartino R, Waajen AC, De Wit W, Nicholson N, Parmitano L, Loudon C-M, Moeller R, Rettberg P, Fuchs FM, Van Houdt R, Finster KW, Coninx I, Krause J, Koehler A, Caplin N, Zuijderduijn L, Zolesi V, Balsamo M, Mariani A, Pellari S S, Carubia F, Luciani G, Leys N, Doswald-Winkler J, Herová M, Wadsworth J, Everroad C, Rattenbacher B, Demets R, Cockell C .	SP, LSS	No effect of microgravity and simulated Mars gravity on final bacterial cell concentrations on the International Space Station: applications to space bioproduction	Front. Microbiol. section Extreme Microbiology		
2020	Lindeboom, R.E.F., De Paepe, J., Vanoppen, M., Alonso Fariñas, B., Coessens, W., Alloul, A., Christiaens, M.E.R., Dotremont, C., Beckers, H., Lamaze, B., Demey, D., Clauwaert, P., Verliefde, A.R.D. Vlaeminck, S.E.	SP, C3	A five-stage treatment train for water recovery from urine and shower water for long-term human Space missions	Desalination	495	114634
2020	De Paepe J, De Paepe K, Gòdia F, Rabaey K, Vlaeminck S, Clauwaert P	C3	Bio-electrochemical COD removal for energy-efficient, maximum and robust nitrogen recovery from urine through membrane aerated nitrification	Water Research	185	116223
2020	Poulet L, Dussap C-G, Fontaine J-P	Mo, C4b	Development of a mechanistic model of leaf surface gas exchange coupling mass and energy balances for life-support systems applications	Acta Astronautica		DOI: 10.1016/j.acta

						astro.2020.03.048
2020	De Meur Q, Deutschbauer A, Koch M, Bayon-Vicente G, Segura P C, Wattiez R, Leroy B	C2	New perspectives on butyrate assimilation in *Rhodospirillum rubrum* S1H under photoheterotrophic conditions	BMC Microbiology volume 20	20: 126	
2020	Paradiso R, Ceriello A, Pannico A, Sorrentino S, Palladino M, Giordano M, Fortezza R, De Pascale S.	C4b	Design of a module for cultivation of tuberous plants in microgravity: The ESA Project "Precursor of Food Production Unit" (PFPU).	Frontiers Plant Science	11	DOI: 10.3389/fpls.2020.00417
2020	Carillo P, Morrone B, Fusco GM, De Pascale S, Rouphael Y.	C4b	Challenges for a sustainable food production system on board of the International Space Station: A technical review.	Agronomy	10(5)	https://www.mdpi.com/2073-4395/10/5/687
2020	Fahrion J, Carina C, Zabel P, Schubert D, Mysara M, Van Houdt R, Eikmanns B, Beblo-Vranesevic K, Rettberg P	C4b, SP, LSS	Microbial Monitoring in the EDEN ISS Greenhouse, a Mobile Test Facility in Antarctica	Front. Microbiol. 2020	11:525 Mar 31	
2020	Bayon-Vicente G, Wattiez R, Leroy B.	C2	Global Proteomic Analysis Reveals High Light Intensity Adaptation Strategies and Polyhydroxyalkanoate Production in *Rhodospirillum rubrum* Cultivated With Acetate as Carbon Source. .	Front Microbiol. 2020	11:464. Mar 25;	DOI: 10.3389/fmicb.2020.00464. eCollection

						2020. PMID: 32269553
2020	De Paepe J, De Pryck L, Verliefde A, Rabaey K, Clauwaert P	C3	Electrochemically Induced Precipitation Enables Fresh Urine Stabilization and Facilitates Source Separation	Environmental Science & Technology	54(6) 3618-3627	DOI: 10.1021/acs.est.9b06804
2020	Peiro E, Pannico A, Colleoni SG, Bucchieri L, Rouphael Y, De Pascale S, Paradiso R, Gòdia F	C4b	Air Distribution in a Fully-closed Higher Plant Growth Chamber Impacts Crop Performance of Hydroponically-grown Lettuce	Frontiers in Plant Science	10	DOI : 103389/fpls.2020.00537
2020	Poughon L, Laroche C, Creuly C, Dussap CG, Paille C, Lasseur C, Monsieur P, Heylen W, Coninx I, Mastroleo F, Leys N	C4a	*Limnospira indica* PCC8005 growth in photobioreactor: model and simulation of the ISS and ground experiments	Life Sciences in Space Research	LSSR268	DOI : 10.1016/j.lssr.2020.03.002
2020	Clauwaert P, De Paepe J, Jiang F, Alonso-Fariñas B, Vaiopoulou E, Verliefde A, Rabaey K	C3, LSS	Electrochemical tap water softening: A zero chemical input approach. .	Water Res. 2020	169:115263 Feb 1	DOI: 10.1016/j.watres.2019.115263. Epub 2019 Nov 4. PMID: 31734395
2020	Senatore G, Mastroleo F, Leys N, Mauriello G.	LSS, SP, C4a	Growth of *Lactobacillus reuteri* DSM17938 Under Two Simulated Microgravity Systems: Changes in Reuterin Production, Gastrointestinal Passage Resistance, and Stress Genes Expression Response	Astrobiology	20 1-14	DOI: 10.1089/ast.2019.2082
2020	Moreels M,	SP	Stress and Radiation Responsiveness	In: Choukèr A. (ed) Stress Challenges and	Chap 20 p373-404	DOI.org/

	Baselet B, Van Hoey O, Vanhavere F, Baatout S			Immunity in Space, Springer-Verlag (Berlin-Heidelberg)		10.1007/978.3.030-16996-1_20
2020	Van Houdt R, Leys N	SP	Monitoring the Microbial Burden in Manned Space Stations.	In: Choukèr A. (ed) Stress Challenges and Immunity in Space, Springer-Verlag (Berlin-Heidelberg)	Chap 25 p463-475	DOI.org/ 10.1007/978.3.030-16996-1_25
2020	Quintens R, Baatout S, Moreels M	SP	Assessment and Biomonitoring of Exposure to Space radiation	In: Choukèr A. (ed) Stress Challenges and Immunity in Space, Springer-Verlag (Berlin-Heidelberg)	Chap28 p519-533	DOI.org/ 10.1007/978.3.030-16996-1_28
2019	Volponi M, Lasseur C	LSS, SP	Considerations on Life Support for interstellar travel: a regenerative story	Acta Futura	12: 9-25	
2019	Muthert LWF, Izzo LG, Van Zanten M, Aronne G.	LSS, SP, C4b	Root tropism: investigations on earth and space to unravel plant growth direction	Frontiers in Plant Science	10 : 1807	
2019	Izzo LG, Romano LE, De Pascale S, Mele G, Gargiulo L, Aronne G.	SP , C4b	Chemotropic vs hydrotropic stimuli for root growth orientation in microgravity	Frontiers in Plant Science	10 : 1547	
2019	Izzo LG, Arena C, De Micco V, Aronne G, Gomez C.	LSS, C4b	Light quality shapes morpho-functional traits and pigment content of green and red leaf cultivars of *Atriplex hortensis*	Scientia horticulturae	246 : 942-950	

2019	El-Nakhel C, Giordano M, Pannico A,Carillo P, Fusco G-M , de Pascale S, Rouphael Y	C4b	Cultivar-Specific Performance and Qualitative Descriptors for Butterhead Salanova Lettuce Produced in Closed Soilless Cultivation as a Candidate Salad Crop for Human Life Support in Space	Life(Basel)	9(3): 661	
2019	Ilgrande C, Defoirdt T, Vlaeminck SE, Boon N, Clauwaert P.	C3	Media Optimization, Strain Compatibility, and Low-Shear Modeled Microgravity Exposure of Synthetic Microbial Communities for Urine Nitrification in Regenerative Life-Support Systems	Astrobiology	19:	DOI: · 10.1089/ast.2018.1981
2019	Christiaens M, De Paepe J, Ilgrande C, De Vrieze J, Barys J, Teirlinck P, Meerbergen K, Lievens B, Boon N, Clauwaert P, Vlaeminck SE.	C3	Urine nitrification with a synthetic microbial community	Syst Appl Microbiol	42(6): 126021.	DOI: 10.1016/j.syapm.2019.126021 PMID: 31623889
2019	Yadav A, Monsieurs P, Misztak A, Waleron K, Leys N, Cuypers A, Janssen PJ	C4a	Helical and linear morphotypes of *Limnospira indica* / *Arthrospira* sp. PCC8005 display genomic differences and respond differently to 60Co gamma irradiation	European Journal of Phycology		DOI: 10.1080/09670262.2019.1675763
2019	Paradiso R , de Pascale,S	C4b	Space farming to sustain human life: more than 20 years of research at the University of Naples	Chronica Horticulturae	59(2) : 13-17	
2019	Alemany L, Peiro E, Arnau C, Garcia D, Poughon L, Cornet J-F, Dussap C-G, 2019 Gerbi O, Lamaze B, Lasseur C, Godia F	C4a, C5, MPP	Continuous controlled long-term operation and modeling of a closed loop connecting an air-lift photobioreactor and an animal compartment for the development of a life support system	Biochemical Engineering Journal	151 :	107323

2019	De Middeleer G, Leys N, Sas B, De Saeger S.	SP	Fungi and Mycotoxins in Space-A Review.	Astrobiology	19 (7) : 915-926	DOI: 10.1089 /ast.2018. 1854
2019	Ilgrande C, Mastroleo F, Christiaens M, Lindeboom R, Prat D, Van Hoey O, Ambrozova I, Coninx I, Heylen W, Pommerening-Roser, Spieck E, Boon N, Vlaeminck S.E, Leys N , Clauwaert P	SP, LSS, C2,C3,C4a	Reactivation of Microbial Strains and Synthetic Communities After a Spaceflight to the International Space Station: Corroborating the Feasibility of Essential Conversions in the MELiSSA Loop	Astrobiology	19 (9)	DOI: 10.1089/ ast2018. 1973
2019	Alloul A, Wuyts S, Lebeer S, Vlaeminck SE	C2, LSS	Volatile fatty acids impacting phototrophic growth kinetics on purple bacteria : Paving the way for production on fermented wastewater	Water Research	152 : 138-147	
2019	Muys M, Sui Y, Schwaiger B, Lesueur C, Vandenheuvel D, Vermeir P, Vlaeminck S.E	C4a, LSS	High variability in nutritional value and safety of commercially available *Chlorella* and *Spirulina* biomass indicates the need for smart production strategies	Bioresource Technology	275: 245-257	
2019	Christiaens M, Udert K, Arends JBA, Huysman S, Vanhaecke L, McAdam E, Rabaey K.	C3	Membrane stripping enables effective electrochemical ammonia recovery from urine while retaining microorganisms and micropollutants	Water Res.	150 : 349-57.	DOI: 10.1016/j.watr es.2018.11.07 2. Epub 2018 Nov 30.
2019	Zhang D, Luther A, Clauwaert P, Ronsse F	C1	Mild temperature hydrothermal oxidation of anaerobic fermentation filtrate for carbon and	The Journal of Supercritical Fluids	145 : 39-47	

			nitrogen recovery in a regenerative life support system			
2018	Poulet L, Fontaine JP, Dussap CG	C4b	A Physical Modeling Approach for Higher Plant Growth in Reduced Gravity Environments	Astrobiology	18: 1093-1100	DOI: 10.1089/ast.2017.1804. Epub 2018
2018	Paradiso R., Arena C., Rouphael Y., d'Aquino L., Makris K., Vitaglione P., De Pascale S.	C4b	Growth, photosynthetic activity and tuber quality of two potato cultivars in controlled environment as affected by light source	Plant Biosystems		DOI.org/ 10.1080/ 11263504 .2018. 1549603
2018	Ilgrande C, Leroy B, Wattiez R, Vlaeminck S E, Boon N, Clauwaert P	C3	Metabolic and Proteomic Responses to Salinity in Synthetic Nitrifying Communities of *Nitrosomonas* spp. and *Nitrobacter* spp.	Frontiers in Microbiology		10.3389/ fmicb2018 .02914
2018	Sachdeva N, Mascolo C, Wattiez R, Leroy B	C4a	Embedding photosynthetic biorefineries with circular economies: Exploring the waste recycling potential of *Arthrospira* sp. to produce high quality byproducts	Bioresource Technology	268: 237-246	
2018	Sachdeva N, Giambarresi G, Poughon L, Cabrera JC, Leroy B, Lasseur C, Dussap C-G, Wattiez R	C4a	Assessment of transient effects of alternative nitrogen sources in continuous cultures of *Arthrospira* sp. using proteomic, modeling and biochemical tools	Bioresource Technology	267: 492-561	
2018	Senatore G, Mastroleo F, Leys N, Mauriello G.	SP	Effect of microgravity & space radiation on microbes	Future Microbiol	13 : 831-847	DOI: 10 .2217/ fmb-2017-0251 PMID: 29745771.

2018	Christiaens M, De Vrieze J, Clinckemaillie L, Ganigué R, Rabaey K	C3	Anaerobic ureolysis of source-separated urine for NH3 recovery enables the removal of divalent ions at the toilet	Water Research	148 : 97-105	DOI: 10.1016/ j.watres .2018.10 .021. PMID: 30352325
2018	Lindeboom R, Ilgrande C, Carvajal-Arroyo J, Coninx I, Van Hoey O, Roume H, Morozova J, Udert K, Sas B, Paille C, Lasseur C, Ilyin V, Clauwaert P, Leys N, Vlaeminck SE	SP, C3	Nitrogen cycle microorganisms can be reactivated after Space exposure	Nature *Scientific Reports*	8 : 13783	DOI:10 .1038/ s41598-018-32055-4
2018	Maarten M, Coppens J, Boon N, Vlaeminck SE	C3	Photosynthetic oxygenation for urine nitrification	Water Science & Technology	78 : 183-194	
2018	Aronne G, Izzo LG, Romano LE, De Francesco S, De Micco V, De Pascale S., Carrubba E, Neri G, Galoforo G, Piccirillo S.	SP , C4b	Multitrop: the challenge of using refurbished hardware for an educational and scientific experiment on the ISS	Proceedings International Astronautical Congress	Volume E1 Pp3-6	
2018	Izzo LG, Mickens MA, Aronne G, Gomez G	LSS, C4b	Gas exchange and leaf anatomy of lettuce in response to red and blue sole-source lighting from LEDS	Proceedings International Astronautical Congress	Volume A1 Pp7-16	
2018	De Paepe J, Lindeboom REF, Vanoppen M, De	C3	Refinery and concentration of nutrients from urine with electrodialysis enabled by upstream precipitation and nitrification.	Water Res.	144 : 76-86	DOI: 10. 1016/ j.watres

	Paepe K, Demey D, Coessens W, Lamaze B, Verliefde ARD, Clauwaert P, Vlaeminck SE.					.2018.07 .016.
2018	Zhang D, Clauwaert P, Luther A, López Barreiro D, Prins W, Wim Brilman DWF, Ronsse F.	LSS, C1	Sub- and supercritical water oxidation of anaerobic fermentation sludge for carbon and nitrogen recovery in a regenerative life support system	Waste Management	77 : 268-275	DOI: 10.1016/ j.wasman .2018.04 .008. PMID 29685602
2018	Loudon, C. M., Nicholson, N., Finster, K., Leys, N., Byloos B, Van Houdt, R.,Rettberg, P, Moeller, R, Fuchs, F, Demets, R, Krause, J, Vukich, M, Mariani, A & Cockell, C	SP	BioRock: new experiments and hardware to investigate microbe– mineral interactions in space	Int. J. Astrobiol.	17 : 303–13	DOI: 10.1017/ S14735504170 00234
2018	Van Houdt R, Kokkonen E, Lehtimäki M, Pasanen P, Leys N, Kulmala I	SP	Requirements for modeling airborne microbial contamination in space stations	Acta Astronautica	144 : 380-387	
2018	De Meur Q, Deutschbauer A, Koch M, Wattiez R, Leroy B.	C2	Genetic Plasticity and Ethylmalonyl Coenzyme A Pathway during Acetate Assimilation in *Rhodospirillum rubrum* S1H under Photoheterotrophic Conditions.	Appl Environ Microbiol.	84	DOI: 10.1128/ AEM .02038-17. PMID: 29180364

2017	Salmela A, Kokkonen E, Kulmala I, Veijalainen V, van Houdt R, Leys N, Berthier A, Ilyin V, Kharin S, Morozova J, Tikhomirov A, Pasanen P	SP	Production and characterization of bioaerosols for model validation in spacecraft environment	J.Environ.Sci.	69 : 227-238	DOI: 10.1016/j.jes.2017.10.016 PMID: 29941258
2017	Defoirdt T , Vlaeminck S, Sun X, Nico Boon N., and Clauwaert P.	C3	Ureolytic Activity and Its Regulation in *Vibrio campbellii* and *Vibrio harveyi* in Relation to Nitrogen Recovery from Human Urine	Environ. Sci. Technol.	51 : 13335-13343	DOI : 10.1021/acs.est.7b03829
2017	Kyriacou MC, De Pascale S, Kyratzis A, Rouphael Y.	LSS, C4b	Microgreens as a Component of Space Life Support Systems: A Cornucopia of Functional Food.	Front Plant Sci.	8:1587	DOI: 10.3389/fpls.2017.01587.
2017	N. Cruvellier, L. Poughon, C. Creuly, C.-G. Dussap, and C. Lasseur	C3/Mo	High ammonium loading and nitrification modelling in a fixed-bed bioreactor	J. Water Process Eng	20 : 90-96	
2017	Clauwaert P., Muys M., Alloulb A., De Paepe J., Luther A., Sun X., Ilgrande C., Christiaens M., Hu X., Zhang D., Lindeboom R., Sas B., Rabaey K., Boon N., Frederik Ronsse F., Geelen D, Vlaeminck S.	C3, LSS	Nitrogen cycling in Bioregenerative Life Support Systems: Challenges for waste refinery and food production processes	Progress in Aerospace Sciences	91 : 87-98	
2017	Byloos B, Coninx I, Van Hoey O, Cockell C, Nicholson N, Ilyin	SP	The Impact of Space Flight on Survival and Interaction of *Cupriavidus metallidurans* CH34 with	Frontiers in Microbiology		DOI: 10.3389/fmicb.2017.00671

	V, Van Houdt R, Boon N, Leys N		Basalt, a Volcanic Moon Analog Rock			
2017	Paradiso R, Arena C, De Micco V, Giordano M, Aronne G, De Pascale S.	C4b	Changes in Leaf Anatomical Traits Enhanced Photosynthetic Activity of Soybean Grown in Hydroponics with Plant Growth-Promoting Microorganisms.	Frontiers in Plant Science	8:674	DOI: 10.3389/ fpls.2017 .00674. eCollection 2017. PMID: 28529515
2017	Deschoenmaeker F, Bayon-Vicente G, Sachdeva N, Depraetere O, Cabrera Pino JC, Leroy B, Muylaert K, Wattiez R.	C4a	Impact of different nitrogen sources on the growth of *Arthrospira* sp. PCC 8005 under batch and continuous cultivation - A biochemical, transcriptomic and proteomic profile.	Bioresource Technology		DOI: http://dx.doi. org/10.1016/
2017	Sheridan C, Depuydt P, De Ro M, Petit C, Van Gysegem E, Delaere P, Dixon M, Stasiak M, Aciksöz SB, Frossard E, Paradiso R, De Pascale S, Ventorino V, De Meyer T, Sas B, Geelen D.	C4b	Microbial Community Dynamics and Response to Plant Growth-Promoting Microorganisms in the Rhizosphere of Four Common Food Crops Cultivated in Hydroponics.	Microbial Ecology	73 : 378-393	
2016	Poulet L, Fontaine J-P, Dussap C-G	Mo/ C4b	Plant's response to space environment: a comprehensive review including mechanistic modelling for future space gardeners	Botany Letters	163 : 337-347	
2016	Verstraete W1, Clauwaert P1, Vlaeminck SE2.	LSS/SP	Used water and nutrients: Recovery perspectives in a 'panta rhei' context	Bioresource Technology	215 : 99-208	

2016	Coppens J, Lindeboom R, Muys M, Coessens W, Alloul A, Meerbergen K, Lievens B, Clauwaert P, Boon N, Vlaeminck SE.	C3,C4a	Nitrification and microalgae cultivation for two-stage biological nutrient valorization from source separated urine.	Bioresource Technology	211 : 41-50	
2016	Buysschaert B, Byloos B, Leys N, Van Houdt R, Boon N.	SP	Reevaluating multicolor flow cytometry to assess microbial viability	Applied Microbiology & Biotechnology	100 : 9037-51	
2016	Bryce CC, Le Bihan T, Martin SF, Harrison JP, Bush T, Spears B, Moore A, Leys N, Byloos B, Cockell CS	SP	Rock geochemistry induces stress and starvation responses in the bacterial proteome	Environmental Microbiology	18 : 1110-21	
2016	Cruvellier N, Poughon L, Creuly C, Dussap CG, Lasseur C.	C3/Mo	Growth modelling of *Nitrosomonas europaea* ATCC® 19718 and *Nitrobacter winogradskyi* ATCC® 25391: A new online indicator of the partial nitrification	Bioresource Technology	220 : 369-77	
2016	Deschoenmaeker F, Facchini R, Cabrera Pino JC, Bayon-Vicente G, Sachdeva N, Flammang P, Wattiez R.	C4a	Nitrogen depletion in *Arthrospira* sp. PCC 8005, an ultrastructural point of view.	Journal of Structural Biology	196 : 385-93	
2016	Condori S, Atkinson S, Leys N, Wattiez R, Mastroleo F.	C2	Construction and phenotypic characterization of M68, an RruI quorum sensing knockout mutant of the photosynthetic alphaproteobacterium *Rhodospirillum rubrum.*	Research in Microbiology	167 : 380-92	
2015	Paradiso, R.; Buonomo, R.; Dixon,	C4b	Effect of bacterial root symbiosis and urea as source of nitrogen on performance of soybean plants grown	Frontiers in Plant Science	6:888	DOI:10.3389/fpls.2015.00888

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2015	Leroy B, De Meur Q, Moulin C, Wegria G, Wattiez R	C2	New insight in the photoheterotrophic growth of the icl- purple bacterium *Rhodospirillum rubrum* on acetate.	Microbiology	161 : 61-72	.
2015	Badri H, Monsieurs P, Coninx I, Nauts R, Wattiez R, Leys N.	SP/C4a	Temporal Gene Expression of the Cyanobacterium *Arthrospira* in Response to Gamma Rays.	PLoS One.	10(8):e0135565.	DOI: 10.1371/journal.pone.0135565.
2015	Depraetere O, Pierre G, Deschoenmaeker F, Badri H, Foubert I, Leys N, Markou G, Wattiez R, Michaud P, Muylaert K	C4a	Harvesting carbohydrate-rich *Arthrospira* platensis by spontaneous settling	Bioresource technology	180 : 16-21	
2015	Depraetere O, Deschoenmaeker F, Badri H, Monsieurs P, Foubert I, Leys N, Wattiez R, Muylaert K	C4a	Trade-Off between Growth and Carbohydrate Accumulation in Nutrient-Limited *Arthrospira* sp. PCC 8005 Studied by Integrating Transcriptomic and Proteomic Approaches.	PLoS One. 2015	10(7):e0132461..	DOI: 10.1371/journal pone.0132461
2015	Badri H, Monsieurs P, Coninx I, Wattiez R, Leys N	C4a/SP	Molecular investigation of the radiation resistance of edible cyanobacterium *Arthrospira* sp. PCC 8005	Microbiology Open	mbo3.229	DOI:10.1002/
2014	Yamaguchi N, Roberts M, Castro S, Oubre C, Makimura K, Leys N, Grohmann	SP	Microbial monitoring of crewed habitats in space-current status and future perspectives	Microbes Environ.	29 : 250-260	PMID: 25130885

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2014	Michaud L, Lo Giudice A, Mysara M, Monsieurs P, Raffa C, Leys N, Amalfitano S, Van Houdt R.	SP	Snow surface microbiome on the High Antarctic Plateau (DOME C)	PLoS One	9(8):e1045-05.	DOI: 10.1371/journal.pone.0104505.
2014	Monsieurs P, Mijnendonckx K, Provoost A, Venkateswaran K, Ott CM, Leys N, Van Houdt R.	SP	Genome Sequences of *Cupriavidus metallidurans* Strains NA1, NA4, and NE12, Isolated from Space Equipment.	Genome Announcement	pii: e00719-14.	DOI: 10.1128/genomeA.00719-14.
2014	Monsieurs P, Mijnendonckx K, Provoost A, Venkateswaran K, Ott CM, Leys N, Van Houdt R.	SP	Draft Genome Sequences of *Ralstonia pickettii* Strains SSH4 and CW2, Isolated from Space Equipment.	Genome Announcement July 24	2(4):e00719-14	DOI: 10.1128/genomeA.00887-14.
2014	Paradiso, R.; Buonomo, R.; Dixon, M. A.; Barbieri, G.; De Pascale, S.	C4b	Soybean cultivation for Bioregenerative Life Support Systems (BLSSs): The effect of hydroponic system and nitrogen source	Advances in Space Research	53 : 574-584	
2014	Wolff, S. A.; Coelho, L. H.; Karoliussen, I.; Jost, A. I.	C4b/SP	Effects of the Extraterrestrial Environment on Plants: Recommendations for Future Space Experiments for the MELiSSA Higher Plant Compartment	Life	4 : 89-204	
2014	Paradiso, R.; De Micco, V.; Buonomo, R.; Aronne, G.;	C4b	Soilless cultivation of soybean for Bioregenerative Life-Support Systems: a literature review and the experience of the MELiSSA Project - Food characterisation Phase I	Plant Biology	16 : 9-78	

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2014	De Micco V., De Pascale S., Paradiso R., Aronne G	SP /C4b	Microgravity effects on different stages of higher plant life cycle and completion of the seed-to-seed cycle.	Plant Biology	16 : 1-38	
2014	Matallana-Surget, S.; Derock, J.; Leroy, B.; Badri, H.; Deschoenmaeker, F.; Wattiez, R.	C4a	Proteome-wide analysis and diel proteomic profiling of the cyanobacterium *Arthrospira* platensis PCC 8005	PLoS One	9(6): e99076	DOI : 10.1371/journal .pone.0099076. eCollection 2014. PMID: 24914774 Free
2014	Janssen, P. J.; Lambreva, M. D.; Plumeré, N.; Bartolucci, C.; Antonacci, A.; Buonasera, K.; Frese, Raoul N.; Scognamiglio, V.; Rea, G.	C4a	Photosynthesis at the forefront of a sustainable life	Frontiers in Chemistry June12	2 :36	DOI: 10.3389/ fchem.2014.00 036 PMID: 24971306 PMCID: PMC4054791
2014	Deschoenmaeker, F.; Facchini, R.; Leroy, B.; Badri, H.; Zhang, C. C.; Wattiez, R.	C4a	Proteomic and cellular views of *Arthrospira* sp. PCC 8005 adaptation to nitrogen depletion	Microbiology	160 : 1224-36	
2013	Mijnendonckx K, Provoost A, Ott CM, Venkateswaran K, Mahillon J, Leys N, Van Houdt R.	SP	Characterization of the survival ability of *Cupriavidus metallidurans* and *Ralstonia pickettii* from space-related environments.	Microbial Ecology	65 : 347-360	DOI 10.1007/ s00248- 012- 0139-2 PMID: 23212653

2013	Matallana-Surget S, Wattiez R	SP/LSS	Impact of Solar Radiation on Gene Expression in Bacteria	Proteomes	1(2) : 70-86	DOI 10.3390/proteomes1020070
2013	Van Houdt R, Deghorain M, Vermeersch M, Provoost A, Lo Giudice A, Leys N, Perez-Morga D, Van Melderen L, Michaud L.	SP	Characterization of culturable *Paenibacillus* spp. from the snow surface on the high Antarctic Plateau (DOME C) and their dissemination in the Concordia research station.	Extremophiles	17 : 65-73	
2013	Schiwon K, Arends K, Rogowski KM, Fürch S, Prescha K, Sakinc T, Van Houdt R, Werner G, Grohmann E.	SP	Comparison of antibiotic resistance, biofilm formation and conjugative transfer of *Staphylococcus* and *Enterococcus* isolates from International Space Station and Antarctic Research Station Concordia.	Microb Ecol.	65 : 638-651	DOI: 10.1007/s00248-013-0193-4 PMID: 23411852
2013	Page, V.; Feller, U.	C4b	Selection and hydroponic growth of bread wheat cultivars for bioregenerative life support systems	Advances in Space Research	52 : 536-546	
2013	Poughon, L.; Creuly, C.; Farges, B.; Dussap, C. G.; Schiettecatte, W.; Jovetic, S.; De Wever, H.	C1	Test of an anaerobic prototype reactor coupled with a filtration unit for production of VFAs	Bioresource Technology	145 : 240-247	
2013	Mastroleo, F.; Van Houdt, R.; Atkinson, S.; Mergeay, M.; Hendrickx, L.; Wattiez, R.; Leys, N.	C2 SP	Modelled microgravity cultivation modulates N-acylhomoserine lactone production in *Rhodospirillum rubrum* S1H independently of cell density	Microbiology	159 :	2456-2466
2012	Crabbé A, Leroy B, Wattiez R, Aertsen A,	SP	Differential proteomics and physiology of *Pseudomonas putida* KT2440 under filament-inducing conditions	BMC Microbiology	12:282.	DOI: 10.1186/1471-2180-12-282

	Leys N, Cornelis P, Van Houdt R.					
2012	Van Houdt R, Leys N	SP	Chap22. Monitoring the microbial burden in manned space stations	In "Stress challenges and immunity in space " *From Mechanisms to Monitoring and Preventive strategies*"	A.Chouker ed. Springer-Verlag (Berlin-Heidelberg)	DOI:10.1007/978-3-642-22272-6_22
2012	Van Houdt, R.; Mijnendonckx, K.; Leys, Natalie	SP	Microbial contamination monitoring and control during human space missions	Planetary and Space Science	60 : 115-120	https://doi.org/10.1016/j.pss.2011.09.001 ISSN 0032-0633
2012	Stasiak, M.; Gidzinski, D.; Jordan, M.; Dixon, M..	C4b	Crop selection for advanced life support systems in the ESA MELiSSA program: Durum wheat (*Triticum turgidum* var *durum*)	Advances in Space Research	49 : 1684-1690	
2012	Molders, K.; Quinet, M.; Decat, J.; Secco, B.; Dulière, E.; Pieters, S.; van der Kooij, T.; Lutts, S.; Van Der Straeten, D.	C4b	Selection and hydroponic growth of potato cultivars for bioregenerative life support systems	Advances in Space Research	50 : 156-165	
2012	Paradiso, R.; Buonomo, R.; De Micco, V.; Aronne, G.; Palermo, M.; Barbieri, G.; De Pascale, S.	C4b LSS	Soybean cultivar selection for Bioregenerative Life Support Systems (BLSSs) – Hydroponic cultivation	Advances in Space Research	50 : 1501-11	

2012	De Micco, V.; Buonomo, R.; Paradiso, R.; De Pascale, S.; Aronne, G.	C4b LSS	Soybean cultivar selection for Bioregenerative Life Support Systems (BLSS) – Theoretical selection	Advances in Space Research	49 : 1415-21
2012.	Palermo M., Paradiso R., De Pascale S., Fogliano V	C4b	Hydroponic cultivation improves the nutritional quality of soybean and its products.	Journal of Agricultural and Food Chemistry	60 : 250-255
2012	De Micco V., Paradiso R., Aronne G., Fogliano V., De Pascale S.	C4b LSS	Agronomical and nutritional characterization of soybean for BLSS: lessons learned from the MELiSSA project – Food characterization phase I	Proceedings 63rd International Astronautical Congress (IAC), Naples, Italy, 1-5 October 2012	Vol 2 : 1354-60
2012	Farges, B.; Poughon, L.; Roriz, D.; Creuly, C.; Dussap, C. G.; Lasseur, C.	C3	Axenic cultures of *Nitrosomonas europaea* and *Nitrobacter winogradskyi* in autotrophic conditions: a new protocol for kinetic studies	Applied Biochemistry and Biotechnology	167 : 1076-1091
2011	Crabbé, A.; Schurr, M. J.; Monsieurs, P.; Morici, L.; Schurr, J.; Wilson, J. W.; Ott, C. M.; Tsaprailis, G.; Pierson, D. L.; Stefanyshyn-Piper, H.; Nickerson, Cheryl A.	SP	Transcriptional and proteomic responses of *Pseudomonas aeruginosa* PAO1 to spaceflight conditions involve Hfq regulation and reveal a role for oxygen	Applied and Environmental Microbiology	77 : 1221-1230
2011	Crabbé, A.; Sarker, S. F.; Van Houdt, R.; Ott, C. M.; Leys, N.; Cornelis, P.; Nickerson, C. A.	SP	Alveolar epithelium protects macrophages from quorum sensing-induced cytotoxicity in a three-dimensional co-culture model	Cellular Microbiology	13 : 469-481

2010	Lasseur, C.; Brunet, J.; De Wever, H.; Dixon, M.; Dussap, C. G.; Godia, F.; Leys, N.; Mergeay, M.; Van der Straeten, D.	LSS	MELiSSA: The European project of closed life support system	Gravitational and Space Research	23 : 3-12	
2010	Cornet, J. F.	Mo/C4a	Calculation of optimal design and ideal productivities of volumetrically lightened photobioreactors using the constructal approach	Chemical Engineering Science	65 : 985-998	
2010	Pycke BF, Vanermen G, Monsieurs P, De Wever H, Mergeay M, Verstraete W, Leys N	C2	Toxicogenomic response of *Rhodospirillum rubrum* S1H to the micropollutant triclosan.	Applied and Environmental Microbiology	76: 3503-3513	
2010	Pycke, B. F. G.; Crabbé, A.; Verstraete, W.; Leys, N.	C2	Characterization of triclosan-resistant mutants reveals multiple antimicrobial resistance mechanisms in *Rhodospirillum rubrum* S1H	Applied and Environmental Microbiology	76 : 3116-3123	
2010	Olsson-Francis K, Van Houdt R, Mergeay M, Leys N, Cockell CS	SP	Microarray analysis of a microbe-mineral interaction	Geobiology	8: 446-456	PMID: 20718869
2010	Morin, N.; Vallaeys, T.; Hendrickx, L.; Leys, N.; Wilmotte, A.	C4a	An efficient DNA isolation protocol for filamentous cyanobacteria of the genus *Arthrospira*	Journal of Microbiological Methods	80 : 148-154	
2010	Janssen, P. J.; Morin, N.; Mergeay, M.; Leroy, B.; Wattiez, R.; Vallaeys, T.; Waleron, K.; Waleron, M.; Wilmotte, A.; Quillardet, P.; de	C4a	Genome sequence of the edible cyanobacterium *Arthrospira* sp. PCC 8005	Journal of Bacteriology	192 : 2465-2466	

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2010	Crabbé, A.; Pycke, B.; Van Houdt, R.; Monsieurs, P.; Nickerson, C.; Leys, N.; Cornelis, P.	SP	Response of *Pseudomonas aeruginosa* PAO1 to low shear modelled microgravity involves AlgU regulation	Environmental Microbiology	12 : 1545-1564
2010	TIKHOMIROVA N., LAWSON J., STASIAK M., DIXON M., PAILLE C., PEIRO E., FOSSEN A., GODIA F	C4b/MPP	Production characteristics of lettuce *Lactuca sativa* L. in the frame of the first crop tests in the higher plant chamber integrated into the MELiSSA Pilot Plant	COSPAR, Bremen	
2009	Beuls E1, Van Houdt R, Leys N, Dijkstra C, Larkin O,Mahillon J.	SP	*Bacillus thuringiensis* conjugation in simulated microgravity.	Astrobiology	9(8) : 797-805
2009	Poughon, L.; Farges, B.; Dussap, C. G.; Godia, F.; Lasseur, C.	LSS/MPP/Mo	Simulation of the MELiSSA closed loop system as a tool to define its integration strategy	Advances in Space Research	44 : 1392-1403
2009	Van Houdt, R.; De Boever, P.; Coninx, I.; Le Calvez, C.; Dicasillati, R.; Mahillon, J.; Mergeay, M.; Leys, N.	SP	Evaluation of the airborne bacterial population in the periodically confined Antarctic base Concordia	Microbial Ecology	57 : 640-648
2009	Mastroleo, F.; Van Houdt, R.; Leroy, B.; Benotmane, M. A.; Janssen, A.; Mergeay, M.; Vanhavere, F.; Hendrickx, L.; Wattiez, R.; Leys, N.	C2	Experimental design and environmental parameters affect *Rhodospirillum rubrum* S1H response to space flight	The ISME Journal	3 : 1402-1419

2009	Mastroleo, F.; Leroy, B.; Van Houdt, R.; s' Heeren, C.; Mergeay, M.; Hendrickx, L.; Wattiez, R.	C2	Shotgun proteome analysis of *Rhodospirillum rubrum* S1H: integrating data from gel-free and gel-based peptides fractionation methods	Journal of Proteome Research	8 : 2530-2541	
2009	Leys, N.; Baatout, S.; Rosier, C.; Dams, A.; s'Heeren, C.; Wattiez, R.; Mergeay, M.	SP	The response of *Cupriavidus metallidurans* CH34 to spaceflight in the international space station	Antonie Van Leeuwenhoek	96 : 227-245	
2009	De Gusseme, B.; Pycke, B.; Hennebel, T.; Marcoen, A.; Vlaeminck, S. E.; Noppe, H.; Boon, N.; Verstraete, W.	C3	Biological removal of 17alpha-ethinylestradiol by a nitrifier enrichment culture in a membrane bioreactor	Water Research	43 : 2493-2503	
2009	Cornet, J. F.; Dussap, C. G.	Mo/C4a	A simple and reliable formula for assessment of maximum volumetric productivities in photobioreactors	Biotechnology Progress	25 : 424-435	
2009	Farges B, Laroche C, Cornet JF, Dussap CG.	C4a/Mo	Spectral kinetic modeling and long-term behavior assessment of *Arthrospira platensis* growth in photobioreactor under red (620 nm) light illumination.	Biotechnol Prog.	25 : 151-162	DOI: 10.1002/btpr.5. PMID: 19224572
2009	Christophe, G.; Guiavarch, E.; Creuly, C.; Dussap, C. G.	C1/Mo	Growth monitoring of *Fibrobacter succinogenes* by pressure measurement	Bioprocess and Biosystems Engineering	32 : 123-128	
2008	Wilson JW, Ott CM, Quick L, Davis R, Honer zu Bentrup K, Crabbe A, Richter E, Sarker S, Barrila J,	SP	Media ion composition controls regulatory and virulence response of *Salmonella* in spaceflight.	PLoS One	3 :	e3923

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2008	Montràs, A.; Pycke, B.; Boon, N.; Gòdia, F.; Mergeay, M.; Hendrickx, L.; Pérez, J.	C3	Distribution of *Nitrosomonas europaea* and *Nitrobacter winogradskyi* in an autotrophic nitrifying biofilm reactor as depicted by molecular analyses and mathematical modelling	Water Research	42 : 1700-1714	
2008	Ushakova SA, Zolotukhin IG, Tikhomirov AA, Tikhomirova NA, Kudenko YA, Gribovskaya IV, Balnokin Y, Gros JB.	LSS	Some methods for human liquid and solid waste utilization in bioregenerative life-support systems.	Appl Biochem Biotechnol.	151 : 576-685	PMID:1858123

2008	Farges, B.; Poughon, L.; Creuly, C.; Cornet, J. F.; Dussap, C. G.; Lasseur, C.	Mo/LSS	Dynamic aspects and controllability of the MELiSSA project: a bioregenerative system to provide life support in space	Appl Biochem Biotechnol	151 : 686-699
2008	Crabbé, A.; De Boever, P.; Van Houdt, R.; Moors, H.; Mergeay, M.; Cornelis, P.	SP	Use of the rotating wall vessel technology to study the effect of shear stress on growth behaviour of *Pseudomonas aeruginosa* PA01	Environmental Microbiology	10 : 2098-2110
2007	Quanten, L.; Chaerle, L.; Noben, J. P.; Van Onckelen, H.; Prinsen, E.; Van Der Straeten, D.; Valcke, R.	C4b	Effects of tetracycline on wild-type and inducible P35So IPT-5/TETR transgenic tobacco plants	Physiologia Plantarum	130 : 290-300
2007	Chaerle, L.; Hagenbeek, D.; De Bruyne, E.; Van Der Straeten, D.	C4b	Chlorophyll fluorescence imaging for disease-resistance screening of sugar beet	Plant Cell, Tissue and Organ Culture	91 : 97-106
2007	Chaerle, L.; Hagenbeek, D.; Vanrobaeys, X.; Van Der Straeten, D.	C4b	Early detection of nutrient and biotic stress in *Phaseolus vulgaris*	International Journal of Remote Sensing	28 : 3479-3492
2007	Baatout, S.; Leys, N.; Hendrickx, L.; Dams, A.; Mergeay, M.	SP	Physiological changes induced in bacteria following pH stress as a model for space research	Acta Astronautica	60 : 451-459
2007	Lenk, S.; Chaerle, L.; Pfündel, E. E.; Langsdorf, G.; Hagenbeek, D.; Lichtenthaler, H. K.;	C4b	Multispectral fluorescence and reflectance imaging at the leaf level and its possible applications	Journal of Experimental Botany	58 : 807-814

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2007	Hendrickx, L.; Mergeay, M.	LSS	From the deep sea to the stars: human life support through minimal communities	Current Opinion in Microbiology	10 : 231-237
2007	Chaerle, L.; Lenk, S.; Hagenbeek, D.; Buschmann, C.; Van Der Straeten, D	C4b	Multicolor fluorescence imaging for early detection of the hypersensitive reaction to tobacco mosaic virus	Journal of Plant Physiology	164 : 253-262
2007	Chaerle, L.; Leinonen, I.; Jones, H. G.; Van Der Straeten, D.	C4b	Monitoring and screening plant populations with combined thermal and chlorophyll fluorescence imaging	Journal of Experimental Botany	58 : 773-784
2007	De Boever P, Ilyin V, Forget-Hanus D, Van der Auwera G, Mahillon J, Mergeay M	SP	Conjugation-mediated plasmid exchange between bacteria grown under space flight conditions	Microgravity science & technology	19 : 138-144
2006	Hendrickx, L.; De Wever, H.; Hermans, V.; Mastroleo, F.; Morin, N.; Wilmotte, A.; Janssen, P.; Mergeay, M.	LSS	Microbial ecology of the closed artificial ecosystem MELiSSA (Micro-Ecological Life Support System Alternative): reinventing and compartmentalizing the Earth's food and oxygen regeneration system for long-haul space exploration missions	Research in Microbiology	157 : 77-86
2006	Novikova N, De Boever P, Poddubko S, Deshevaya E,Polikarpov N, Rakova N, Coninx I, Mergeay M.	SP	Survey of environmental biocontamination on board the International Space Station	Research in Microbiology	157 : 5-12
2006	Mergeay,M.	SP/LSS	Editorial of a special issue about Space microbiology	Research in Microbiology	157 : 1-4

2006	Horneck, G.; Facius, R.; Reichert, M.; Rettberg, P.; Seboldt, W.; Manzey, D.; Comet, B.; Maillet, A.; Preiss, H.; Schauer, L.; Dussap, C. G.; Poughon, L.; Belyavin, A.; Reitz, G.; Baumstark-Khan, C.; Gerzer, R.	LSS	HUMEX, a study on the survivability and adaptation of humans to long-duration exploratory missions, part II: Missions to Mars	Mercury, Mars and Saturn	38 : 752-759
2006	Goossens, O.; Vanhavere, F.; Leys, N.; De Boever, P.; O'Sullivan, D.; Zhou, D.; Spurny, F.; Yukihara, E. G.; Gaza, R.; McKeever, S. W. S.	SP	Radiation dosimetry for microbial experiments in the International Space Station using different etched track and luminescent detectors	Radiation Protection Dosimetry	120 : 433-437
2006	Baatout, S.; De Boever, P.; Mergeay, M.	SP	Physiological changes induced in four bacterial strains following oxidative stress	Prikladnaia Biokhimiia I Mikrobiologiia	42 : 418-427
2005	Cogne G, Cornet JF, Gros JB.	C4a	Design, operation, and modeling of a membrane photobioreactor to study the growth of the Cyanobacterium *Arthrospira platensis* in space conditions	Biotechnology Progress	21 : 741-750
2005	Baatout, S.; De Boever, P.; Mergeay, M.	SP	Temperature-induced changes in bacterial physiology as determined by flow cytometry	Annals of Microbiology	55 : 373-80
2005	Pérez, J.; Poughon, L.; Dussap, C. G.; Montesinos, J. L.; Gòdia, Francesc	C3	Dynamics and steady state operation of a nitrifying fixed bed biofilm reactor: mathematical model based description	Process Biochemistry	40 : 2359-69

2005	WATERS G., GIDZINSKI D., ZHENG Y., DIXON M.	C4b	Empirical relationships between light intensity and crop net carbon exchange rate at the leaf and full canopy scale: Towards integration of a Higher Plant Compartment in MELiSSA	ICES-2005-01-3071		
2004	Lissens G, Verstraete W, Albrecht T, Brunner G, Creuly C, Seon J, Dussap G, Lasseur C.	C1	Advanced anaerobic bioconversion of lignocellulosic waste for bioregenerative life support following thermal water treatment and biodegradation by *Fibrobacter succinogenes.*	Biodegradation.	15 : 173-183	PMID: 15228075
2004	Pérez, J.; Montesinos, J. I.; Albiol, J.; Gòdia, F.	C3	Nitrification by immobilized cells in a micro-ecological life support system using packed-bed bioreactors: an engineering study	Journal of Chemical Technology & Biotechnology	79 : 742-754	
2004	Brauns, E.; Van Hoof, V.; Dotremont, C.; De Wever, H.; Lens, P.; Van Hoof, E.; Thomas, G.; Molenbergh, B.; De Mey, D.	C4a	The desalination of an *Arthrospira platensis* feed solution by electrodialysis and reverse osmosis	Desalination	170(4) : 123-136	
2004	Gòdia, F.; Albiol, J.; Pérez, J.; Creus, N.; Cabello, F.; Montràs, A.; Masot, A.; Lasseur, C.	LSS/MPP	The MELISSA pilot plant facility as as integration test-bed for advanced life support systems	Advances in Space Research	34 : 1483-1493	
2003	Cogne G, Gros JB, Dussap CG.	C4a	Identification of a metabolic network structure representative of *Arthrospira* (*Spirulina*) *platensis* metabolism.	Biotechnology and Bioengineering	84 : 567-678	
2003	Seon, J.; Creuly, C.; Duchez, D.; Pons, A.; Dussap, C. G.	C1	Degradation of plant wastes by anaerobic process using rumen bacteria	Water Science and Technology	48 : 213-216	

2003	Poughon, L.; Duchez, D.; Cornet, J. F.; Dussap, C. G.	Mo/LSS	KLa determination: comparative study for a gas mass balance method	Bioprocess and Biosystems Engineering	25 : 341-348	
2003	Tikhomirov AA, Ushakova SA, Manukovsky NS, Lisovsky GM, Kudenko YA, Kovalev VS, Gubanov VG, Barkhatov YV, Gribovskaya IV, Zolotukhin IG, Gros JB, Lasseur Ch.	LSS/C4b	Mass exchange in an experimental new-generation life support system model based on biological regeneration of environment.	Adv Space Res.	31 : 1711-1720	PMID 14503509
2003	Tikhomirov AA, Ushakova SA, Gribovskaya IA, Tirranen LS, Manukovsky NS, Zolotukhin IG, Karnachuk RA, Gros JB, Lasseur C	LSS/C4b	Light intensity and production parameters of phytocenoses cultivated on soil-like substrate under controlled environment conditions.	Adv Space Res.	31 : 1775-1780	PMID: 14503517
2003	Tikhomirov AA, Ushakova SA, Manukovsky NS, Lisovsky GM, Kudenko YA, Kovalev	LSS /C4b	Synthesis of biomass and utilization of plants wastes in a physical model of biological life-support system.	Acta Astronautica	53 : 249-257	PMID: 14649254

	VS, Gribovskaya IV, Tirrannen LS, Zolotukhin IG, Gros JB, Lasseur Ch.					
2003	Gros, J. B.; Poughon, L.; Lasseur, C.; Tikhomirov, A. A.	LSS	Recycling efficiencies of C, H, O, N, S, and P elements in a Biological Life Support System based on microorganisms and higher plants	Advances in Space Research	31 :	195-199
2003	Favier-Teodorescu, L.; Cornet, J. F.; Dussap, C. G.	Mo/C2	Modelling continuous culture of Rhodospirillum rubrum in photobioreactor under light limited conditions	Biotechnology Letters	25 :	359-364
2003	Cornet, J. F.; Favier, L.; Dussap, C. G.	Mo/C4a	Modeling stability of photoheterotrophic continuous cultures in photobioreactors	Biotechnology Progress	19 :	1216-1227
2003	Cogne, G.; Lehmann, B.; Dussap, C. G.; Gros, J. B.	C4a	Uptake of macrominerals and trace elements by the cyanobacterium *Spirulina platensis* (*Arthrospira platensis* PCC 8005) under photoautotrophic conditions: culture medium optimization	Biotechnology and Bioengineering	81 :	588-593
2003	Horneck, G.; Facius, R.; Reichert, M.; Rettberg, P.; Seboldt, W.; Manzey, D.; Comet, B.; Maillet, A.; Preiss, H.; Schauer, L.; Dussap, C. G.; Poughon, L.; Belyavin, A.; Reitz, G.; Baumstark-Khan, C.; Gerzer, R.	LSS	HUMEX, a study on the survivability and adaptation of humans to long-duration exploratory missions, part I: lunar missions	Advances in Space Research	31 :	2389-2401
2002	Waters, G. C. R.; Olabi, A.; Hunter, J. B.; Dixon, M. A.; Lasseur, C.	C4b /LSS	Bioregenerative food system cost based on optimized menus for advanced life support	Life Support & Biosphere Science: International Journal of Earth Space	8 :	199-210

2002	Gòdia, F.; Albiol, J.; Montesinos, J. L.; Pérez, J.; Creus, N.; Cabello, F.; Mengual, X.; Montras, A.; Lasseur, C.	LSS/MPP	MELISSA: a loop of interconnected bioreactors to develop life support in space	Journal of Biotechnology	99 :	319-330
2001	Morist, A.; Montesinos, J. L.; Cusidó, J. A.; Gòdia, F.	C4a	Recovery and treatment of *Spirulina platensis* cells cultured in a continuous photobioreactor to be used as food	Process Biochemistry	37 :	535-547
2001	Vernerey, A.; Albiol, J.; Lasseur, C.; Gòdia, F.	C4a	Scale-up and design of a pilot-plant photobioreactor for the continuous culture of Spirulina platensis	Biotechnology Progress	17 :	431-438
2001	Savage, C. J.; Tan, G. B.; Lasseur, C.	LSS	ESA developments in life support technology: achievements and future priorities	Acta Astronautica	49 :	331-344
2001	Poughon, L.; Dussap, C. G.; Gros, J. B.	Mo/C3	Energy model and metabolic flux analysis for autotrophic nitrifiers	Biotechnology and Bioengineering	72 :	416-433
2000	Paille, C.; Albiol, J.; Curwy, R.; Lasseur, C.; Godia, F.	LSS	FEMME: a precursor experiment for the evaluation of bioregenerative life support systems	Planetary and Space Science	48 :	515-521
2000	Cornet, J. F.; Albiol, J.	Mo/C2	Modeling photoheterotrophic growth kinetics of Rhodospirillum rubrum inrectangular photobioreactors	Biotechnology Progress	16 :	199-207
1999	Poughon, L.; Dussap, C. G.; Gros, J. B.	Mo	Dynamic model of a nitrifying fixed bed column: Simulation of the biomass distribution of *Nitrosomonas* and *Nitrobacter* and of transient behaviour of the column	Bioprocess Engineering	20 :	209-221
1999	Fulget, N.; Poughon, L.; Richalet, J.; Lasseur, C.	Mo/LSS	MELISSA: global control strategy of the artificial ecosystem by using first principles models of the compartments	Advances in Space Research	24 :	397-405

1999	Dixon MA, Grodzinski B, Cote R, Stasiak M.	C4b	Sealed environment chamber for canopy light interception and trace hydrocarbon analyses	Advances in Space Research	24 :	271-280
1999	Paille C, Curwy R, Filali R, Lehman B, Dubertret G, Foing B, Lasseur C.	LSS	FEMME: A precursor ecosystem on the Moon	Advances in Space Research	23:	1857-1860
1998	Stasiak MA, Cote R, Dixon M, Grodzinski B	C4b	Increasing plant productivity in closed environments with inner canopy illumination	Life Support & Biosphere Science:	5 :	175-181
1997	Filali R, Lasseur C, Dubertret, G.	C4a	MELiSSA: nitrogen sources for growth of the cyanobacterium *Spirulina*	Proc. Sixth European Symp. on Space Environmental Control Systems, Noordwijk, The Netherlands		909–912
1997	Cornet, J. F.; Marty, A.; Gros, J. B.	C4a	Revised Technique for the Determination of Mean Incident Light Fluxes on Photobioreactors	Biotechnology Progress	13 :	408-415
1996	Lasseur, C.; Verstraete, W.; Gros, J. B.; Dubertret, G.; Rogalla, F.	LSS	MELISSA: a potential experiment for a precursor mission to the Moon	Advances in Space Research	18 :	111-117
1995	Marty, A.; Cornet, J. F.; Djelveh, G.; Larroche, C.; Gros, J. B.	C2/C3/C4a	A gas phase chromatography method for determination of low dissolved CO2 concentration and/or CO2 solubility in microbial culture media	Biotechnology Techniques	9 :	787-792
1995	Cornet, J. F.; Dussap, C. G.; Gros, J. B.; Binois, C.; Lasseur, C.	Mo/C4a	A simplified monodimensional approach for modeling coupling between radiant light transfer and growth kinetics in photobioreactors	Chemical Engineering Science	50 :	1489-1500

1994	Kersters, I.; Maestrojuan, G. M.; Torck, U.; Vancanneyt, M.; Kersters, K.; Verstraete, W.	C1	Isolation of *Coprothermobacter proteolyticus* from an Anaerobic Digest and Further Characterization of the Species	Systematic and Applied Microbiology	17 :	289-295
1994	Tranquille, N.; Emeis, J. J.; de Chambure, D.; Binot, R.; Tamponnet, C.	C4a/C5	Spirulina acceptability trials in rats. A study for the "MELISSA" life-support system	Advances in Space Research	14 :	167-170
1994	Cornet, J. F.; Dussap, C. G.; Gros, J. B.	C4a	Conversion of radiant light energy in photobioreactors	AIChE Journal	40 :	1055-1066
1994	Binot, R. A.; Tamponnet, C.; Lasseur, C.	LSS	Biological life support for manned missions by ESA	Advances in Space Research	14 :	71-74
1993	Kersters, I.; Houwen, F.; Verstraete, W.	C1	Thermophilic, anaerobic degradation of gelatin by *Thermobacteroides proteolyt*icus	Biotechnology Letters	15 :	931-936
1993	Filali R, Cornet J-F, Fontane T, Fournet B, Dubertret, G.	C4a	Production, isolation and preliminary characterization of the exopolysaccharide of the cyanobacterium *Spirulina platensis*	Biotechnology Letters	15 :	567-572
1992	Cornet, J. F.; Dussap, C. G.; Cluzel, P.; Dubertret, G.	C4a Mo	A structured model for simulation of cultures of the cyanobacterium *Spirulina platensis* in photobioreactors: II. Identification of kinetic parameters under light and mineral limitations	Biotechnology and Bioengineering	7 :	826-834
1992	Cornet, J. F.; Dussap, C. G.; Dubertret, G.	C4a	A structured model for simulation of cultures of the cyanobacterium *Spirulina platensis* in photobioreactors: I. Coupling between light transfer and growth kinetics	Biotechnology and Bioengineering	7:	817-825
1989	Lasseur Ch, D. Massimino, Renou JL, Richaud Ch,.	LSS	The C23A system. First step for a monitoring system of CELSS in flight.	Advances in Space Research	9 :	741-746

1988	Lasseur Ch., Chipaux C. André M. Cote FX, J. Massimino,	LSS	Possible use of a gas monitoring system in space respirometry studies.	Space thermal control and life support systems. Oct.88 ESA.		69-72
1988	Mergeay M., Verstraete W., Dubertret G., Lefort-Tran M., Chipaux C. Binot R.	**LSS**	**MELISSA - a microorganisms based model for CELSS development**	**Proceedings 3rd Symposium on Space Thermal Control & Life Support Systems Noordwijk (NL)**	288 :	65-68
1987	**DUBERTRET G., LEFORT-TRAN M., CHIPAUX C.**	**SP/LSS The Chinese flight experiment**	**Ecological algal system in microgravity conditions – Preliminary results**	**3rd European Symposium on Life Sciences Research in Space (ESA SP271) Graz (Austria)**		

Legend of paper (or book-chapters) topics & MELiSSA compartments:

LSS : Life Support Systems
SP: Space flight experiments and related studies (biocontamination, confined and extreme environments, space simulations (radiation, microgravity, low shear))

Mo: Modelling

C1: MELiSSA first compartment (thermophilic, anaerobic, waste degradation)
C2: MELiSSA second compartment (anaerobic photosynthetic)
C3: MELiSSA third compartment (nitrifying)

C4a : MELiSSA fourth compartment (microbial food production (as among others: cyanobacteria: *Limnospira indica* PCC8005 /*Arthrospira* sp.PCC8005) **(The taxonomic discussion is still ongoing (August 2019): making use of pangenomic taxonomy signatures for a large set of publicly available cyanobacterial genomes, strain PCC 8005 was allocated as the type strain to a new species named *Arthrospira nitrilium* (Walter et al, 2017), opening up a fresh discourse on *Arthrospira* taxonomy. Recently, mass produced Arthrospira have been placed into a new genus, *Limnospira*, mainly based on 16S rRNA phylogenetic analysis but also taking into account morphological and ecological data (Nowicka-Krawczyk et al., 2019), further fueling the complex debate among cyanobacterial taxonomists on the true and final position of the *Arthrospira* genus and its current member species).**

C4b: MELiSSA fourth compartment (plant food production)

C5: Consumers compartment

MPP: MELiSSA Pilot Plant