



## Yonghua Li-Beisson (DR1, CEA)

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Nationality: French; Language: Chinese, English and French

URL for lab homepage: <https://www.cite-des-energies.fr/biam/recherche/ebmp/>

### Education:

2002: PhD thesis, Lab of Professor Colin Ratledge, University of Hull, England

2012: HDR (Habilitation à Diriger la Recherche), Aix Marseille Université, France

### Positions held:

2018 - present: Head of the team “Environment, Bioenergy, Microalgae and Plants” (EBMP)

2018 - present: Head of the platform “HelioBiotec” specialized in lipidomics and algal culture

2009 - present: Principal investigator, CEA Cadarache, France

2008-2009 Associate Researcher, UMR5200, CNRS, Bordeaux, France

2003–2008 Postdoc Fellow, Lab of Professor John Ohlrogge, Michigan State University, USA

2002-2003 Postdoc Fellow, Department of Plant Science, The University of Oxford, UK

### Scientific and Administrative Responsibilities

**Elected member of the French National Scientific Committee for Research (CNRS) section**

**25:** “Biologie intégrative des organismes photosynthétiques et des microorganismes associés”  
(2025-)

**Member of the Editorial Board:**

Executive editor for: Progress in Lipid Research (since 2025 - )

Advisory board: New Phytologist (2019 - )

Plant Cell (since 2017 - )

Plant Cell and Physiology (since 2016 - )

**Host for International Conferences:**

- Elected Chair for the Gordon conference on Plant Lipids (2023, Texas)
- Co-host for the French Lipidomics Meeting - GERLI (St Maximin, 2018)
- Co-host for European Symposium on Plant Lipids - ESPL (Marseille, 2019)

**Member of the Scientific Committee for International Conferences:**

- International Symposium on Plant Lipids (ISPL) (since 2012 – once every 2 years)
- European Symposium on Plant Lipid (ESPL) (since 2017 - once every 2 years)
- Algal Biomass and Biofuel (AlgalBBB): Seattle (2018); online (2020)
- International Solar Fuel Conference (ISF) (since 2021 -; once every 2 years)

**Member of the Scientific Committee** for the French Lipidomics Group - GERLI (since 2015-)

**Member of the Scientific Committee** for the French Groupe for the study of membranes - GEM  
(since 2023-)

**Member of the national HCEREs evaluation committee** for:

- PCV/IRIG, Grenoble (2020); UMR5200-University Bordeaux (2021); Ifmer, Nantes (2021)

**Member of the Scientific Advisory Board (SAB):**

- UMR5200-University Bordeaux (2020; 2025)
- Instituto de Bioquímica Vegetal y Fotosíntesis (IBVF) – Seville, Spain (since 2024 - )

**Member of the recruitment committee:** INRAE (chercheur) 2017; Université Lyon (Professor) 2025

**Reviewing for:** Science, PNAS, Cell, Nature Genetics, Nature Communication, Development, Plos Genetics, Nature plant, Plant cell, New phytologist, Plant Physiology, The Plant Journal, Plant Physiology and Biochemistry, Progress in Lipid Research, etc

**Expert for the evaluation of research grants:** NSF-US; Netherland science foundation; DFG grant; Israel national grant; University of Hong Kong; The Israel-US bilateral funds; etc

**Member of the jury:**

**Jury HDR:**

- 2017- Juliette JOUHET (Grenoble)
- 2018 - Lionel ULMANN (Université Le Mans)
- 2019 - Florence CORRELEU (Bordeaux)
- 2019 - Maeva SUBILEAU (Montpellier)
- 2022 - Sabine D’Andrea (Versailles)
- 2023 - Amélie Bernard (Bordeaux)
- 2023 - Robert Van Lis (Narbonne)
- 2024 - Alberto Amato (Grenoble)
- 2025 – Pierre Crozet (Sorbonne)
- 2025 – Claire Brehelin (Bordeaux)

**Jury PhD These:**

- 2017- Glenn Philippe (Nantes); Theo VEAUDOR (CEA Saclay); Claire VILLETTE (Strasbourg)
- 2018- Antoine DELBRUT (Montpellier); Josselin LUPETTE (Grenoble); Milène NITENBERG (Grenoble); Seungjun SHIN (Postech South Korea); Kamil BAKOWSKI (Copenhagen); Harchouni SEDDIK (AMU); Sylvain LAURENT (Lille)
- 2019- Rémi WILLAMME (Belgium); Karla MENESES MONTERO (Montpellier); Nicolas VIGNERON (Toulouse)
- 2020- Francois SEVESTRE (Lille); Moulay SAHAKA (Marseille); Remy MARCELLIN-GROS (Banyuls); Duchesse MBADINGA (Toulouse)
- 2021- Adeline STEWART (PCV, Grenoble); Seung SHIN (PosTEC, Korea); Wendi Levasseur (Saclay, Paris); Julien Lacroux (LBE, INRAE, Narbonne); Gilles Defrel (INSA, Toulouse)
- 2022- Sami Kazaz (IJBP, Versailles); Thibault Geneste (IJBP, Versailles); Yizhong YUAN (PCV, Grenoble); Nolwenn Guéguen (PCV, Grenoble); Amelie Ducloy (IJBP, Versailles)
- 2023 – Clemence Dupont-Thibert (Grenoble) ; Damien Le Moigne (Grenoble) ; Marine Vincent (Saclay) ; Amandyne Linares-Maurizi (Montpellier) ; Romain Perdoux (Marseille) ; Victor Murison (Le Mans) ; Vincent Nieto (Lyon)
- 2024 - Sarah Salomon (CEA Grenoble)
- 2025 – Zongze Wu (Lyon); Lou Lambert (IBPC- Paris); Chems Amari (PCV-Grenoble); Eliora Israelievitch (IBPC Paris); Yannick Sérès (PCV-Grenoble); Abdou Akim Bello (IPMC, Université Cote-d ’Azur)

**Member of the PhD follow-up committee (CSI):** Josselin Lupette (PCV, Grenoble); Yizhong Yuan (PCV Grenoble); Damien LeMoigne (PCV Grenoble); Victor Murison (Univ. Le Mans); Maria JIMENEZ PALMA (PCV-DRT, Grenoble); Yannick SERES (PCV Grenoble) ; Mariette Gibier (Univ. Sorbonne) ; Matta CARLETTI (PCV, Grenoble) ; Arthur LOUP (Univ. Paris-Sacaly)

## Supervision and teaching :

- **PhD students trained:** (*their current positions*)
  - o Mai Nguyen (2010-2013) : *Postdoc (restarted research after a long maternity break)*
  - o Caroline Cagnon (2014-2017) : *Engineer in industry*
  - o Hugh Goold (2015-2017) : *Researcher at Macquarie University, Australia*
  - o Yuanxue Liang (2016-2019) : *Professor at Jiangsu University, China*
  - o Ismael Torres-Romero (2016-2019) : *Researcher, Switzerland*
  - o Alexandre Six (2021-2024) : *Postdoc, University of Stanford, US*
  - o Ousmane Dao (2019-2024) : *Postdoc, University of York, UK*
  - o Carla Blot (2022 - )
  - o Mattia Cirimelle (2024 - )
- **Postdoc supervised:** (*their current positions*)
  - o Fantao Kong (2014-2017): *Professor at Dalian University of Technology, China*
  - o Zhongze Li (2021-2023): *Postdoc at CNRS-St Etienne, France*
  - o Minjae Kim (2021-2024): *Professor at Korea Institute of Ocean Science & Technology (KIOST), South Korea*
- **Engineer supervised on industrial grants:** (*their current positions*)
  - o Boris Mirabella (2014-2016) : *Engineer in industry Marseille, France*
  - o Serena Testi (2019-2022) : *Engineer at Roscoff, France*
  - o Alexandre Six (2024-2025) : *Postdoc, University of Stanford, US*
- **Master students trained:** Boris Fessler (2011), Caroline Cagnon (2012), Yvan Feugard (2014), Cyril Aselmeyer (2019), Mathieu Weibel (exchange student 2023); Julie Poncet (2024), Siyang Liu (2025); Maxime Bastide (2025)
- **Teaching:**
  - o Teach « Lipid Metabolism and Lipid Biotechnology » 4 h per year: in the module « **Plants, Energy and Light** » for Master level at the University of Aix Marseille, France (since 2018-)
  - o Teach “Microalgae as a sustainable source of biomass” Polytec Marseille (2h per year since 2022 - )
  - o Teach “Microalgae and Biofuel” SeaTec, Toulon (2h 2023)
  - o “Microalgae and lipid metabolism” Wuhan-AMU joint university (4h per year; since 2022 - )

## Publications (peer-reviewed)

\*: corresponding author

Published under either the name of Li or Li-Beisson

Research areas and models: Microalgae; Lipid metabolism; Lipid droplet; Starch; Photosynthesis; Plants; Carbon metabolism

Total number: >100; h-factor: 47 (source: web of science); citation >12000

2026:

1. Six A, Chambonnière P, Alvarez P, Fon-Sing S, Lancelon-Pin C, Putaux JL, Sassi JF, **Li-Beisson Y**, Fleury G. (2026) Microalgae, sunlight, and starch: low cell concentration is optimal for outdoor production under nutrient stress. *Bioresour Technol.* 2025 Dec 24;443:133840. doi: 10.1016/j.biortech.2025.133840.

## 2025:

2. **Li-Beisson Y\***, Dao O, Kim M. (2025) How microalgae conserve carbon. *Trends Plant Sci.* doi: 10.1016/j.tplants.2025.11.016.
3. Blot C, Bertrand M, Siponen M, **Li-Beisson Y\*** (2025) Lipid droplet on the move: remodeling, trafficking and interaction with other organelles. *Journal of Experimental Botany* doi: 10.1093/jxb/eraf501
4. Dao O, Bertrand M, Alseekh S, Veillet F, Auroy P, Nguyen PC, Légeret B, Epting V, Morin A, Cuiné S, Monteil CL, Mackinder LCM, Burlacot A, Krieger-Liszkay A, Weber APM, Fernie AR, Peltier G, **Li-Beisson Y\*** (2025) The green algae CO<sub>2</sub> concentrating mechanism and photorespiration jointly operate during acclimation to low CO<sub>2</sub>. *Nat Commun.* 17;16(1):5296. doi: 10.1038/s41467-025-60525-7.
5. Zheng J, Wei H, Shi J, Yu L, Luo M, Li Y, **Li-Beisson Y**, Liu J. (2025) A histone demethylase is involved in regulating the transcription factor PSR1 for carbon storage in Chlamydomonas. *Plant J.* 122(4):e70230. doi: 10.1111/tpj.70230.
6. Yuan Y, Iannetta AA, Kim M, Sadecki PW, Arend M, Tschla A, Águila Ruiz-Sola M, Kepesidis G, Falconet D, Thevenon E, Tardif M, Brugièrè S, Couté Y, Kleman JP, Sizova I, Schilling M, Jouhet J, Hegemann P, **Li-Beisson Y**, Nikoloski Z, Bastien O, Hicks LM, Petroutsos D. (2025) Phototropin connects blue light perception to starch metabolism in green algae. *Nat Commun.* 2025 Mar 15;16(1):2545. doi: 10.1038/s41467-025-57809-3.
7. Yamaoka Y, Petroutsos D, Je S, Yamano T, **Li-Beisson Y** (2025) Light, CO<sub>2</sub>, and carbon storage in microalgae. *Curr Opin Plant Biol.* 84:102696. doi: 10.1016/j.pbi.2025.102696.
8. Li Z, Kim M, da Silva Nascimento JR, Legeret B, Jorge GL, Bertrand M, Beisson F, Thelen JJ, **Li-Beisson Y.\*** (2025) Knocking out the carboxyltransferase interactor 1 (CTI1) in Chlamydomonas boosted oil content by fivefold without affecting cell growth. *Plant Biotechnol J.* 2025 Jan 29. doi: 10.1111/pbi.14581.
9. Suzuki H, Cuiné S, Légeret B, Wijffels RH, Hulatt CJ, **Li-Beisson Y**, Kiron V. (2025) Phosphorus starvation induces the synthesis of novel lipid class diacylglycerol glucuronide and diacylglycerol-N,N,N-trimethylhomoserine in two species of cold-adapted microalgae Raphidonema (Chlorophyta). *Plant J.* 2025 Jan;121(2):e17227. doi: 10.1111/tpj.17227.
10. Dao O, Burlacot A, Buchert F, Bertrand M, Auroy P, Stoffel C, Madireddi SK, Irby J, Hippler M, Peltier G, **Li-Beisson Y.\*** (2025) Cyclic and pseudo-cyclic electron pathways play antagonistic roles during nitrogen deficiency in Chlamydomonas reinhardtii. *Plant Physiol.* 2024 Dec 23;197(1):kia617. doi: 10.1093/plphys/kiae617.
11. Conrado AC, Lemes Jorge G, Rao RSP, Xu C, Xu D, **Li-Beisson Y**, Thelen JJ. (2025) Evolution of the regulatory subunits for the heteromeric acetyl-CoA carboxylase. *Philos Trans R Soc Lond B Biol Sci.* 2024 Nov 18;379(1914):20230353. doi: 10.1098/rstb.2023.0353.

## 2024:

12. Torres Romero I, Legeret B, Huleux M, Sorigue D, Damm A, Cuine S, Veillet F, Blot C, Brugièrè S, Couté Y, Garneau MG, Kotapati H, Xin Y, Xu J, Bates PD, Abdou Rachid Thiam AR, Beisson F, **Li-Beisson Y\*** (2024). The  $\alpha/\beta$  hydrolase domain-containing protein 1 (ABHD1) acts as a lysolipid lipase and is involved in lipid droplet formation. *National Science Review* 10.1093/nsr/nwae398
13. Kong F, Blot C, Liu K, **Kim M**, **Li-Beisson Y.** (2024) Advances in algal lipid metabolism and their use to improve oil content. *Curr Opin Biotechnol.* 2024 Jun;87:103130. doi: 10.1016/j.copbio.2024.103130

14. Kim M, Jorge GL, Aschern M, Cuiné S, Bertrand M, Mekhalfi M, Putaux JL, Yang JS, Thelen JJ, Beisson F, Peltier G, **Li-Beisson Y\*** (2024) The DYRK1 kinase regulates cell wall degradation in *Chlamydomonas* by inducing matrix metalloproteinase expression. *Plant Cell*. 2024 Oct 14;koae271. doi: 10.1093/plcell/koae271.
15. Zuliani L, Cecchin M, Miotti T, Paloschi M, Cuine S, Cazzaniga S, **Li-Beisson Y**, Ballottari M. (2024) Interplay between CO<sub>2</sub> and light governs carbon partitioning in *Chlamydomonas reinhardtii*. *Physiol Plant*. 2024 Nov-Dec;176(6):e14630. doi: 10.1111/ppl.14630.
16. Peltier G, Stoffel C, Findinier J, Madireddi SK, Dao O, Epting V, Grossman A, **Li-Beisson Y**, Burlacot A\* (2024). Green algae CO<sub>2</sub> capture is powered by alternative electron pathways of photosynthesis. *Plant Cell*, doi: 10.1093/plcell/koae143
17. Miao R\*, Légeret B, Cuine S, Burlacot A, Lindblad P, **Li-Beisson Y**, Beisson F, Peltier G\* (2024). Alka(e)nes contribute to membrane lipid homeostasis and resilience of photosynthesis to high light in cyanobacteria. *Plant physiology* doi: <https://doi.org/10.1101/2023.12.11.571064>
18. A. Six, A. Dimitriades-Lemaire, C. Lancelon-Pin, J.-L. Putaux, D. Dauvillée, D. Petroutsos, P. Alvarez Diaz, J.-F. Sassi, Y. Li-Beisson, G. Fleury (2024) Red light induces starch accumulation in *Chlorella vulgaris* without affecting photosynthesis efficiency, unlike abiotic stress. *Algal Research - Biomass, Biofuels and Bioproducts* .
19. Leyland B, Novichkova E, Dolui AK, Jallet D, Daboussi F, Legeret B, Li Z, **Li-Beisson Y**, Boussiba S, Khozin-Goldberg I. (2023) Acyl-CoA binding protein is required for lipid droplet degradation in the diatom *Phaeodactylum tricornutum*. *Plant Physiol*. doi: 10.1093/plphys/kiad525.
20. Six A, Dauvillée D, Lancelon-Pin C, Dimitriades-Lemaire A, Compadre A, Dubreuil C, Alvarez P, Sassi JF, **Li-Beisson Y**, Putaux JL, Le Moigne N, Fleury G. (2024) From raw microalgae to bioplastics: Conversion of *Chlorella vulgaris* starch granules into thermoplastic starch. *Carbohydr Polym*. 2024 Oct 15;342:122342. doi: 10.1016/j.carbpol.2024.122342.
21. Hao Zhang, Songlin Ma, Xiaotan Dou, Ru Chen, Han Lu, Zhanyou Chi, Song Xue, Yonghua Li-Beisson, Fantao Kong\* (2024) Harnessing Algal Peroxisomes for Efficient Poly Hydroxybutyrate Production. *ACS Sustainable Chemistry & Engineering* doi/10.1021/acssuschemeng.3c07974

## 2023:

22. Luzarowska U, Ruß AK, Joubès J, Batsale M, Szymański J, P Thirumalaikumar V, Luzarowski M, Wu S, Zhu F, Endres N, Khedhayir S, Schumacher J, Jasinska W, Xu K, Correa Cordoba SM, Weil S, Skirycz A, Fernie AR, Li-Beisson Y, Fusari CM, Brotman Y. (2023) Hello darkness, my old friend: 3-KETOACYL-COENZYME A SYNTHASE4 is a branch point in the regulation of triacylglycerol synthesis in *Arabidopsis thaliana*. *Plant Cell*. 35(6):1984-2005.

## 2022:

23. Peter J, Huleux M, Spaniol B, Sommer F, Neunzig J, Schroda M, **Li-Beisson Y**, Philippar K\*. (2022) Fatty acid export (FAX) proteins contribute to oil production in the green microalga *Chlamydomonas reinhardtii*. *Front Mol Biosci*. doi: 10.3389/fmolb.2022.939834.
24. Choi BY, Shim D, Kong F, Auroy P, Lee Y, **Li-Beisson Y**, Lee Y, Yamaoka Y\*. (2022) The *Chlamydomonas* transcription factor MYB1 mediates lipid accumulation under nitrogen depletion. *New Phytol*. 2022 Jul;235(2):595-610.
25. Harchouni S, England S, Vieu J, Aouane A, Citerne S, Legeret B, **Li-Beisson Y**, Menand B\*, Field B\*. (2022) Guanosine tetraphosphate (ppGpp) accumulation inhibits chloroplast gene expression and promotes super grana formation in the moss *Physcomitrium* (*Physcomitrella*) patens. *New Phytol*
26. Burlacot A, Dao O, Auroy P, Cuiné S, **Li-Beisson Y**, PELTIER G\* (2022) Alternative electron pathways of photosynthesis drive the algal CO<sub>2</sub> concentrating mechanism. *Nature* (in press)

27. **Yonghua Li-Beisson** (2022) Editorial feature: Meet the PCP editor—Yonghua Li-Beisson. *Plant Cell Physiol*, Oxford University Press (OUP), pp.1-3.
28. Dao O, Kuhnert F, Weber APM., Peltier G, **Li-Beisson Y\*** (2022) Physiological functions of malate shuttles in plants and algae. *TIPS*, Elsevier, 2021.
29. Avilan L, Lebrun R, Puppo C, Citerne S, Cuiné S, **Li-Beisson Y**, Menand B, Field B\*, Gontero B\* (2022) ppGpp influences protein protection, growth and photosynthesis in *Phaeodactylum tricornutum*. *New Phytol* 230 (4), pp.1517-1532
30. Bai F, Yu L, Shi J, **Li-Beisson Y**, Liu J. (2022) Long-chain acyl-CoA synthetases activate fatty acids for lipid synthesis, remodeling and energy production in *Chlamydomonas*. *New Phytol*, Wiley, 233(2):823-837.

**2021:**

31. Sorigué D., Hadjidemetriou K., Blangy S., Gotthard G., Bonvalet A., Coquelle N., Samire P., Aleksandrov A., Antonucci L., Benachir A., Boutet S., Byrdin M., Cammarata M., Carbajo S., Cuiné S., Doak R. B., Foucar L., Gorel A., Grünbein M., Hartmann E., Hienewadel R., Hilpert M., Kloos M., Lane T. J., Légeret B., Legrand P., **Li-Beisson Y.**, Moulin S.L.Y., Nurizzo D., Peltier G., Schirò G., Shoeman R. L., Sliwa M., Solinas X., Zhuang B., Barends T. R. M., Colletier J.-P., Joffre M., Royant A., Berthomieu C.\*, Weik M.\*, Domratcheva T.\*, Brettel K., Vos M. H.\*, Schlichting I.\*, Arnoux P.\*, Müller P.\*, Beisson F\* (2021). Mechanism and dynamics of fatty acid photodecarboxylase. *Science*, 372 (6538), pp.eabd5687.
32. Dufourcq-Sekatcheff E, Cuine S, **Li-Beisson Y**, Quevarec L, Richaud M, et al.. (2021) Deciphering Differential Life Stage Radioinduced Reproductive Decline in *Caenorhabditis elegans* through Lipid Analysis. *Int J Mol Sci, MDPI*, 22, pp.10277.
33. Moulin S, Beyly A, Cuiné S, Blangy S, Légeret B, Floriani M, Burlacot A, Sorigué D, **Li-Beisson Y**, Peltier G, Beisson F\* (2021) Fatty acid photodecarboxylase is an ancient photoenzyme responsible for hydrocarbon formation in the thylakoid membranes of algae. *Plant Physiol* 186 (3), pp.1455-1472
34. **Li-Beisson Y\***, Kong F, Wang P, Lee Y, Kang B-H. (2021) The disassembly of lipid droplets in *Chlamydomonas*. *New Phytol*, Wiley, 2021, 231, 1359-1364.
35. Gong Y, Kang NK, Kim YU, Wang Z, Wei L, Xin Y, Shen C, Wang Q, You W, Lim JM, Jeong SW, Park YI, Oh HM, Pan K, Poliner E, Yang G, **Li-Beisson Y**, Li Y, Hu Q, Poetsch A, Farre EM, Chang YK, Jeong WJ, Jeong BR, Xu J (2020) The NanDeSyn database for Nannochloropsis systems and synthetic biology. *Plant J* 104(6):1736-1745.

**2020:**

36. Burlacot A, **Li-Beisson Y**, Peltier G\* (2020). Membrane inlet mass spectrometry at the crossroads of photosynthesis, biofuel, and climate research. *Plant Physiol* 183(2):451.
37. Cahoon Eb, **Li-Beisson Y\*** (2020). Plant unusual fatty acids: learning from the less common. *Curr Opin Plant Biol*. 55:66.
38. Burlacot A, Burlacot F, **Li-Beisson Y**, Peltier G\* (2020). Membrane inlet mass spectrometry: a powerful tool for algal research. *Front in Plant Sci* 11:1302.
39. Burlacot A, Richaud P, Gosset A, **Li-Beisson Y**, Peltier G\* (2020). Algal photosynthesis converts nitric oxide into nitrous oxide. *Proc Natl Acad Sci USA* 117(5):2704.
40. **Li-Beisson Y**, Carrière F. (2020). Biogenesis and fate of lipid droplets. *Biochimie* 169:1-2.
41. Torres-Romero I, Kong F, Légeret B, Beisson F, Peltier G, **Li-Beisson Y\*** (2020). *Chlamydomonas* cell cycle mutant *crdc5* over-accumulates starch and oil. *Biochimie* 169:54.
42. Lee J, Yamaoka Y, Kong F, Cagnon C, Beyly-Adriano A, Jang S, Gao P, Kang BH, **Li-Beisson Y\***, Lee Y\* (2020) The phosphatidylethanolamine-binding protein DTH1 mediates degradation of lipid droplets in *Chlamydomonas reinhardtii*. *Proc Natl Acad Sci USA* 117(37):23131-23139.

**2019:**

43. Cecchin M, Marcolungo L, Rossato M, Girolomoni L, Cosentino E, Cuine S, **Li-Beisson Y**, Delledonne M, Ballottari M (2019). Chlorella vulgaris genome assembly and annotation reveals the molecular basis for metabolic acclimation to high light conditions. *Plant J* 100(6):1289-1305.
44. Yamaoka Y, Shin S, Choi By, Kim H, Jang S, Kajikawa M, Yamano T, Kong F, Légeret B, Fukuzawa H, **Li-Beisson Y**, Lee Y (2019). The bZIP1 transcription factor regulates lipid remodeling and contributes to ER stress management in Chlamydomonas reinhardtii. *Plant Cell* 31(5):1127.
45. Findinier J, Laurent S, Duchêne T, Roussel X, Lancelon-Pin C, Cuiné S, Putaux JL, **Li-Beisson Y**, D'hulst C, Watted F, Dauvillée D (2019). Deletion of BSG1 in Chlamydomonas reinhardtii leads to abnormal starch granule size and morphology. *Sci Rep* 9(1):1990.
46. **Li-Beisson Y\***, Thelen JJ, Fedosejevs E, Harwood JL (2019). The lipid biochemistry of eukaryotic algae. *Prog Lipid Res* 74:31.
47. Burlacot A, Peltier G, **Li-Beisson Y\*** (2019) Subcellular energetics and carbon storage in Chlamydomonas. *Cells* 8(10):1154.
48. Moulin S, Légeret B, Blangy S, Sorigué D, Burlacot A, Auroy P, **Li-Beisson Y**, Peltier G, Beisson F\* (2019). Continuous photoproduction of hydrocarbon drop-in fuel by microbial cell factories. *Sci Rep* 9(1):13713
49. **Li-Beisson Y\***, Wada H (2019). Plant and algal lipids set sail for new horizons. *Plant Cell Physiol* 60(6):1161.
50. Warakanont J\*, **Li-Beisson Y**, Benning C (2019). LIP4 is involved in triacylglycerol degradation in Chlamydomonas reinhardtii. *Plant Cell Physiol* 60(6):1250.
51. Liang Y, Kong F, Torres-Romero I, Burlacot A, Cuine S, Légeret B, Billon E, Brotman Y, Alseekh S, Fernie Ar, Beisson F, Peltier G, **Li-Beisson Y\*** (2019). Branched-chain amino acid catabolism impacts triacylglycerol homeostasis in Chlamydomonas reinhardtii. *Plant Physiol* 179(4):1502.
52. Kong F, Yamaoka Y, Ohama T, Lee Y, **Li-Beisson Y\*** (2019). Molecular genetic tools and emerging synthetic biology strategies to increase cellular oil content in Chlamydomonas reinhardtii. *Plant Cell Physiol* 60(6):1184.
53. Brzezowski P, Ksas B, Havaux M, Grimm B, Chazaux M, Peltier G, Johnson X, Alric J\* (2019) The function of PROTOPORPHYRINOGEN IX OXIDASE in chlorophyll biosynthesis requires oxidised plastoquinone in Chlamydomonas reinhardtii. *Commun Biol* 2019, 2:159.
54. Liang Y, Kong F, Torres-Romero I, Burlacot A, Cuine S, Légeret B, Billon E, Brotman Y, Alseekh S, Fernie AR, Beisson F, Peltier G, **Li-Beisson Y**. (2019) Branched-Chain Amino Acid Catabolism Impacts Triacylglycerol Homeostasis in Chlamydomonas reinhardtii. *Plant Physiol*. 2019 Apr;179(4):1502-1514.
55. Kong F, Yamaoka Y, Ohama T, Lee Y, **Li-Beisson Y**. (2019) Molecular Genetic Tools and Emerging Synthetic Biology Strategies to Increase Cellular Oil Content in Chlamydomonas reinhardtii. *Plant Cell Physiol*.
56. **Li-Beisson Y**, Thelen JJ, Fedosejevs E, Harwood JL. (2019) The lipid biochemistry of eukaryotic algae. *Prog Lipid Res*.

## **2018:**

57. Kong F, Burlacot A, Liang Y., Légeret B, Alseek S, Brotman Y, Fernie A, Krieger-Liszkay A, Beisson F, Peltier G, **Li-Beisson Y\*** (2018). Interorganelle communication: peroxisomal malate dehydrogenase 2 connects lipid catabolism to photosynthesis through redox coupling in Chlamydomonas. *Plant Cell*, 30:1824
58. Hanchi M, Thibaud MC, Légeret B, Kuwata K, Pochon N, Beisson F, Cao A, Cuyas L, David P, Doerner P, Ferjani A, Lai F, **Li-Beisson Y**, Mutterer J, Philibert M, Raghothama KG, Rivasseau C, Secco D, Whelan J, Nussaume L, Javot H. (2018) The phosphate fast-responsive genes PECP1 and PPsPase1 affect phosphocholine and phosphoethanolamine content. *Plant Physiol*. 176: 2943

59. Kong F, Romero IT, Warakanont J, **Li-Beisson Y\*** (2018) Lipid catabolism in microalgae. *New Phytol.* 218: 1340
60. Sorigé D, Légeret B, Cuiné C, Blangy S, Moulin S, Billon E, Richaud P, Brugière S, Couté Y, Nurizzo D, Muller P, Brettel K, Pignol D, Arnoux P, **Li-Beisson Y**, Peltier G, Beisson F (2017). An algal photoenzyme converts fatty acids to hydrocarbons. *Science* 357: 903
61. Kong F, **Li-Beisson Y** (2018). Identification of Insertion Site by RESDA-PCR in *Chlamydomonas* Mutants Generated by AphVIII Random Insertional Mutagenesis. *Bio-protocols*.

## 2017:

62. **Li-Beisson Y**, Neunzig J, Lee, Y, Philippar K (2017). Plant membrane-protein mediated intracellular traffic of fatty acids and acyl lipids. *Curr Opin Plant Biol* 40: 138
63. Kong F, Liang Y, Légeret B, Beyly-Adriano A, Blangy S, Haslam R, Napier J, Beisson F, Peltier G, **Li-Beisson Y\*** (2017) *Chlamydomonas* carries out fatty acid  $\beta$ -oxidation in ancestral peroxisomes using a bona fide acyl-CoA oxidase. *The Plant J.* 90: 358
64. Lee EJ, Oh M, Hwang JU, **Li-Beisson Y**, Nishida I, Lee Y (2017). Seed-specific overexpression of the pyruvate transporter BASS2 increased oil content in *Arabidopsis* seeds. *Frontiers in Plant Science* 8:194
65. Findinier J, Tuncay H, Schulz-Raffelt M, Spriet C, Duchene T, Szydlowski N, **Li-Beisson Y**, Peltier G, D'Hulst C, Wattebled F, Dauvillée D (2017) Mutation in the MEX1 gene of *Chlamydomonas* leads to impaired starch mobilization without maltose accumulation. *J. Exp. Botany* 68:5177

## 2016:

66. Légeret B, Schulz-Raffelt M, Nguyen HM, Auroy P, Beisson F, Peltier G, Blanc G, **Li-Beisson Y\*** (2016) Lipidomic and transcriptomic analyses of *Chlamydomonas reinhardtii* under heat stress unveil a direct route for the conversion of membrane lipids into storage lipids. *Plant, Cell & Environment* 39:834
67. Schulz-Raffelt M, Chochois V, Auroy P, Cuiné S, Billon E, Dauvillée D, **Li-Beisson Y**, Peltier G (2016) Hyper-accumulation of starch and oil in a *Chlamydomonas* mutant affected in a plant-specific DYRK kinase. *Biotechnology for Biofuels* 9:1
68. Li N, Xu C, **Li-Beisson Y**, Philippar K (2016) Fatty acid and lipid transport in plant cells. *Trends in Plant Science* 21: 145 (invited review)
69. Yamaoka Y, Achard D, Jang S, Legeret B, Kamisuki S, Ko D, Schulz-Raffelt M, Kim Y, Song WY, Nishida I, **Li-Beisson Y\***, Lee Y\* (2016) Identification of a *Chlamydomonas* plastidial 2-lysophosphatidic acid acyltransferase and its use to engineer microalgae with increased oil content. *Plant Biotechnology Journal* 14:2158
70. **Li-Beisson Y**, Verdier G., Xu L, Beisson F. (2016) Cutin and suberin polyesters. In *Encyclopedia of life science eLS* John Wiley & Sons, Ltd
71. Yang WL, Pollard M, **Li-Beisson Y**, Ohlrogge J (2016) Quantitative analysis of glycerol in *Arabidopsis* dicarboxylic acid-rich cutins provides new insights into cutin structure. *Phytochemistry* 130:159
72. Goold HD, Nguyen HM, Kong F, Beyly-Adriano A, Legeret B, Billon E, Cuine S, Beisson F, Peltier G, **Li-Beisson Y\*** (2016) Whole genome re-sequencing identifies a quantitative trait locus repressing carbon reserve accumulation during optimal growth in *Chlamydomonas reinhardtii*. *Scientific Report* 6: 25209
73. **Li-Beisson Y\***, Nakamura Y, Harwood J (2016) Lipids: from chemical structures, biosynthesis, and analyses to industrial applications. *Subcellular Biochemistry* 86: 1-18
74. Goold HD, Cuiné S, Légeret B, Liang Y, Brugière S, Auroy P, Javot H, Tardif M, Jones BJ, Beisson F, Peltier G, **Li-Beisson Y\*** (2016) Saturating light induces sustained accumulation of oil primarily stored in lipid droplets of plastidial origin in *Chlamydomonas reinhardtii*. *Plant Physiology* 171:2406.

75. Sorigué D, Légeret B, Cuiné S, Morales P, Mirabella B, Guedeney G, **Li-Beisson Y**, Jetter R, Peltier G, Beisson F (2016) Microalgae synthesize hydrocarbons from long-chain fatty acids via a light-dependent pathway. *Plant Physiology* 171:2393

## 2015:

76. **Li-Beisson Y\***, Beisson F, Riekhof W (2015) Metabolism of acyl-lipids in *Chlamydomonas reinhardtii*. *The Plant Journal* 82:504 (invited review)
77. Kim H, Jang S, Kim S, Yamaoka Y, Hong D, Song WY, Nishida I, **Li-Beisson Y**, Lee Y (2015) The small molecule fenpropimorph rapidly converts chloroplast membrane lipids to triacylglycerols in *Chlamydomonas reinhardtii*. *Frontiers in Microbiology* 6 :54
78. Taleb A, Pruvost J, Legrand J, Marec H, Le-Gouic B, Mirabella B, Legeret B, Bouvet S, Peltier G, **Li-Beisson Y**, Taha S, Takache H (2015) Development and validation of a screening procedure of microalgae for biodiesel production: Application to the genus of marine microalgae Nannochloropsis. *Bioresource Technology* 177 :224
79. Goold H, Beisson F, Peltier G, **Li-Beisson Y\*** (2015) Microalgal lipid droplets: composition, diversity, biogenesis and functions. *Plant Cell Reports* 34 :545 (invited review)

## 2014:

80. **Li-Beisson Y**, Peltier G, Knörzer P, Happe T, and Hemschemeier A (2014) Hydrogen and biofuel production in the chloroplast, in *Plastid Biology* edited by Theg SM/Wollman FA
81. Nguyen HM, Cuine S, Beyly-Adriano A, Legeret B, Billon E, Aurory P, Beisson F, Peltier G, **Li-Beisson Y\*** (2013) The green microalga *Chlamydomonas reinhardtii* has a single  $\omega$ -3 fatty acid desaturase which localizes to the chloroplast and impacts both plastidic and extraplastidic membrane lipids. *Plant Physiology* 163:914
82. Cagnon C, Mirabella B, Nguyen HM, Beyly-Adriano A, Bouvet S, Cuiné S, Beisson F, Peltier G, **Li-Beisson Y\*** (2013) Development of a forward genetic screen to isolate oil mutants in the green microalga *Chlamydomonas reinhardtii*. *Biotechnology for Biofuels* 6:178

## 2013:

83. **Li-Beisson Y\***, Shorrosh B, Beisson F, Andersson M, et al. (2013) Acyl-lipid metabolism: in *The Arabidopsis Book*, Rockville, MD: American Society of Plant Biologists 11:e0161
84. Kim S, Kim H, Ko D, Yamaoka Y, Otsuru M, Kawai-Yamada M, Ishikawa T, Oh HM, Nishida I, **Li-Beisson Y**, Lee Y (2013) Rapid induction of lipid droplets in *Chlamydomonas reinhardtii* and *Chlorella vulgaris* by Brefeldin A. *Plos One* 8:e81978
85. Delrue F, **Li-Beisson Y**, Setier P-A, Sahut C, Roubaud A, Froment A-K, Peltier G (2013) Comparison of various microalgae liquid biofuel production pathways based on energetic, economic and environmental criteria. *Bioresource technology* 136:205
86. Yang W, Simpson JP, **Li-Beisson Y**, Beisson F, Pollard M, Ohlrogge JB (2013). A land-plant specific glycerol-3-phosphate acyltransferase family in Arabidopsis: substrate specificity, sn-2 preference and evolution. *Plant Physiol* 160: 638
87. **Li-Beisson Y\*** and Peltier G (2013) Third-generation biofuels: current and future research on microalgal lipid biotechnology *OCL (Oléagineux, Corps Gras Lipides)* 20(6) D606 (invited review)

## 2012:

88. **Li-Beisson Y\*** (2012) Triacylglycerol biosynthesis in eukaryotic microalgae - the biological basis for a sustainable 3<sup>rd</sup> generation biofuel. *Lipid Library*, American Society of Oil Chemist (AOCS), edited by William Bill Christie. (invited review)
89. Beisson F, **Li-Beisson Y** and Pollard M (2012) Solving the puzzles of cutin and suberin polymer biosynthesis. *Curent Opinion in Plant Biology* 15:329 (invited review)

**2011:**

90. Nguyen HM, Baudet M, Cui   S, Adriano JM, Barthe D, Billion E, Bruley C, Beisson F, Peltier G, Ferro M, **Li-Beisson Y\*** (2011) Proteomic profiling of oil-bodies isolated from the unicellular green microalga *Chlamydomonas reinhardtii*: with focus on proteins involved in lipid metabolism. *Proteomics* 11:4266
91. Siaut M, Cui   S, Cagnon C, Fessler B, Nguyen M, Carrier P, Beyly A, Beisson F, Triantaphyllid  s C, **Li-Beisson Y\*** and Peltier G (2011) Oil accumulation in the model green alga *Chlamydomonas reinhardtii*: characterization, variability between common laboratory strains and relationship with starch reserves. *BMC Biotechnology*, 11:7
92. **Li-Beisson Y\*** (2011) Cutin and Suberin. In: *Encyclopedia of Life Sciences (ELS)*, John Wiley & Sons, Ltd: Chichester (invited review)

**202-2010: mostly on plants**

93. **Li-Beisson Y\***, Shorrosh B, Beisson F, Andersson M, et al. (2010) Acyl lipid metabolism: in *The Arabidopsis Book*, Rockville, MD: American Society of Plant Biologists
94. Manas-Fernandez A, **Li-Beisson Y**, Alonso, DL and Garcia-Maroto F (2010) Cloning and molecular characterization of a glycerol-3-phosphate O-acyltransferase (GPAT) gene from *Echium* (Boraginaceae) involved in the biosynthesis of cutin polyesters. *Planta* 232 :987
95. Yang W, Pollard M, **Li-Beisson Y**, Beisson F, Feig M, Ohlrogge J (2010) A distinct type of glycerol-3-phosphate acyltransferase with *sn*-2 preference and phosphatase activity producing 2-monoacylglycerol. *Proc Natl Acad Sci USA* 107:12040
96. Stork J, Harris D, Williams B, Griffiths J, Haughn G, Beisson F, **Li-Beisson Y**, Mendu V, DeBolt S (2010) Cellulase synthase9 serves a non-redundant role in secondary cell wall synthesis in the radial wall of Arabidopsis epidermal testa cells. *Plant Physiology* 153:580
97. **Li-Beisson Y**, Pollard M, Sauveplane V, Pinot F, Ohlrogge J and Beisson F (2009) Nanoridges that characterize the surface morphology of flowers require the synthesis of cutin polyester. *Proc Natl Acad Sci USA*, 106:22008
98. Molina I, **Li-Beisson Y**, Beisson F, Ohlrogge J and Pollard M (2009) Identification of an Arabidopsis feruloyl-CoA transferase required for suberin synthesis. *Plant Physiology* 151:1317
99. **Li Y\*** and Beisson F (2009) The biosynthesis of cutin and suberin as an alternative source of enzymes for the production of bio-based chemicals and materials. *Biochimie* 91: 685
100. DeBolt S, Scheible W, Schrick K, Auer M, Beisson F, Bischoff V, Bouvier-Nav   P, Carroll A, Hematy K, **Li Y**, Milne J, Nair M, Schaller H, Zemla M and Somerville C (2009) Mutations in UDP-glucose:sterol-glucosyltransferase in Arabidopsis cause transparent testa phenotype and suberization defect in seeds. *Plant Physiology* 151:78
101. Pollard M, Beisson F, **Li Y** and Ohlrogge J (2008) Building lipid barriers: biosynthesis of cutin and suberin. *Trends in Plant Sciences* 13:236 (invited review)
102. **Li Y**, Beisson F, Koo A, Molina I, Pollard M and Ohlrogge J (2007) Identification of acyltransferases required for cutin biosynthesis and production of cutin with suberin-like monomers. *Proc Natl Acad Sci USA* 104:18339
103. **Li Y**, Beisson F, Ohlrogge J and Pollard M (2007) Monoacylglycerols are components of root waxes and can be produced in the aerial cuticle by ectopic expression of a suberin-associated acyltransferase. *Plant Physiology* 144:1267
104. Beisson F\*, **Li Y\***, Bonaventure G, Pollard M and Ohlrogge J (2007) The acyltransferase GPAT5 is required for synthesis of suberin in seed coat and root of Arabidopsis. *Plant Cell* 19:1
105. **Li Y**, Beisson F, Pollard M and Ohlrogge J (2006) Oil content of Arabidopsis seeds: the influence of seed anatomy, light and plant-to-plant variation. *Phytochemistry* 67:904
106. **Li Y**, Adams IP, Wynn JP and Ratledge C (2005) Cloning and characterisation of a gene encoding a malic enzyme involved in anaerobic growth in *Mc circinelloides*. *Mycological Research* 109:461

107. Song Y, Wynn JP, **Li Y**, Granham D and Ratledge C (2001) A pre-genetic study of the isoforms of malic enzyme associated with lipid accumulation in *Mucor circinelloides*. *Microbiology* 147:1507
108. Wynn JP, Hamid AA, **Li Y** and Ratledge C (2001) Biochemical events leading to the diversion of carbon into storage lipids in the oleaginous fungi *Mucor circinelloides* and *Mortierella alpine*. *Microbiology* 147:2857

#### Other (not peer-reviewed publications):

- Editor for the book “**Lipids in Plant and Algae Development**” (Nakamura Y and **Li-Beisson Y**, eds., Springer 2016).
- Beisson F, **Li-Beisson Y**, Peltier G, Finazzi G, Maréchal E, Chauvat F, Delrue F, Froment AK, Blet V (2012). Des microalgues pour la production de biocarburants. *Clefs CEA*
- **Li-Beisson Y\*** and Peltier G (2011). Biocarburants: le défi des microalgues. *Pour la Science* issue 78 (in French)

### Patents :

- Schulz-Raffelt M, Chochois V, **Li-Beisson Y**, Peltier G (2014) Green microalgae lacking a functional DYRK-1 gene, for use for production of feedstock (7/05/2014 EP14305673.7).
- Ohlrogge J, Beisson F, **Li Y**, Pollard M (2007). Engineered plant extracellular lipids using acyltransferases and fatty acid omega-oxidases (PCT/US2008/067887).
- **Li Y**, Beisson F, Pollard M and Ohlrogge J (2006). Acyltransferases for altering lipid production on plants (PCT/US2007/014690).
- Ohlrogge J, Ruuska S, **Li Y** (2011). F-Box protein targeted plant oil production. United States Patent 7,915,480 (PCT/US2006/037111).

### International and National Conferences, and Institutional Seminars

#### Invited keynote presentations:

1. Polyester Biosynthesis as a Source of Fatty Acid Hydroxylases and Acyltransferases with New Substrate Specificities. **19<sup>th</sup> International Symposium on Plant Lipids (ISPL)** Carines, Australia ( 2010)
2. Biosynthesis and function of plant cuticular polyesters. **1<sup>st</sup> Gordon Conference (Plant Lipids: Structure, Metabolism & Function)**, USA (2009)
3. Oil synthesis in the green microalga *Chlamydomonas reinhardtii* – a proteomic approach. **5<sup>th</sup> European Symposium on Plant Lipids**, Poland (2011)
4. Lipid biosynthesis in *Chlamydomonas reinhardtii*. **4<sup>th</sup> Asian Symposium on Plant Lipids**, Hong Kong (2011)
5. A forward genetic approach toward unravelling factors critical for oil metabolism in the model green alga *Chlamydomonas reinhardtii*. **20<sup>th</sup> International Symposium on Plant Lipids (ISPL)**, Seville, Spain (2012)
6. Screens, mutants, and –omics approaches toward understanding of lipid metabolic pathways in microalgae. **5<sup>th</sup> Asian Symposium on Plant Lipids**, South Korea (2013)
7. Genetic approaches to unravel lipid metabolism in the model alga *Chlamydomonas reinhardtii*. **Plant Lipid Metabolic Network and Switching**, Japan (2013)
8. Genetic and lipidomic approaches in deciphering lipid metabolism in *Chlamydomonas*. **Gordon Conference (Plant Lipids: Structure, Metabolism & Function)**, USA (2013)

9. Lipid metabolism in the green microalga *Chlamydomonas reinhardtii*: current research and future challenges. **The French Photosynthetic Society Meeting**, France (2013)
10. Dissecting oil metabolism in *Chlamydomonas* using genetic and lipidomic approaches. **3<sup>rd</sup> European Symposium on Microbial Lipids**, Germany (2014)
11. Study of oil turnover in the model green microalga *Chlamydomonas reinhardtii*. **7<sup>th</sup> European Symposium on Plant Lipids**, U.K. (2015)
12. Advances in biosynthesis and degradation of lipids in microalgae. **22<sup>nd</sup> International Symposium on Plant Lipids (ISPL)**, Germany (2016)
13. Microalgae biofuel: from genomics, genetics to energy dense molecules. **The 9<sup>th</sup> Asia-Pacific Conference on Algal Biotechnology (APCAB)**, Bangkok, Thailand (2016)
14. Control of TAG synthesis in microalgae. **The 7<sup>th</sup> Asian Symposium in Plant Lipids (ASPL)**, Taipei, Taiwan (2017)
15. Regulation of oil synthesis. **The 9<sup>th</sup> Algal BBB meeting**, Seattle, USA (2018)
16. Increasing lipid productivity: importance of the connection between lipid catabolism and chloroplast metabolism in *Chlamydomonas reinhardtii*. **The 23<sup>rd</sup> International Symposium on Plant Lipids (ISPL)**, Yokohama, Japan 2018
17. TAG Production in Microalgae: Carbon and Energetic Aspects. **Gordon Conference (Plant Lipids: Structure, Metabolism & Function)**, USA (2019)
18. The role of inter-organelle communication on lipid metabolism. Regulation of oil synthesis. The 10th Algal BBB meeting (2021) by Zoom
19. Inter-Organellar Signaling and Algal Lipid Metabolism. **The plant organelle signaling workshop** by Zoom (2021)
20. Exploring lipid metabolism for a sustainable bio-economy. **Plant Synthetic Biology Conference** (2022) Barcelona, Spain
21. Exploring algal lipid metabolism for a sustainable economy **EPSO Plant Science Seminar series - online**
22. Lipid droplet remodeling in the green microalga *Chlamydomonas reinhardtii*. **3<sup>rd</sup> Lipid droplet conference** (2023), Wageningen, Netherland
23. Lipid droplet homeostasis in the green microalga *Chlamydomonas reinhardtii*. **9<sup>th</sup> Asian Society of Plant Lipids**. (2023) Seoul, South Korea
24. Exploring algal lipid metabolism for a sustainable bioeconomy – with a focus on ‘lipid droplet. **Green Christmas Session**, an international conference with the theme "Photosynthetic microorganisms for sustainable development." 2023 – *online only*
25. Exploring algal photosynthesis and lipid metabolism for lipid-derived fuels. **10<sup>th</sup> European Symposium on Plant Lipids** (2023), Amsterdam, Netherlands
26. Microalgae as sources for a sustainable bioeconomy - **Japanese Society of Plant Physiologists** march 2024, Kobe, Japan
27. Current progress in our understanding of lipid metabolism in microalgae. **Bielefeld conference** 2024, Bielefeld, Germany
28. Microalgae as cell factories for lipid production ? **4èmes Rencontres académie-industrie du CNC**, Maison du Chimie, Paris 2024
29. Explore algal lipid metabolism for biotechnology? **Gordon Research Conference** 2025, Los Angeles, USA
30. “Exploring algal lipid metabolism for food and feed” **5th International Conference OBSIDIAN** – Plant productivity and food security, 23-25 June, Toruń, Poland
31. Recent progress on algal lipid metabolism. **International Symposium on Plant Lipids**, 5-10<sup>th</sup> July 2026 Malaga, Spain
32. Algal lipids for a sustainable bioeconomy. **International conference on algae and sustainability**, 26-28<sup>th</sup> July 2026, Nanchang, China

## Invited departmental seminars:

33. Lipid metabolism in the green model microalga *Chlamydomonas reinhardtii*. **Chonnam National University**, Chonnam, South Korea (2011)
34. Unravelling lipid metabolism in green microalgae using *Chlamydomonas reinhardtii* as a model. **POSTECH**, South Korea (2011)
35. Lipid Metabolism in Microalgae- Current progress and future directions. **Martin Luther University Halle-Wittenberg**, Germany (2012)
36. Biofuel from microalgae - current and future challenges for research. **Nouvelle Technologies pour le Energies (NTE-DRT)**, France (2012)
37. Current approaches to unravel oil biosynthesis in microalgae using *Chlamydomonas reinhardtii* as a model. **NREL-CEA joint meeting, USA** (2012)
38. Unravelling the networks of oil metabolism in green microalgae using *Chlamydomonas reinhardtii* as a model. **CEA/DSV Bioenergy Conference**, France (2012)
39. Current lipid research at CEA Cadarache France. **Shizuoka University**, Shizuoka, Japan (2013)
40. A forward genetic screen to isolate oil mutants in the green microalga *Chlamydomonas reinhardtii*, current research and future challenges, **POSTECH**, South Korea (2013)
41. Lipid research on the 3<sup>rd</sup> generation biofuel from microalgae at CEA Cadarache. **South West University**, China (2014)
42. Screens, mutants, and -omics approaches toward understanding lipid metabolic pathways in the alga *Chlamydomonas reinhardtii*. **Ludwig Maximilian's University**, Germany (2014)
43. Lipid biosynthesis and homeostasis in the model green microalga *Chlamydomonas reinhardtii*. Tianjin Institute of Industrial Biotechnology, **Chinese Academy of Science**, Tianjin, China (2015)
44. Lipid biosynthesis and homeostasis in the model microalga *Chlamydomonas reinhardtii* - With focus on forward genetic approach. Opening ceremony for **Centre for Lipid Research, Zibo**, China (2015)
45. Lipid metabolism in the model microalga *Chlamydomonas reinhardtii*. **Georg-August-Universität Göttingen**, Goettingen, Germany (2015)
46. Current research on lipids in CEA Cadarache -With focus on forward genetic approaches. **University Paris Sud**, Orsay, France (2015)
47. Microalgae biofuel: from genomics, genetics to energy dense molecules. **University of Kaiserslautern**, Germany (2016)
48. Current research on algae biofuel at CEA Cadarache. **Institute of Hydrobiology, Chinese Academy of Science, Wuhan, China** (2016)
49. Re-orientation of cellular metabolism toward oil synthesis in green microalgae: stress and genetics. **Centre for Algal Research, Beijing, China** (2016)
50. Connecting lipid catabolism to photosynthesis and chloroplast metabolism. **Donald Danforth Center**, St Louis, USA (June 2018).
51. Connecting lipid catabolism to photosynthesis and chloroplast metabolism. **University of Copenhagen**, Denmark (July 2018).
52. Lipid catabolism and photosynthesis. **Hanyang University**, Seoul, South Korea (July 2018)
53. Reverse coupling from peroxisome to chloroplast defines chloroplast metabolism. **POSTECH**, Pohang, South Korea (July 2018)
54. Interaction of lipid catabolism and photosynthesis, **Saarland University**, Germany (2019)
55. TAG synthesis in *Chlamydomonas reinhardtii*, **Potsdam Maxi Planck, Golm**, South Korea (2019)
56. Current research on microalgae bioenergy at CEA Cadarache. **CNRS/Univeristy of Toulouse 3 – Paul Sabatier**, Toulouse, France (2019)
57. Lipid biosynthesis in the green microalga *Chlamydomonas reinhardtii*. **University of Beijing**, Beijing (2019)
58. Regulation of lipid synthesis in photosynthetic organisms. **Chinese Academy of Science - Qingdao, Wuhan** (2019)

59. The multiple functions of lipids from physiology to biotechnological applications. **Zhengzhou Institute of Technology**, Zhengzhou, China (2019)
60. Lipid biosynthesis and regulation in microalgae. **INRA Versaille**, 2020
61. Research on lipids in microalgae at CEA Cadarache. **University of Verona**, Italy (2020)
62. The role of lipids during environmental adaptation. **Suzuoka University**, Japan (2023)
63. Microalgae as cell factories for production of lipid-derived products. **Huazhong Agriculture University** (2024)
64. Explore algal lipid metabolism for a sustainable bioeconomy and environmental remediation. **Hanan Univeristy, China** (China, 2024)
65. Understanding of lipid metabolism in microalgae (2024) **Chinese Academy of Science-Wuhan**, China (2024)
66. Explore algal lipid metabolism for biotechnology (2025) **University of California**, Berkely, USA
67. Progress in understanding of lipid metabolism in the green microalga *Chlamydomonas reinhardtii*. **Carnegie Institution for Science**, USA
68. Lipid metabolism and algal biotech (2025). **Instituto de la Grasa - CSIC**, Seville, Spain
69. Light, CO<sub>2</sub> and lipid metabolism in microalgae. (2025) **University of Uppsala**, Sweden
70. Explore the use of microalgae for biotechnology (2025) **Zhejiang University**, China
71. Algal lipids for food, feed and fuel? What's the path forward? (2025) **Yangzhou University**, China

#### Contributed talks at international meetings:

72. A member of an orphan family of cytochrome P450 monooxygenases is required for the synthesis of hydroxy fatty acids in plants. **5th Lipidomics Meeting (GERLI)**, France (2008)
73. Characterization of an acyltransferase mutant of *Arabidopsis* with altered seed coat lipid metabolism. **National Plant Lipid Cooperative Meeting (NPLC)**, USA ( 2005)
74. Glycerol 3-phosphate acyltransferase 5 is involved in suberin synthesis. **Plant Research Lab-DOE, Michigan State University**, USA (2007)
75. Initiation of lipid biosynthesis in oleaginous fungi. "New Concepts in Lipid Research" **National meeting of SCI/RSC Lipid Group**, London, UK (2001)
76. Deciphering TAG accumulation in *Chlamydomonas* using a proteomic approach. **15<sup>th</sup> International Conference on Chlamydomonas**, Germany (2012)
77. Dissecting oil metabolism in *Chlamydomonas* using genetic and lipidomic approaches. **3<sup>rd</sup> European Symposium on Microbial Lipids**, Hamburg (2014)
78. Oil synthesis in the green microalga *Chlamydomonas reinhardtii* – a proteomic approach. **5<sup>th</sup> European Symposium on Plant Lipids**, Poland (2011)
79. Enriching algal biomass in energy content – lessons learnt from the model *Chlamydomonas reinhardtii*. **The 5<sup>th</sup> International CeBiTech Research Conference**, Belefield, Germany (2017)
80. Connecting lipid catabolism to photosynthesis and chloroplast metabolism. **16<sup>th</sup> Chlamydomonas meeting**, Washington DC, USA (June 2018).
81. Lipid metabolism in microalgae in response to a changing environment. **Eurofed lipid congress**, (October 2021)
82. Algal peroxisome and its role in metabolism, photosynthesis and CO<sub>2</sub> assimilation. **2021 Perico workshop - online** (march 2022)
83. Current understanding of lipid droplet biogenesis in microalgae. **The 26th International Symposium on Plant Lipids**, Nebraska, USA (July, 2023)

#### Other:

1. Research on Microalgae at CEA Cadarache. **AlgainProvence workshop, France (2019)**
2. Orientation of cellular metabolism toward oil production in microalgae: stress and genetics. **The 9<sup>th</sup> Plasticity and Integrity of Genomes Conference**, France (2013)
3. Biological assimilation, conversion and storage of CO<sub>2</sub>: for fuels, chemicals, and better environment. **Joint CEA-CAS workshop, online** (2020)

4. Lipid biosynthesis in green algae. Colloquium **Wuhan-AMU, online** (2020)