

# Mikhail Filatov

## Contact Information

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## HIGHER EDUCATION QUALIFICATIONS

- 2020 Postgraduate Certificate in University Learning and Teaching  
Learning, Teaching and Technology Centre (LTTC), TU Dublin, Ireland
- 2005 – 2008 PhD in Organic Chemistry  
Department of Chemistry, Moscow State University, Moscow, Russia  
Thesis title: "General synthetic approach to porphyrins and dipyrromethanes with a  $\pi$ -extended system". Supervisors: I.P. Beletskaya and A.V. Cheprakov
- 2000 – 2005 Diploma of Chemist with a Red Diploma (distinction) (NFQ equivalent: Level 9)  
Department of Chemistry, Moscow State University, Moscow, Russia

## CURRENT POSITION

- 2017 – Lecturer in Organic Chemistry (permanent wholetime)  
School of Chemical and Biopharmaceutical Sciences, Technological University  
Dublin, Ireland

## PREVIOUS POSITIONS

- 2015 – 2017 Marie Curie Research Fellow (MSCA-IF)  
School of Chemistry, Trinity College Dublin, Ireland
- 2014 – 2015 Researcher in EU project POLINNOVA  
Institute of Polymers, Bulgarian Academy of Sciences, Sofia, Bulgaria
- 2010 – 2014 Postdoctoral Researcher  
Max Planck Institute for Polymer Research, Mainz, Germany
- 2008 – 2009 CNRS Postdoctoral Researcher  
Institute of Molecular Chemistry, University of Burgundy, Dijon, France
- 2008 Visiting Researcher  
Department of Biochemistry and Biophysics, University of Pennsylvania,  
Philadelphia, USA
- 2005 – 2008 Managing Director  
Esterkem Ltd., startup chemical company, Moscow, Russia

## FELLOWSHIPS AND AWARDS (INCLUDING MAJOR GRANTS)

- 2022 – Research Ireland **Frontiers for the Future Award** (Principal Investigator)  
Project: Dyes with Switchable Intersystem Crossing for Photonics (DyeSICPhoto, 21/FFP-A/9214)
- 2020 – 2024 **TU Dublin Research Scholarship** (Principal Investigator)  
Project: Heavy-Atom-Free Photosensitizing Materials
- 2015 – 2017 **Marie Curie Intra-European Fellowship** (Principal Investigator)  
"Controlled Singlet Oxygen Release Sensitizer in Photodynamic Therapy"
- 2010 – 2014 **Max Planck Society Scholarship** (individual postdoc grant - stipend for outstanding scientists from abroad)  
Project: New Functional Dyes for NIR to Visible Light Upconversion

2005 – 2006 **Russian Foundation for Assistance to Small Innovative Enterprises** (grant for establishing a startup company)  
Project: Development of Technology of 24-Epibrassinolide Production

## TEACHING EXPERIENCE

- Extensive experience delivering lectures, tutorials, and lab-based instruction in pharmaceutical, medicinal, organic, and analytical chemistry
- Proficient in curriculum design, module coordination, and assessment strategy development
- Experienced in synchronous and asynchronous online teaching, using digital platforms such as Brightspace and Blackboard
- Apply research-led teaching approaches by integrating recent scientific developments into advanced-level modules
- Committed to fostering student engagement through interactive methods and interdisciplinary content

### Currently taught modules

CHEM1007 – Introduction to Chemistry  
CHEM2008 – Organic Chemistry  
CHEM2022 – Spectroscopy  
CHEM2024 – Pharmaceutical & Bioorganic Chemistry  
CHEM2025 – Medicinal Chemistry & Pharmchem Processes  
CHEM3011 – Organic Chemistry & Stereochemistry  
CHEM4008 – Topics in Medicinal Chemistry

### Previously taught modules:

CHEM1002 – Introduction to Chemistry  
CHEM2009 – Principles of Drug Action  
CHEM2023 – Organic Chemistry  
CHEM3003 – Organic Chemistry & Stereochemistry  
CHEM4004 – Advanced Organic Chemistry

## DEPARTMENTAL ADMIN ROLES

Phys2Life Research Hub Executive Committee member

Year coordinator for DT261-2 group (2<sup>nd</sup> year BSc in Medicinal Chemistry & Pharmaceutical Sciences)

Module coordinator for CHEM3011 - Organic Chemistry & Stereochemistry

## REVIEWER ACTIVITIES

### Journal articles reviewed (294)

Served as a referee and adjudicative referee for 42 academic journals.

*Chem. Commun.* (75), *J. Org. Chem.* (30), *ChemistrySelect* (25), *Phys. Chem. Chem. Phys.* (19), *Chem. Eur. J.* (17), *Angew. Chem. Int. Ed.* (15), *J. Mater. Chem. C* (11), *Dyes Pigm.* (10), *Photochem. Photobiol. Sci.* (10), *Chem. Sci.* (10), *J. Phys. Chem.* (8), *J. Am. Chem. Soc.* (8), *ACS Mater. Lett.* (5), *RSC Adv.* (4), *Org. Lett.* (4), *New J. Chem.* (3), *J. Phys. Chem. Lett.* (3), *JACS Au* (3), *Chem. Biodiversity* (2), *Eur. J. Inorg. Chem.* (2), *Nanoscale* (2), *Nat. Commun.* (2), *Adv. Opt. Mater.* (2), *Asian J. Org. Chem.* (2), *Jpn. J. Appl. Phys.* (2), *RSC Med. Chem.* (2), *Dalton Trans.* (2), *Acc. Chem. Res.* (1), *Electroanalysis* (1), *Chem. Asian J.* (1), *ChemPhotoChem* (1), *ChemPhysChem* (1), *ACS Cent. Sci.* (1), *Photochem. Photobiol.* (1), *Appl. Organomet. Chem.* (1), *Sustain. Food Technol.* (1), *Small* (1), *Appl. Res.* (1), *ACS Catal.* (1), *ACS Omega* (1), *Chem. Rev.* (1).

Reviewer Identifier: <https://www.webofscience.com/wos/author/record/A-2266-2013>

### Funding applications reviewed (29)

Served as a referee for the following funding agencies: European Commission H2020 – Marie Curie IEFs, ANR (Agence nationale de la recherche), Polish National Science Centre.

## PATENTED INNOVATIONS

1. Long-term stable composition, such as phosphorescent composition or TTA-photon upconversion composition, EP 2 851 407 A1, US 2016/0222286 A1, WO 2015/044129 A1, 2015.
2. Method of Synthesis of 5,5'-Disubstituted  $\pi$ -extended Dipyrromethenes and Their Use as Analytical Reagents for Metal Ions and Fluorescent Imaging Probes, US 2011/0144351 A1, 2009.
3. Method of Reduction of Unsaturated Ketones into Saturated Ketones, RU 2 293 720 C1, 2007.
4. Method of Synthesis of 24-Epibrassinolide, RU 2 272 044 C1, 2006.

## PUBLICATIONS

Summary: 47 scientific papers published (25 as a corresponding author), 1 book chapter.  
*h* index = 27, > 2500 citations (Google Scholar)

### Key publications

(\* corresponding author)

M.A. Filatov,\* T. Mikulchyk, M. Hodée, M. Dvoracek, V.N.K. Mamillapalli, A. Sheehan, C. Newman, S.M. Borisov, D. Escudero, I. Naydenova, Enhancement of Intersystem Crossing in Asymmetrically Substituted BODIPY Photosensitizers. *J. Mater. Chem. C*, **2025**, 13, 6993-7003. **Highlighted on the front cover.**

M. Dvoracek, C. Newman, M. Drobizhev, B. Twamley, M.O. Senge, S.A. Vinogradov, M.A. Filatov\*, Synthesis and Optical Properties of Unsymmetric Aromatically -Extended BODIPY. *J. Org. Chem.*, **2025**, 90, 12984–12997. **Highlighted on the front cover.**

A. Sheehan, I.A. Okkelman, G. Groslambert, C. Bucher, R.I. Dmitriev, M.A. Filatov\*, Optoelectronic Properties and Fluorescence Lifetime Imaging Application of Donor-Acceptor Dyads Derived From 2,6-DicarboxyBODIPY. *Chem. Eur. J.*, **2025**, 31, e202404188. **Highlighted on the front cover.**

T. Mikulchyk, S. Karuthedath, C. De Castro, A.A. Buglak, A. Sheehan, A. Wieder, F. Laquai, I. Naydenova, M.A. Filatov\*, Charge Transfer Mediated Triplet Excited State Formation in Donor-Acceptor-Donor BODIPY: Application for Recording of Holographic Structures in Photopolymerizable Glass, *J. Mater. Chem. C*, **2022**, 10, 11588-11597. **Highlighted on the back cover.**

M.A. Filatov\* Heavy-atom-free BODIPY Photosensitizers with Intersystem Crossing Mediated by Intramolecular Photoinduced Electron Transfer. *Org. Biomol. Chem.*, **2020**, 18, 10-27. **Highly cited paper (>300 citations).**

M.A. Filatov\*, S. Karuthedath, P.M. Polestshuk, S. Callaghan, K. Flanagan, M. Telitchko, T. Wiesner, F. Laquai, M.O. Senge, Control of triplet state generation in heavy atom-free BODIPY-anthracene dyads by media polarity and structural factors. *Phys. Chem. Chem. Phys.*, **2018**, 20, 8016-8031.

M.A. Filatov\*, S. Karuthedath, P.M. Polestshuk, H.Savoie, K.J. Flanagan, C. Sy, E. Sitte, M. Telitchko, F. Laquai, R.W. Boyle, M.O. Senge, Generation of Triplet Excited States via Photoinduced Electron Transfer in meso-antra-BODIPY: Fluorogenic Response toward Singlet Oxygen in Solution and *in Vitro*. *J. Am. Chem. Soc.*, **2017**, 139, 6282–6285. **Highly cited paper (>300 citations).**

M.A. Filatov, A. Y. Lebedev, S.N. Mukhin, S. A. Vinogradov and A. V. Cheprakov,  $\pi$ -Extended Dipyrins Capable of Highly Fluorogenic Complexation with Metal Ions. *J. Am. Chem. Soc.*, **2010**, 132, 9552-9554.