

## 2.4 HRSMC Co-operations

Research topic	Co-operating groups	Theme	University
2-D IR of Protein folding	Woutersen/Bolhuis	2.3	UvA
Adaptive QMMM methods	Ensing/Bulo	3	UvA, VU
Applications of chiroptical spectroscopies	Buma/Ariese	2	UvA/VU
Aromaticity in inter/circumstellar ice analogues a combined experimental and theoretical approach	Linnartz/Fonseca Guerra/Bickelhaupt	2.3	UL, VU
Artizymes	Lammertsma/Overhand	1	VU, UL
Calculations on homogeneous catalytic mechanisms	Ehlers/Bouwman	1	UvA, UL
Circular dichroism in plants	Buma/Ariese	2	UvA, VU
Calculations on Multicomponent Syntheses	Bickelhaupt/Orru/Fonseca Guerra	1.3	VU
Chemistry Behind CuII- $\mu$ -thiolate and CuI-disulfide complexes	Bouwman/Fonseca Guerra/Bickelhaupt	1.3	VU
Chiral anion-mediated catalysis	Orru/Lammertsma	1	VU
Developing broad spectrum light-harvesting antennas for organic solar cells	Bickelhaupt/Fonseca Guerra/Lammertsma	1.3	VU
Development of device compatible charge separators	Orru/Lammertsma	1	VU VU, UL,
Dutch Compound Library	Orru/Overkleef/ v.Maarseveen	1	UvA
Early stage dynamics of protein folding	Woutersen/Bolhuis	2.3	UvA
Electrocatalysis of immobilized molecular catalysts for water oxidation	Koper/Reek/Hetterscheid	2.3	UL, UvA
Electronic structure calculations on organometallic complexes	Baerends/Lammertsma	1.3	VU
Electronic structure of phosphinidene complexes	Baerends/Lammertsma	1.3	VU
Enzyme cascade reactions	Wever	1	UvA
Ester hydrogenolysis and (de)hydrogenations using firstrow transition metals	Elsevier/de Bruin/vd Vlugt/Van Maarseveen	1	UvA
Experimental and theoretical studies of molecules of astrochemical interest	Bickelhaupt/Fonseca Guerra/ Linnartz/Ubachs	1.2	VU, UL
Fluorescent organocatalysts	Brouwer/Hiemstra	1.2	UvA
Fragment-oriented rational design of catalysis	Bickelhaupt/Reek	1.3	VU, UvA
Homogenous Catalysis in transition metal complexes	Meijer/Reek/De Bruin	1.3	UvA
Homogeneous vs. heterogeneous electrocatalysis	Koper/Bouwman	1.3	UL
Hydrogenation of Carboxylic Acids with a Homogeneous Cobalt Catalyst	Elsevier/de Bruin	1	UvA
Infrared studies of (di)manganese carbonyl ions	Buma/Ingemann	1.2	UvA
Isotope-labeled peptides	Woutersen/Van Maarseveen	1.2	UvA

IR spectroscopy of metal clusters	Bakker/Buma/Oomens/Visscher	2.3	RU, UvA, VU
Light Harvesting Antenna complex	Abrahams/IJdo/Fu/De Groot	1.2	TUD, UL
Light harvesting dyes	Brouwer/Orru/Lammertsma	1.2	UvA, VU
Light Harvesting Molecules	Lammertsma/ Bickelhaupt/ Buma	1.2.3	VU, UvA
Luminescence enhancement of lanthanoid complexes; Orrit/Bouwman	Orrit/Bouwman	1.2	UL
Measuring and simulating chemistry in cometary processes	Bickelhaupt/Linnartz	3.2	VU, UL
Modeling of conformation of peptidomimetics	Orru/Ehlers	1	VU
Molecular separations	Grecea/Dubbeldam	1.3	UvA
Molecular sensing	Grecea/Bouwman/Zhang	1.2	UvA,UL
Non radiative energy transfer in three-component lipid membranes: upconversion followed by FRET	Bonnet/Kennis	1.2	UL, VU
PAHs in the laboratory and in space	Buma/Ubachs/Linnartz	2	UVA, VU, UL
Palladium catalysis, click chemistry involving NHC-triazole compounds	Elsevier/Hiemstra/Van Maarseveen	1	UvA
Pd-Catalyzed Z-Selective Semihydrogenation of Alkynes: Determining the Type of Active Species	Elsevier + de Bruin	1	UvA
Photocatalysis	Brouwer/Reek/Hartl/vdVlugt	1.2	UvA
Photocatalysis	Reek/vd Vlugt/De Groot	1.2	UvA, UL
Photodissociation dynamics of iron complexes	Van Hemert/Lammertsma/Ehlers/Kroes	1.3	UL, VU
Photosynthesis	De Groot/Koper	2.3	UL
Proton conductivity	Grecea/Ensing/Woutersen	1.2.3	UvA
Protons in aqueous environment	Meijer/Ensing/Woutersen	2.3	UvA
Radical copper-phenolate compounds	Bouwman/De Bruin	1.3	UL, UvA
Renewable fuels	Buma/Visscher	1.3	UvA,VU
Selective enzymatic phosphorylation	Hiemstra/Wever	1	UvA
Solar energy conversion	Lammertsma/ Bickelhaupt/Buma	1.2.3	VU, UvA
Spectroscopy (2D-IR)	Reek/vd Vlugt/Woutersen	1.2	UvA
Spectroscopy of chiral molecules	Buma/Janssen	2	UvA, VU
Stimulated Raman in cells	Bonnet, Ariese	1.2	UL, VU
Time-dependent spectroscopy of photocatalytic liposomes	Bonnet/Brouwer	1.2	UL, UvA
TR spectroscopy applied to supramolecular catalysis	Reek/Brouwer	1.2	UvA
Ester hydrogenolysis and (de)hydrogenations using firstrow transition metals	Elsevier/de Bruin/vd Vlugt	1	UvA
Use of phosphatases and sulfatases in enantioselective reactions	Wever	1	UvA
Various Synthetic products	Hiemstra/Orru/ v.Maarseveen	1	UvA, UL
Vibrational circular dichroism	Woutersen/Buma/De Bruin	1.2	UvA

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Vibrational circular dichroism: applications and theory	Buma/Visscher Buda/de	1.3	UvA, VU
Water oxidation catalysis	Groot/Koper/Hetterscheid	2.3	UL

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## 2.5 Memberships and awards

### Memberships organising committees international meetings

<b>Name staff member</b>	<b>- Activity</b>
Bickelhaupt	- Member Scientific Committee Girona Seminar, Girona, Spain - Member International Advisory Board, Virtual Conference on Computational Chemistry, Mauritius
Buma	- Co-chairman of the HRSMC and ESF SILMI Programme Graduate School on "Modern Developments in Spectroscopy", Noordwijk (NL), April 2012 and 2015.
Elsevier	- Board EUCHEMS conferences Organometallic Chemistry since 2007 Member
Ensing	- Organizer Winter School for Theoretical Chemistry and Spectroscopy, Han sur Lesse, 2015.
Fonseca Guerra	- Member International Advisory Board, Virtual Conference on Computational Chemistry, Mauritius
Groot, de	- Co-organizer Lorentz workshop
Hiemstra	- Member of the Programme Committee of the 27 <sup>th</sup> European Colloquium on Heterocyclic Chemistry, Amsterdam, July 2016
Linnartz	- Board member IAU commission 'Laboratory Astrophysics' - Board member international committee of the biannual workshop on infrared plasma spectroscopy - Board member ISWA2016
Maarseveen, van	- Foreign expert panel member W&T4 (chemistry) Flanders Research Foundation (FWO).
Meijer	- Coordinating organizer international school 'Understanding Molecular Simulation' 2015
Slootweg	- Member Organizing Committee of the International Conference on Phosphorus Chemistry 2012 (ICPC 2015)
Timmerman	- Member of Scientific Advisory Board TIDES-meeting, Oligonucleotide & Peptide Research, Technology & Product Development

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## Board memberships scientific organisations/academies/awards

<b>Name staff member</b>	<b>- Activity</b>
Ariese	<ul style="list-style-type: none"><li>- Board Member International Society on Polycyclic Aromatic Compounds</li><li>- Member of LASERLAB EUROPE working group on future financing</li><li>- Member of COAST Educational Board</li></ul>
Bickelhaupt	<ul style="list-style-type: none"><li>- Chairman Board HRSMC</li><li>- Royal Holland Society of Sciences and Humanities (KHMW)</li><li>- Fellow of the Royal Society of Chemistry (FRSC)</li><li>- Chairman VU-UvA Education Committee Chemistry</li><li>- Member Pannel ERC Starting Grant</li><li>- NWO Astrochemistry program committee</li><li>- NWO Planetary and Exoplanetary Sciences program committee</li><li>- Member Management Committee of COST action CM1105 (Functional Metal Complexes that Bind to Biomolecules)</li><li>- Member of COST action CM1005 (Supramolecular Chemistry in Water)</li><li>- Member International Advisory Board, Institute of Computational Chemistry and Catalysis, Girona, Spain</li><li>- Member Advisory Board, Leiden Institute of Chemistry, Leiden, Netherlands</li></ul>
Bolhuis	<ul style="list-style-type: none"><li>- Member FOM BRM programme committee</li><li>- Director of the Dutch CECAM node</li><li>- Chair of the CW study group Soft Matter</li><li>- Co-organized the ESI/CECAM Workshop "From trajectories to reaction coordinates: making sense of molecular simulation data", September 16-18, 2015, Erwin-Schrödinger-Institute in Vienna, Austria</li></ul>
Bonnet	<ul style="list-style-type: none"><li>- Board Member CW study group Lipids and Biomembranes</li><li>- Member Organizing Committee HRSMC Summerschool Photochemistry, Fundamentals and Applications (2016)</li></ul>
Bouwman	<ul style="list-style-type: none"><li>- Board Member Leids Universiteits Fonds (LUF)</li><li>- Board Member Inorganic Division of EuCheMS</li><li>- Board Member CW study group Coordination Chemistry &amp; Homogeneous Catalysis</li><li>- Member NWO-CW TOP/ECHO jury</li></ul>
Brouwer	<ul style="list-style-type: none"><li>- Co-chair IUPAC project Photoluminescence Standards</li><li>- Member of the sub-committee on Photochemistry IUPAC, Division III</li></ul>

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Brouwer	<ul style="list-style-type: none"> <li>- Chair IUPAC project Photoluminescence Quantum Yields</li> <li>- Chairman Organizing Committee HRSMC Summerschool Photochemistry, Fundamentals and Applications (1998, 2003, 2008, 2012, 2016)</li> <li>- Member of the Review Group of the project "Application of Cooperative-Excitation into Innovative Molecular Systems with High-Order Photofunctions", MEXT, Japan, 2014-2018.</li> <li>- Member of the Permanent Steering Committee of the Biannual Conference on Methods and Applications of Fluorescence: Spectroscopy, Imaging &amp; Probes (MAF:SIP)</li> <li>- Member of IUPAC Sub-commission on Photochemistry</li> <li>- Organizer of LEELIS workshops (Low-Energy Electrons: Lithography, Imaging and Soft matter), Amsterdam, 2014, 2016</li> <li>- Chair IUPAC project Measurement of Photoluminescence Quantum Yields</li> <li>- Member of the board of the Study Group Structure and Reactivity (Chemical Sciences, Netherlands Science Foundation)</li> <li>- Member of board of Works Council of Faculty of Science, University of Amsterdam</li> </ul>
Bruin, de	<ul style="list-style-type: none"> <li>- UvA coordinator new UvA-VU Master Track 'Science for Energy and Sustainability'</li> <li>- Member of the Chemistry Education Committee (OCS) UvA-VU (since 2008). (Co)chair of the committee since 2012</li> <li>- Member Educational Board NIOK</li> <li>- Member American Chemical Society</li> </ul>
Buma	<ul style="list-style-type: none"> <li>- Member American Chemical Society</li> <li>- Member Senate UvA</li> <li>- Scientific Director HRSMC (since 2008)</li> <li>- Chairman John van Geuns Fonds Foundation</li> <li>- Member and secretary Board Stichting Bèta Plus</li> <li>- Kohler Distinguished Lectureship</li> <li>- Member International Advisory Committee "International Symposium on Molecular Beams", 2017</li> <li>- Programme manager "Analytical Chemistry and Spectroscopy" of LaserLab Amsterdam (partner of LaserLab Europe).</li> <li>- Member Management team Institute QuantiVision (Innovative Medical Devices Initiative initiated by ZonMW).</li> <li>- Member Senate of the University of Amsterdam.</li> <li>- Member and secretary Board Stichting Bèta Plus</li> </ul>

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Dubbeldam	<ul style="list-style-type: none"> <li>- Organiser Graduate winterschool on</li> <li>- Understanding Molecular Simulation, January 5-16, 2015; Amsterdam.</li> </ul>
Elsevier	<ul style="list-style-type: none"> <li>- Member Board HRSMC (since 2008)</li> <li>- Member Scientific Council NRSC-Catalysis</li> <li>- Scientific Director HRSMC 2002-2007</li> <li>- Visiting professorship at the Weizman Institute of Science (Israel)</li> <li>- Visiting professorship at ULP Strasbourg and at ENSIACET Toulouse</li> </ul>
Ensing	<ul style="list-style-type: none"> <li>- Member Educational Board HRSMC</li> <li>- Graduate Winterschool on Theoretical Chemistry and Spectroscopy,</li> <li>- December 8-12, 2015 (Han-sur-Lesse, Belgium)</li> <li>- Co-organized the ACMM symposium in honour of Evert-Jan Baerends 70th birthday.</li> <li>- Graduate winterschool on</li> <li>- Understanding Molecular Simulation, January 5-16, 2015; Amsterdam.</li> </ul>
Fonseca Guerra	<ul style="list-style-type: none"> <li>- EU Visiting Professorship at Warsaw University of Technology, Warsaw, Poland</li> </ul>
Fernández Ibáñez	<ul style="list-style-type: none"> <li>- Member of the Organizing Committee, 5th HRSMC Summer School on Organic Synthesis, Summer2017</li> <li>- Management Committee Member, EU COST-network C-H Activation in Organic Synthesis (CHAOS)</li> <li>- Member of the Editorial Board of Advances in Chemistry (Organometallic Chemistry section)</li> <li>- -Member of the core team 'Task force Sustainability' UvA</li> <li>- Member of the board Women in FNWI (WiF), University of Amsterdam</li> </ul>
Groenen	<ul style="list-style-type: none"> <li>- Chairman of the "Syllabuscommissie Nieuwe Natuurkunde"</li> <li>- Member of the International Scientific Advisory Board of the Max Planck Institute for Bioinorganic Chemistry (Mülheim, Germany)</li> </ul>
Groot, de	<ul style="list-style-type: none"> <li>- Member of the NWO Advisory Board Maatschappelijk Verantwoord Innoveren</li> <li>- Member of schrijfgroep programma commissie NWO programme Co2 neutral production of fuels</li> <li>- Member of the committee of recommendation Open Wetlab (de Waag)</li> <li>- Member of the Jury for the Martinus van Marum Prijs</li> <li>- Scientific director Research program BSC (BioSolar Cells)</li> <li>- Member of the Steering committee BSC</li> <li>- Member of the Management Team BSC</li> </ul>

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Groot, de	<ul style="list-style-type: none"> <li>- Member of de Raad van Toezicht Stichting Leiden Honours Community</li> <li>- Member of the FCT review panel for evaluation of research unit Natural and Environmental Sciences (Panel 04)</li> </ul>
Hiemstra	<ul style="list-style-type: none"> <li>- Member of "Koninklijke Hollandsche Maatschappij der Wetenschappen"</li> <li>- Chairman Examination Committee Bachelor Scheikunde and Master Chemistry, UvA</li> <li>- Member of the International Advisory Board of the Organic Division of the Czech Chemical Society</li> <li>- Member of the American Chemical Society</li> <li>- Member of the International Society of Heterocyclic Chemistry</li> <li>- Elected Member of the Royal Holland Society of Sciences (KHMW)</li> <li>- Member of the International Advisory Board of the Organic division of the Czech Chemical Society</li> <li>- Member of the Program Committee of the 27th European Colloquium on Heterocyclic Chemistry, Amsterdam, July 2016</li> <li>- Member of the Editorial Board of Molecules (Open Access Organic Chemistry Journal)</li> <li>- Chairman of the Examination Committee master Chemistry and bachelor Scheikunde, UvA (until September 1st 2015)</li> <li>- Chairman of the Research Committee of the HRSMC</li> <li>- Member of the Organizing Committee, 5th HRSMC Summer School on Organic Synthesis, Summer 2017</li> </ul>
Ingemann	<ul style="list-style-type: none"> <li>- Member of The European Chemistry Thematic Network (on behalf of the Faculty of Science)</li> <li>- Head of the Structure Analysis group at HIMS comprising the instrumental methods: MS, NMR, X-Ray and EPR</li> <li>- Coordinator of the Master Chemistry Track: Molecular Design, Synthesis and Catalysis</li> </ul>
Koper	<ul style="list-style-type: none"> <li>- Vice-President of the International Society of Electrochemistry</li> <li>- Board Member HRSMC</li> <li>- Board Member NIOK (Netherlands Institute for Catalysis Research)</li> <li>- Member of review panels of NWO, FWO, Austrian Science Foundation</li> <li>- Carl Wagner Memorial Award of the Electrochemical Society</li> <li>- Member of review panels of NWO, FWO</li> </ul>

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Lammertsma	<ul style="list-style-type: none"> <li>- Member Educational Board HRSMC</li> <li>- Member of the Board of the Chemistry &amp; Society Section (CMG) of the Royal Dutch Chemical Society (KNCV)</li> <li>- Management Member COST Action CM1302, the European Network on Smart Inorganic Polymers</li> <li>- Member of the Board NWO/CW study group "Coordination Chemistry and Homogeneous Catalysis"</li> <li>- Member of the Board of NWO Chemical Sciences (Gebiedsbestuur)</li> <li>- Member of the Netherlands Initiative on Material Scarcity (NIMS)</li> <li>- Member of the Top Team of the Top Sector Chemistry</li> </ul>
Linnartz	<ul style="list-style-type: none"> <li>- Research coordinator FP7 ITN 'Laboratory Astrochemical Surface Science in Europe'</li> <li>- Coordinator 'solid state part' within the NWO Dutch Astrochemistry Program</li> <li>- Coordinator 'biomarker part' within the NWO PEPSci (Planetary and Exoplanetary Science) program</li> <li>- Vice-chair Division XII of IAU commission 14: working group solids and their surfaces</li> <li>- Board Member European Task Force Laboratory Astrophysics</li> <li>- Chairman education committee astronomy at Leiden Observatory</li> <li>- Member Greenberg fellowship selection committee</li> <li>- Member EW-VIDI selection committee</li> </ul>
Maarseveen, van	<ul style="list-style-type: none"> <li>- Member of the management committee of EU-COST action CM0905 ORCA "Organocatalysis"</li> <li>- Member of the Board of the NWO-CW study group Design &amp; Synthesis</li> <li>- Expert member, Panel W&amp;T4 Fonds Wetenschappelijk Onderzoek, Flanders, Belgium</li> <li>- Member of the International Advisory Board European Journal of Organic Chemistry</li> <li>- Member of the Organizing Committee, 5th HRSMC Summer School on Organic Synthesis, Summer 2017</li> </ul>
Meijer	<ul style="list-style-type: none"> <li>- Member, Scientific Council CECAM</li> <li>- Member, UCO UvA</li> <li>- Organiser Graduate winterschool on Understanding Molecular Simulation, January 5-16, 2015; Amsterdam.</li> </ul>
Mutti	<ul style="list-style-type: none"> <li>- Honorary Research Fellow from The University of Manchester</li> </ul>

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Orrit	<ul style="list-style-type: none"> <li>- Member Academia Europaea</li> <li>- Member Review panels for NWO, AERES, DPG, FWO 2011</li> </ul>
Orru	<ul style="list-style-type: none"> <li>- Member Organic Chemistry Section of the Royal Dutch Chemical Society (KNCV)</li> <li>- Member of the board of the 'Design &amp; Synthesis' studygroup of NWO-CW</li> </ul>
Reek	<ul style="list-style-type: none"> <li>- Member of the management team of the BioSolar Cells (since 2010)</li> <li>- Member Young Royal Netherlands Academy of Arts and Sciences (KNAW) 2006-2011</li> <li>- Member of the Royal Netherlands Academy of Arts and Sciences (KNAW) (since 2015)</li> <li>- Member of the management team NIOK (since 2012)</li> <li>- Member of 'Koninklijke Holandsche Maatschappij der Wetenschappen' (since 2013)</li> <li>- Boardmember KNCV since 2009</li> <li>- Director van 't Hoff Institute for Molecular Science (HIMS) (2013-2017)</li> <li>- Member (Chair 2013-2016) UOC UvA</li> <li>- Director of research priority area sustainable chemistry UvA (since 2013)</li> <li>- Chair of NWO work group Coordination and Catalysis (since 2008)</li> <li>- Scientific director InCatT</li> <li>- Director of research priority area Sustainable Chemistry UvA</li> <li>- Management team NRSCC</li> <li>- Board member KNCV (research)</li> </ul>
Reek	<ul style="list-style-type: none"> <li>- Management team BioSolarCell (Dutch artificial leaf program)</li> <li>- Chair UOC UvA</li> <li>- Member of the World economic forum</li> <li>- Steering committee Co van Ledden Hulsebosch Center</li> </ul>
Timmerman	<ul style="list-style-type: none"> <li>- Member of the scientific advisory board of the yearly TIDES-meeting organized in the USA.</li> </ul>
Tromp	<ul style="list-style-type: none"> <li>- Member of the international user committee of the ANKA research facility (Karlsruhe, Germany) (since 2013)</li> <li>- Member of the European Synchrotron User Organisation Committee (since 2013).</li> <li>- Member 'Agentschap voor Innovatie door Wetenschap en Technologie' (IWT) evaluation panel PhD proposals, Belgium (since 2014).</li> <li>- Member of the MAX Laboratory (Lund, Sweden) Program Advisory Committee (since 2012)</li> </ul>

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Tromp	<ul style="list-style-type: none"> <li>- Member of the Swiss Light Source Peer Review Panel (2009-current). Chair of the Hard X-ray Committee of the Pair Review Panel (since 2011).</li> <li>- Member of the Scientific Advisory Committee of the SOLEIL synchrotron (since 2014).</li> <li>- Member of BMW Diesel IAS-TUM focus group on 'Electrochemical Interfaces in Batteries' (since 2013)</li> <li>- Member of 12 TUM Faculty Search and Appointment Committees (since 2010)</li> <li>- Member of the American Chemical Society (since 2004)</li> <li>- Member of the KNCV, incl. Dutch Catalysis Society (since 1995)</li> <li>- Member Gesellschaft Deutscher Chemiker e. V., GDCh, German Chemical Society, incl. Deutsche Gesellschaft für Katalyse (since 2011). Member of the Deutscher Hochschulverband DHV (since 2010).</li> <li>- Member of the Royal Society of Chemistry (since 2006).</li> <li>- Member of the International X-ray Absorption Spectroscopy Society (since 2000).</li> <li>- Member of NWO TOP-ECHO review panel</li> <li>- Secretary of the organizing committee of the EuCheMS International Conference on Organometallic Chemistry 2017 in Amsterdam.</li> <li>- Secretary of the organizing committee of the International Symposium on Homogeneous Catalysis 2018 in Amsterdam.</li> <li>- Member of the Spectroscopy Village Beamlines Review Committee, Diamond Light Source</li> <li>- Chair of the Peer Review Panel (incl. all sub-committees) of the Swiss Light Source. Chair of the hard X-ray panel</li> <li>- Member, Board of Examinations, Chemistry UvA/VU</li> <li>- Member, Advisory Board Technology Center FNWI, UvA</li> <li>- Member, Sounding Board to the Dean, FNWI, UvA</li> <li>- Member, Management Team, COST Action CHAOS</li> </ul>
Vreede	<ul style="list-style-type: none"> <li>- Co-organizer ACMM Symposium, June 25, 2015</li> </ul>
Visscher	<ul style="list-style-type: none"> <li>- Director Amsterdam Center for Multiscale Modeling</li> <li>- Member werkgroep Supercomputers, NWO/NCF</li> <li>- Auditor to the International Treasurer of the European Photochemistry Association</li> </ul>
Williams	<ul style="list-style-type: none"> <li>- Member of the Board of Examiners of the Forensic Science Master.</li> <li>- Member of the FNWI library committee.</li> </ul>

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Woutersen	<ul style="list-style-type: none"> <li>- Member of the scientific advisory committee of the Max-Planck-Institut in Mainz</li> <li>- Member of the international organizing committee of the European Conference on Spectroscopy of Biological Molecules (ECSMB)</li> </ul>
Woutersen	<ul style="list-style-type: none"> <li>- Member of the organizing committee of the Conference on Multi-Dimensional Spectroscopy 2016 (CMDs2106)</li> <li>- Member of the Program Advisory Committee (PAC) of the free- electron laser FELIX</li> </ul>
Zhang	<ul style="list-style-type: none"> <li>- Professor at Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences</li> <li>- Member of EU COST Action CM1403 "Upconversion nanomaterials for biomedical application"</li> <li>- Member of Rare Earth Society of China / Luminescence Branch</li> <li>- Member of academic committee, Centre for Advanced Optoelectronic Functional Materials Research,</li> <li>- Key Laboratory for UV Light-Emitting Materials and Technology of the Ministry of Education, Northeast Normal University</li> <li>- Member of Advisory committee of 3rd International Workshop on Persistent and Photostimulable Phosphors (Arlington, USA)</li> <li>- Chairing research theme "Luminescence Dynamics of spatially confined systems" at CIOMP/CAS</li> </ul>

### Memberships international editorial boards

Name staff member	Member of
Ariese	- Polycyclic Aromatic Compounds
Bickelhaupt	<ul style="list-style-type: none"> <li>- Chemistry - A European Journal</li> <li>- ChemistryOpen</li> <li>- Chemistry - An Asian Journal</li> <li>- Journal of Computational Chemistry</li> <li>- Physical Chemistry Chemical Physics</li> </ul>
Bouwman	<ul style="list-style-type: none"> <li>- Applied Organometallic Chemistry (advisory board)</li> <li>- European Journal of Inorganic Chemistry (advisory board)</li> </ul>
Brouwer	- Member Editorial Board European Journal of Organic Chemistry
Bruin, de	<ul style="list-style-type: none"> <li>- European Journal of Inorganic Chemistry (Chair Editorial Board)</li> <li>- Organometallics (Editorial Advisory Board)</li> <li>- ACS Catalysis (Editorial Advisory Board).</li> </ul>

Buma	- Research Letters in Physical Chemistry
Buma	- ChemPhysChem (Editorial Advisory Board).
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Elsevier	- Collection Czechoslovak Chemical Communications (advisory board)
	- Editor-in-Chief of Applied Organometallic Chemistry (Wiley)
	- Magnetic Resonance in Chemistry (advisory board)
Hiemstra	- Molecules, Open Access Organic Chemistry Journal (Editorial Board)
Koper	- Catalysis Today
	- Electrochimica Acta
	- Journal of Electroanalytical Chemistry
	- ChemCatChem
	- ChemElectroChem
	- ACS Catalysis
Lammertsma	- Beilstein Journal of Organic Chemistry (advisory board member)
	- Heteroatom Chemistry (editorial board member)
	- Organometallics (editorial board member)
Linnartz	- Editor CAMOP - Physica Scripta
Maarseveen, van	- European Journal of Organic Chemistry (International Advisory Board)
Orrit	- Angewandte Chemie
	- ChemPhysChem
	- PCCP
	- Annalen der Physik
Orru	- Current Organic Chemistry (Advisory Board Member)
	- Topics in heterocyclic chemistry (volume editor)
Reek	- European Journal of Inorganic Chemistry (Advisory Board)
	- ChemPlusChem (Advisory Board)
Timmerman	- Review Editorial Board of Frontiers in Immunotherapies and Vaccines
Williams	- The Scientific World Journal
	- The Open Inorganic Chemistry Journal
Zhang	- Member of editorial board of Journal of Rare Earths

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## 2.6 The HRSMC Fellowship Programme

In 2015 the HRSMC established a new Fellowship Programme. It provides funding for foreign researchers of postdoc level and higher to visit and collaborate with HRSMC-affiliated research groups, aiming specifically to set up new and challenging research lines. In 2015, there have been two application rounds in April and October.

### General outline of the Fellowship Programme:

The HRSMC Fellowship programme aims to support and reinforce high-quality research within the HRSMC. Within the programme, visits by outstanding foreign researchers (postdoc level and higher) to HRSMC-affiliated research groups are financed.

The HRSMC strongly welcomes applications, which

- stimulate cross-fertilization between differently-affiliated HRSMC research groups, involving 2 or more applicants from different groups, and
- support fundamental, not directly application-driven research.

Staff and associated members of the HRSMC with a permanent position can apply. Applications in which staff members of 2 or more different research groups are involved have a higher priority for funding (if other aspects are comparable).

Visits by outstanding, foreign researchers with a minimum of 2 weeks and a maximum of 6 months are supported. Grants can be requested to help to meet the costs of subsistence and travel. The following rates apply:

Subsistence costs: €1750 per month for an experienced researcher or €2000 per month for a full professor.

Travel costs: The maximum amount of grant depends on the country in which the researcher is appointed. For researchers based in Europe the maximum is €500, for researchers based outside Europe €1500. There is no compensation for consumables or other research costs.

### Awarded Fellowships – 1<sup>st</sup> Call, April 2015:

#### **Time-resolved spectroscopic study on functional nanomaterials and/or nano-cavities**

*Guest: Dr. Pengtao Jing; hosted by Dr. Hong Zhang (UvA) and Dr. Stefania Grecea (UvA).*

*A visit of 5 months.*

#### **Fundamental understanding on gas-surface interaction**

*Guest: Dr. Arban Uka; hosted by Dr. Ludo Juurlink (UL) and prof. Wybren Jan Buma (UvA).*

*A visit of 1,5 months.*

#### **Unravelling interstellar chemical recipes: solid state formation of proteins, sugars, and fats.**

*Guest: Dr. Sergio Ioppolo; hosted by prof. dr. Harold Linnartz (UL).*

*Four one-week visits over a period of one year.*

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Awarded Fellowships – 2<sup>nd</sup> Call, October 2015:

**Unraveling the mechanism of proton transport in proton-conducting MOFs**

*Guest: Dr. Saeed Amirjalayer (WWU/CeNTech Münster); hosted by Dr. Bernd Ensing (UvA), Dr. Stefania Grecea (UvA) and Prof. dr. Sander Woutersen (UvA).*

*An application for 3 months, in the period from 16-11-2015 to 30-04-2017; approximately 6 stays of 15 days.*

**Palladium-Catalyzed Oxidative Aerobic Isocyanide Insertion – A Mechanistic Study**

*Guest: Dr. Jordi Poater (University of Barcelona, Spain); hosted by Dr. Eelco Ruijter (VU), Prof. dr. Romano Orru (VU), Prof. dr. Matthias Bickelhaupt (VU).*

*A visit of 6 months.*



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## 3. Education and Research Training

The main mission of the HRSMC is to provide its PhD students with high-level education training. Apart from completing a research project, the PhD students of the HRSMC follow an individual education and training programme. For this purpose the education committee supplies them with a selection of courses, which are announced annually in the study guide on the HRSMC website. The management of the school administers the credit points obtained by the PhD students and presents HRSMC certificates to those students who have fulfilled their education programme. As the validation for HRSMC Schools and Courses and the criteria for the HRSMC certificate were determined in 2006, the Board reassessed this validation and the criteria for the HRSMC certificate. As of March 2014, the new HRSMC Education Programme became valid (see Annex 4.5).

### 3.1 HRSMC Education Programme

The HRSMC offers PhD students a broad programme of inter-university courses and schools.

#### HRSMC Courses (2-3 ECTS)

- Molecular Modelling (every two or three years, HRSMC theme 2 and 3)
- Physical Methods in Inorganic Chemistry (biannually, HRSMC theme 1)
- Photophysics, Photochemistry, and Photobiology (every three years, HRSMC theme 2)
- Molecular Simulation (yearly, HRSMC theme 3)
- Synthetic Chemistry problem sessions (HRSMC theme 1)

Character:

- Courses are given at UvA, UL or VU (or in combinations).
- Participants are mostly from HRSMC, a few from other Dutch universities or from Dutch chemical companies. The Molecular Simulation course has a lot of participants from abroad.
- Lecturers are mainly from Holland.

#### HRSMC Schools (2-3 ECTS)

- Summer School on Photochemistry (every 4 years, HRSMC theme 2)
- Tulip School 'Modern Developments in Spectroscopy' (every 3 years, HRSMC theme 2)
- Summer School 'Synthetic Bio-organic Chemistry' (every 4 years, HRSMC theme 1)
- Autumn School on Metal-organic Chemistry and Catalysis (every 2 years, HRSMC theme 1)

Character:

- More like a conference with lectures, discussion sessions and poster sessions.
- The schools are given at an external location.
- Participants come partly from the HRSMC. Many participants come from other Dutch universities and from abroad.
- Lecturers come mostly from abroad.

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Activities of 2015:

- The two weeks HRSMC School '*Molecular Simulation*', organized under the auspices of CECAM (5-16 January 2015, UvA)
- HRSMC Course '*Physical Methods in Inorganic Chemistry*' (29 January - 6 February 2015, UvA/UL)
- HRSMC TULIP School '*Modern Developments in Spectroscopy*' (14-17 April 2015, De Witte Raaf Noordwijk)
- KNCV/HRSMC '*Career Advice Activity*' for PhD students and postdocs (13 October 2015, UL)
- The research groups of Prof. dr. H. Hiemstra (UvA) and Prof. dr. ir. R.V.A. Orru (VU) organized several '*Synthetic Chemistry problem solving sessions*'

Details of courses that were specifically developed for the HRSMC by its members were:

**HRSMC School Molecular Simulation – MOLSIM2015**

**5-16 January 2015, UvA**

Organisation: Dr. B. Ensing (UvA), Prof. dr. E.J. Meijer (UvA) and I. Weijer (HRSMC)

HRSMC Lecturers: Prof. dr. P. Bolhuis (UvA), Dr. E.J. Meijer (UvA)

Guest Lecturers: Dr. S. Abeln (VU), Prof. dr. D. Frenkel (AMOLF), Prof. dr. B. Smit, (University of California, Berkeley), Prof. dr. T.H.J. Vlugt (TU Delft)

Participants: 81 participants; 23 MSc students and 58 PhD students (of which 51 participants came from foreign universities and 7 from Dutch universities including 2 HRSMC members)

**HRSMC Course Physical Methods in Inorganic Chemistry – PhMIC2015**

**29 January - 6 February 2015, UvA/UL**

Organisation: Prof. dr. E. Bouwman (UL), Dr. S. Bonnet (UL), Prof. dr. B. de Bruin (UvA), Prof. dr. C.J. Elsevier (UvA) Dr. M. Tromp (UvA), I. Weijer (HRSMC) and drs. H.E. Zwaan (HRSMC)

HRSMC Lecturers: Dr. S. Bonnet (UL), Prof. dr. E. Bouwman (UL), Prof. dr. B. de Bruin (UvA), Prof. dr. C.J. Elsevier (UvA), Dr. D.G.H. Hetterscheid (UL), Dr. S. Ingemann Jørgensen (UvA), Dr. L. Juurlink and Dr. Moniek Tromp (UvA)

Guest Lecturers: Dr. H. Kooijman (Shell)

Participants: 33 participants, of which:

- 10 MSc students (9 UvA-VU, 1 UL; 9 students passed the MSc exam)
- 22 PhD students (12 UvA, 7 UL, 3 VU)
- 1 Postdoc (UvA).

**HRSMC TULIP School 'Modern Developments in Spectroscopy'**

**14-17 April 2015, De Witte Raaf Noordwijk**

Organisation: Prof. dr. W.J. Buma (UvA), Prof. dr. J. Herek (University of Twente), Prof. dr. M.H.M. Janssen (VU), M.C.H. Smits (HRSMC), I. Weijer (HRSMC) and drs. H.E. Zwaan (HRSMC)

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Guest Lecturers: Prof. dr. P. Corkum (National Research Council-Canada, University of Ottawa, Canada), Prof. dr. J. Doyle (Harvard University, USA), Prof. dr. K. Eikema (VU), Prof. dr. J. Enderlein (Universität Göttingen, Germany), Prof. dr. M. Havenith (Ruhr-Universität Bochum, Germany), Prof. dr. D. Nesbitt ( University of Colorado, Boulder, USA)

Participants: 48 participants, of which:

- 6 MSc students (5 UvA-VU, 1 UL)
- 42 PhD students (21 Dutch Universities: 4 UvA, 5 UL, 8 VU, 4 Radboud University)

**HRSMC 4-day Proposal Writing Course in combination with 1-day Peer Review Course (5-9 October 2015, UL)**

Organisation: I. Weijer (HRSMC) and drs. H.E. Zwaan (HRSMC)  
Guest Lecturer: Dr. Ulrike Muller (California State University Fresno, USA)  
Participants: 1 MSc student, 8 PhD student, 2 Postdoc for the 4-day Course.  
2 PhD students extra for the 1-day Course.

**KNCV/HRSMC Career Advice Activity for PhD students and postdocs, 13 October 2015, UL - Gorlaeus**

With various lectures regarding career possibilities and job-application. In addition, each participant got 40 min. quality time with a career consultant.

Organisation: S. Blanken (KNCV), J. Dijkzeul (UL), R. Weijer (HRSMC) and H. Zwaan (HRSMC)  
Participants: 30 (19 HRSMC members)



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## 3.2 Symposium

The annual HRMSC Symposium was held at the VU University Amsterdam on November 5, 2015. The symposium, which was attended by ca. 190 scientists, also included poster sessions with 44 posters, mainly presented by PhD students. The format of previous symposia was also used for this symposium: less posters (about three posters per group selected by the work group leaders) per session, and more and shorter lectures.

The following lectures were given:

Theme 1 'Synthesis, Characterisation, Reactivity and Properties of Molecules'

- Dr. Chris Slootweg (VU)  
*Cooperative Lewis Acid/Base Catalysis*
- Linda Jongbloed (UvA)  
*A NiC-He in Nickel C-H activation*
- Luuk Steemers (UvA)  
*Research towards the scaffold assisted synthesis of a rotaxane*

Theme 2 'Photochemistry and (Laser) Spectroscopy'

- Prof. dr. Sander Woutersen (UvA)  
*Water at its weirdest: The strange case of PEG vs. POM*
- Aquiles Carattino (UL)  
*In situ tuning of gold nanorod plasmon through oxidative cyanide etching*
- Adriano Monti (UL)  
*Crucial Role of Nuclear Dynamics for Electron Injection in a Dye-Semiconductor Complex*

Theme 3 'Theoretical Chemistry'

- Dr. Jörg Meyer (UL)  
*Hot or not? - Energy conversion dynamics of chemical processes at surfaces from 1st principles*
- Abel de Cozar (VU)  
*Aggregation and Cooperative Effects in the Aldol Reaction of Lithium Enolates*

Guest Lectures:

- Prof. dr. ir. B.M. (Bert) Weckhuysen (UU)  
*Catalytic Materials studied at the Level of Single Particles, Molecules and Atoms*
- Lecture Winner Dick Stufkens Prize: Dr. Tatu Kumpulainen (former UvA PhD student; University of Geneva, Switzerland)  
*Proton-Transfer Reactions in 'Super' Photoacids and Supramolecular Assemblies*

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### 3.3 PhD Graduations (in order of graduation date) & first job after PhD Graduation

**Rutters, J.P.A.,**

*Auxiliary mediated synthesis of ring-strained lactams*

Promotor: Prof. dr. H. Hiemstra

Co-promotor: Dr. J.H. van Maarseveen

January 13, 2015

Assessor physical and chemical properties at Dutch Board for the Authorisation of Plant Protection Products and Biocides

**Bosch, B. van den**

*Complexes for electro- and photocatalytic proton reduction*

Promotor: Prof. dr. J.N.H. Reek

Co-promotor: Prof. dr. S. Woutersen

January 27, 2015

Chief Material Officer, MgAubel/Guest Resarcher TU Delft Experimental MicroMechanics

**Mirtschink, A.,**

*Energy Density Functionals from the Strong-Interaction Limit of Density Functional Theory*

January 29, 2015

Promotor: Prof. dr. E. J. Baerends

Co-Promotor: Dr. P. Gori-Giorgi

Post-doctoral Researcher, VU

**Ording-Wenker, E.C.M.**

*Biomimetic redox reactions of the Cu(II)  $\mu$ -thiolate complex*

Promotor: Prof. dr. E. Bouwman

March 11, 2015

Programme Manager, NWO

**Janssen, G.V.**

*Enantioselective synthesis of diverse compounds using asymmetric catalysis and chiral auxiliaries.*

Promotor: Prof. dr. ir. R.V.A. Orru

Co-promotor Prof. dr. K. Lammertsma

April 28, 2015

Postdoctoral Researcher, Antoni van Leeuwenhoek

**Loop, van der, T.F.**

*Hydrogen-bond dynamics and proton transfer in nanoconfinement*

Promotor: Prof. dr. S. Woutersen

Co-promotor: Prof. dr. H.J. Bakker

June 15, 2015

Management Consultant, Financial Risk Capgemini Consulting

**Kumpulainen, T.**

*Proton-transfer reactions in "super" photoacids and supramolecular assemblies*

Promotor: Prof. dr. A.M. Brouwer

Co-promotor: Prof. dr. S. Woutersen

May 21, 2015

Postdoctoral Researcher, Université de Genève

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**Meuzelaar, H.**

*New light on protein folding: Unraveling folding and unfolding mechanisms using time-resolved and two-dimensional vibrational spectroscopy*

Promotor: Prof. dr. S. Woutersen

Co-Promotor: Dr. J. Vreede

June 30, 2015

Lecturer in Chemistry, Hogeschool Inholland

**Sluijter, S.N.**

*Multidentate Di-N-heterocyclic carbene ligands for transition metal catalyzed hydrogenation reactions*

Promotor: Prof. dr. C.J. Elsevier

Co-Promotor: Dr.ir. J.I. van der Vlugt

September 18, 2015

Project Manager Chemical Innovation at MatrixIC & Port of Amsterdam

**Hooijschuur, J.H.**

*Raman Spectroscopy as a Potential Method for the Detection of Life Signatures*

Promotor: Prof. dr. G.R. Davies

Co-Promotores Prof. dr. C. Gooijer

Dr. F. Ariese

September 24, 2015

R&D Specialist Raman Spectroscopy and Service Specialist Analysis, ASaP BV

**Diaz Morales, O.A.**

*Catalysis of the electrochemical water oxidation to oxygen*

Promotor: Prof. dr. M.T.M. Koper,

Co-Promotor: Dr. F. Calle-Vallejo

November 19, 2015

Postdoctoral researcher, Stockholm University

**Shen, J.**

*Electrocatalytic reduction of CO<sub>2</sub> and nitrate on immobilized metal porphyrins*

Promotor: Prof. dr. M.T.M. Koper

Co-promotor: Dr. D.G.H. Hetterscheid

December 9, 2015

**Den Dunnen, A.**

*Surface-structure dependencies in catalytic reactions*

Promotor: Prof. dr. M.T.M. Koper

Co-Promotor: Dr. L.B.F. Juurlink

December 9, 2015

Postdoctoral Researcher, Guest, Leiden University

**Monti, A.**

*Taking control of charge transfer : strategic design for solar cells*

Promotor: Prof. Dr. Huub J. M. de Groot

Copromotor: Dr. Francesco Buda

December 21, 2015

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**Kortlever, R.G.H.**

*Selective and efficient electrochemical CO<sub>2</sub> reduction on nanostructured catalysts*

Promotor Prof. dr. M.T.M. Koper

Co-promotor: Dr. L.B.F. Juurlink

December 22, 2015

Postdoctoral Researcher, Caltech



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### 3.4 HRSMC Excellence Master 'Sustainability: the Molecular Approach'

Apart from providing and organizing an outstanding educational programme for PhD students which is also accessible to (advanced) MSc students, the HRSMC has been elected in 2012 as one of the thirteen Graduate Schools to receive substantial funding from NWO. With this funding the HRSMC can offer young PhD students the opportunity to develop their own research ideas within the framework of the programme "*Sustainability, the Molecular Approach*". The funding is part of NWO's Graduate Programme and aims to develop Dutch PhD Educational Programmes. On December 31, 2015 nine MSc students participated in this Excellence Program and three students graduated in the period of August-October 2015.

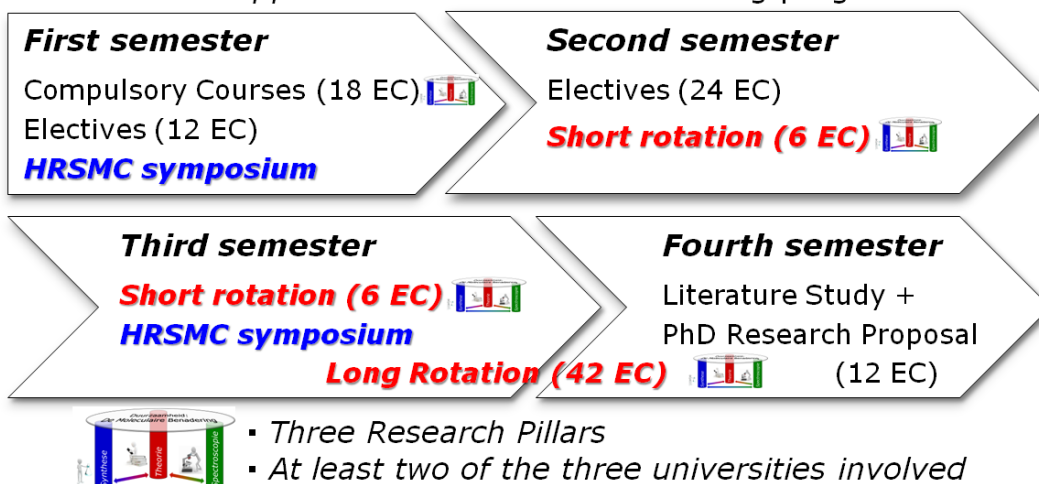
As already mentioned in the preface, in 2015, the HRSMC has granted two proposals for PhD research written by chemistry students Hans de Bruijn (appointed at the Leiden University) and Kaj van Vliet (appointed at the University of Amsterdam).

#### General outline of the programme:

The interuniversity HRSMC Excellence Master 'Sustainability: the Molecular Approach' prepares talented chemistry students for a scientific career. Researchers of the University of Amsterdam (UvA), the VU University Amsterdam (VU) and Leiden University (the HRSMC partners) composed a unique, demanding and interdisciplinary programme characterised by strong integration of theory, spectroscopy and synthesis. Only the best 10 percent of the chemistry students are eligible for the programme. A crucial part is the preparation of a proposal for PhD research to be performed by the students themselves. Four proposals are rewarded with an actual PhD position, financed through the Graduate Programme of the Netherlands Organisation for Scientific Research (NWO).

The students are getting more guidance from a special committee mentoring the selected students during the different stages of this Top Master Track (e.g. progress and choice of internships). This special 'Advisory Committee' consists of Dr. Eelco Ruijter (VU), Dr. Sylvestre Bonnet (UL) and Dr. Bernd Ensing (UvA, also member of the HRSMC Education Committee).

The two-year HRSMC Honours Master Programme "Sustainability: The Molecular Approach" consists of the following programme:



On December 31, 2015 eight MSc students participated in this the HRSMC Excellence programme "Sustainability, the Molecular Approach", of which nine students started in September 2015, four students in September 2014 and one in September 2013 (other students from this cohort are graduated).

#### Two PhD proposals selected in HRSMC/NWO excellence programme

In 2015, the HRSMC has granted two proposals for PhD research written by chemistry students Hans de Bruijn (UL) (*An experimental and theoretical study of the hydroaminomethylation of internal olefins to linear amines with a Co-based catalytic system*; supervisors Prof. dr. E. Bouwman (Leiden) and Prof. dr. F.M. Bickelhaupt (VU Amsterdam) and Kaj van Vliet (VU) (*Creative Advances in visible light photoredox catalysis*; supervisors Prof. dr. B. de Bruin (UvA) and Prof. A.M. Brouwer (UvA)). Both students, who received their master's degree with honours (cum laude), wrote their proposal as part of the special HRSMC master's programme for talented chemistry students. They started their PhD research in November 2015, financed by the Netherlands Organisation for Scientific Research NWO.

Both students presented their proposal for a broad panel of experts, in which Prof. dr. G. van Koten (UU), Prof. dr. R. van Santen (TUE) and Prof. dr. D. Wiersma (RUG) acted as advisory non-HRSMC members. According to the panel both proposals excelled not only in academic quality but also in their interdisciplinary and interuniversity approach, illustrative of both the Excellence Master and the HRSMC research school.

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## 4. Annexes

### 4.1 Annex 1 - HRSMC Organisation

#### **Organisation Structure**

The interuniversity research school HRSMC is a cooperation between the University of Amsterdam (UvA), the Vrije Universiteit Amsterdam (VU) and Leiden University (UL), UvA being the university in charge of the HRSMC ('penvoerder'). The HRSMC organisation structure consists of:

#### **Scientific Director and Managing Staff**

- Prof. dr. W.J. Buma (UvA), Scientific Director
- Drs. H.E. Zwaan-Van der Plas, Executive Secretary
- Mrs R. Weijer, Administration Officer
- Mrs M.C.H. Smits-Weijers, Administration Officer

#### **Board**

- Prof. dr. F.M. Bickelhaupt (VU, chairman)
- Prof. dr. C.J. Elsevier (UvA)
- Prof. dr. M. Koper (UL)

The scientific director and executive secretary of the HRSMC prepare and attend the meetings of the Board.

#### **Research Committee (OZC)**

- Dr. F. Buda (UL, research theme 2/3)
- Prof. dr. H. Hiemstra (chairman, UvA, research theme 1)
- Dr. F. Ariese (VU, research theme 2)

#### **Education Committee (OWC)**

- Dr. B. Ensing (UvA, research theme 3)
- Prof. dr. K. Lammertsma (VU, chairman, research theme 1)
- Dr. L. Juurlink (UL, research theme 2)
- E. Schippers, MSc (UvA, research theme 1, PhD student)

#### **External Advisory Committee (WAR)**

- Prof. dr. W.J. Briels (TU-Twente)
- Prof. dr. E. Drent (SRTCA, UL)
- Dr. R. Hage (Catexel)
- Prof. dr. J. Reedijk (UL)
- Prof. dr. J.W. Verhoeven (emeritus UvA)
- Prof. dr. J.G. de Vries (Leibniz Institute for Catalysis, Rostock, Germany/RUG)

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### **PhD Platform**

- S. Askes, MSc; PhD student in the Metals in Catalysis, Biomimetics & Inorganic Materials Group of Prof. dr. E. Bouwman at the UL;
- T. van der Loop, MSc and H. Meuzelaar, MSc; PhD students in the Molecular Photonics Group of Prof. dr. W.J. Buma and Prof. dr. A.M. Brouwer at the UvA;
- E. Schippers, MSc and C. te Grotenhuis, MSc; PhD students in the group of Homogeneous, Supramolecular and Bio-inspired catalysis of Prof. dr. J.N.H. Reek and Prof. dr. B. de Bruin at the UvA
- J.H. Hooijschuur, MSc; PhD student in the Biomolecular Spectroscopy Group of Dr. F. Ariese at the VU;
- F. Zaccaria, MSc; PhD student in the Theoretical Chemistry Group of Prof. dr. Matthias Bickelhaupt and Prof. dr. L. Visscher at the VU.
- D. Boom, MSc and J. Borger, MSc; PhD students in the Organophosphorus, Organometallic and Computational Chemistry Group of Dr. C. Slotweg at VU.

## 4.2 Annex 2 - Financial Account 2015

<b>Income</b>		<b>Expenses</b>	
Contribution UvA 2015 - faculty <sup>1]</sup>	150.000	Donation HIMS Institute <sup>1]</sup>	150.000
Contribution UvA 2015 - HIMS <sup>1]</sup>	150.000	Personnel Costs	80.854
Interest	535	Fellowship Programme <sup>2]</sup>	43.357
Tulip School Spectroscopy	39.197	Tulip School Spectroscopy	46.541
		Symposium	10.043
		Cursus Ulrike Muller	6.655
		Bureau Costs	1.463
		Graduate Programme <sup>3]</sup>	1.159
		Dick Stufkens PhD prize	1.000
		Annual Report 2014	846
		Board	538
		Courses	404
		Other	458
	<b>€ 339.732</b>		<b>€ 343.317</b>
Income minus Expenses <sup>4]</sup>		<b>-€ 3.585</b>	

Estimation for expenses HRSMC-NWO Graduate Programme, the personnel costs for the appointment of two PhD students for November and December 2015:

**€ 16.667** (2/48 x 2 x 200 keuro).

These costs are compensated by the NWO grant received in 2012<sup>3]</sup>.

- 1) As of 2014, a new agreement between the VSNU (Association of universities in the Netherlands) and SODOLA (the Dutch network of accredited research schools in all fields of academic research) has become applicable for the funding of Research Schools. Based on this agreement, as of 2015, the HRSMC should get funding of 300 KEuro. Instead of 50 kEuro from the faculty and 5 kEuro from the HIMS Institute, the contribution of the faculty is raised to 150 kEuro and 150 kEuro for the HIMS Institute. As this increase for the HIMS Institute would strongly affect HRSMC affiliated research groups from the UvA/HIMS Institute, the HRSMC Board decided to donate 150 kEuro to the HIMS Institute.
- 2) Is the total sum of: € 12.857,- for the visits that already took place in 2015 as a result of the awarded Fellowships in 2015 and € 30.500,- as a reservation of the awarded Fellowships in 2015 who will take place in the coming years.
- 3) For the HRSMC-NWO Graduate Programme 'Sustainability: The Molecular Approach', the HRSMC received **800 kEuro** for the appointment of 4 PhD students in 2012. The first two PhD students, Hans de Bruijn and Kaj van Vliet, have been appointed in November 2015 (see chapter 3.4).
- 4) This expected deficit is compensated by past reservations.

## 4.3 Annex 3 - - Staff and Temporary Personnel 2015

### Theme Name Group Name Function

1	Biocatalysis (UvA, HIMS)	Wever	R.		Emeritus		
		Mutti	F.		HGL		
		Wever	R.		HGL Guest		
		Böhmer	W.		PhD	01/09/2015	01/09/2019
		Knaus			PD	01/01/2015	01/01/2019
		Tseliou	V.		PhD	01/10/2015	01/10/2019
		Vilim	J.		PhD	01/10/2015	01/10/2019
		Hartog	A.F.		OBP		
		Pham			OBP		
		1	Heterogeneous Catalysis and Sustainable Chemistry (UvA, HIMS) (SusCat)	Rothenberg	H.G.		HGL
Grecea	S.				UD		
Shiju	N.R.				UD		
Yan	N.				Tenure Tracker		
Alberts	A.H.				PD	01/01/2014	01/01/2015
Eisenberg					PhD	01/01/2015	01/01/2019
Guo					PhD	01/01/2015	01/01/2019
Narani	D.				PD	01/06/2015	31/05/2016
Pandey	J.				PD	01/07/2015	30/06/2016
Prinsen	P.L.K.				PD	01/02/2014	31/01/2016
Solomon Raja	E.G.K.				PD	01/07/2014	30/06/2016
Gao	Y.				PhD	01/01/2014	01/01/2018
Gheorghe	A.				PhD	01/01/2016	01/01/2020
Rees					PhD	01/01/2015	01/01/2019
Santacroce	V.				PhD	15/09/2014	15/03/2016
Tang	Y.				PhD	01/10/2015	01/10/2019
Zhang	W.				PhD	01/10/2015	01/10/2019
Collignon	P.F.				OBP		
Geels	N.J.				OBP		
Mittelmeijer-Hazele	M.		OBP/PD				
1	Homogeneous, and Bio-Inspired Catalysis (UvA, HIMS) (HOMCAT)	S Bruin	B.	de	HGL		
		Reek	J.N.H.		HGL		
		Zwaan	B.	van de	HGL BZ		
		Tromp	M.		Tenure Tracker		
		Vlugt	J.I.	van de	UD		

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Hartl	F.	WP Guest	01/04/2005	31/12/2099
Das	B.G.	PD	01/07/2015	30/06/2016
Detz	R.J.	PD Guest	01/09/2012	01/09/2016
Devillard		PhD	01/01/2015	01/01/2019
Dzik	W.I.	PD	01/11/2011	01/11/2016
Gonell Gomez	S.	PD	01/05/2015	30/04/2016
Kluwer	A.M.	PD Guest		01/01/2016
Li	P.	PD	01/07/2012	01/01/2015
Mathew	S.	PD	01/09/2015	01/09/2016
Pascui	A.E.	PD	01/01/2014	30/06/2015
Raoufmoghaddam	S.	PD	01/02/2014	01/02/2016
Wang	Q.	PD	01/01/2014	01/12/2015
Wang	X.	PD	01/05/2014	01/05/2015
Bagh		PhD	01/01/2015	01/01/2019
Bai	S.	Bursaal AIO	01/09/2015	01/09/2019
Becker	R.	PhD	01/03/2012	01/03/2016
Boer	S.Y. de	PhD	15/08/2011	15/08/2015
Bosch	B. van den	PhD Guest	01/05/2014	01/02/2015
Boulens	P.A.	PhD Guest	01/04/2013	01/10/2015
Broere	D.L.J.	PhD	15/05/2012	15/05/2016
Chirila	A.	PhD	01/09/2012	01/09/2016
Coskuner	B.	PhD Guest	01/01/2012	01/01/2016
Daubignard	J.J.M.	PhD Guest	01/01/2015	01/01/2016
Daubignard	J.J.M.	PhD	01/01/2011	01/01/2015
Goswami	M.	PhD	01/08/2013	01/09/2017
Hartendorp	A.P.T.	PhD	01/09/2015	01/09/2019
Hessels	J.	PhD	01/10/2015	01/10/2019
Jacobs	I.	PhD Guest	01/03/2013	01/09/2015
Jans	A.C.H.	PhD	15/03/2014	15/09/2015
Jongbloed	L.S.	PhD	15/02/2012	15/02/2016
Jongkind	L.J.	PhD	01/09/2014	01/09/2018
Koelewijn	J.M.	PhD	01/02/2011	01/02/2015
Kuijpers	P.F.	PhD	01/10/2012	01/10/2016
La Rosa	A.	PD	01/01/2016	01/01/2017
Leenders	S.H.A.M.	PhD	01/10/2011	01/10/2015
Martin	D.J.	PD	01/10/2015	01/10/2016
Nurttila	S.S.	PhD	01/06/2014	01/06/2018
Oldenhof	S.	PhD Guest	01/10/2014	01/03/2015
Oudsen	J.P.H.	PhD	01/09/2015	01/09/2019
Plessius	R.	PhD	01/10/2015	01/10/2019

	Rebreyend	C.		PhD	01/08/2013	01/08/2017
	Saha	B.		PhD Guest	01/09/2014	01/03/2015
	Schippers	E.C.F.		PhD	01/11/2013	01/11/2017
	Subbiah	V.		PhD	01/01/2015	01/01/2015
	Sun	B.		PhD	01/10/2015	01/10/2019
	Tang	Z.		PhD	01/01/2011	01/01/2015
	Te Grotenhuis	C.		PhD	01/08/2013	01/08/2017
	Venderbosch	B.		PhD	01/11/2015	01/11/2019
	Vreeken	V.		PhD	01/05/2012	15/05/2016
	Watering	F.F.	vd	PhD	01/11/2012	01/11/2016
	Zaffaroni	R.		PhD NWO	01/12/2012	01/12/2016
	Ait El Maate	F.		OBP		
	Burg	A.M.	vd	OBP		
	Duin-Berteling	E.		OBP		
	Geels	N.J.		OBP		
	Mahabiersing	C.		OBP		
1	Metals in Catalysis,	Drent	E.	Emeritus		
	Biomimetics &	Reedijk	J.	Emeritus		
	Inorganic Materials	Bouwman	E.	HGL		
	(UL, LIC)	Bonnet	S.B.	Tenure Tracker		
	(MCBIM)	Hetterscheid	D.G.H.	Tenure Tracker		
		IJdo	D.J.W.	WP Guest	01/04/2009	31/12/2016
		Gloaguen	Y.	PD	15/05/2013	29/02/2016
		Higgins	S.L.H.	PD	01/09/2013	31/12/2016
		Siewert	B.	PD	01/09/2013	31/12/2016
		Terrade	F.G.	PD	19/05/2014	18/05/2015
	Askes	S.H.C.	PhD	01/10/2012	01/10/2016	
	Bruijn	H.	de	PhD	01/11/2015	01/11/2019
	Busemann	A.		PhD	08/12/2014	08/12/2018
	Cuello-Garibo			PhD	17/06/2013	17/06/2017
	Dijkman	T.	van	PhD	01/08/2011	31/07/2015
	Geest	E.	van	PhD	01/09/2015	01/09/2019
	Gezer	G.		PhD	15/07/2013	15/07/2017
	Guijt	M.C.		PhD	01/09/2013	01/09/2017
	Hopkins			PhD	01/01/2015	01/01/2019
	Jiang	F.		PhD	01/04/2014	01/04/2018
	Kottrup	K.		PhD	01/07/2013	01/07/2017
	Lameijer	L.N.		PhD	01/07/2013	01/07/2017



		Langerman		PhD	01/01/2015	01/01/2019	
		Limburg	B.	PhD	01/06/2011	31/05/2015	
		Liu	X.	PhD	21/09/2012	21/09/2016	
		Luo	S.	PhD	01/09/2013	01/09/2017	
		Meijer	M.S.	PhD	01/01/2014	01/01/2016	
		Rixel	V.	van	PhD	01/02/2013	01/02/2017
		Sk	A.		PhD	01/05/2015	01/05/2019
		Smits	N.		PhD	01/01/2016	01/01/2020
		Brussel	J.J.M.	van	OBP		
		Dijk	J.A.P.P.	van	OBP		
		Snellenberg	Y		SECR		
1	Molecular Inorganic Chemistry (UvA, HIMS)	Oskam	A.		Emeritus		
		Vrieze	K.		Emeritus		
		Elsevier	C.J.		HGL		
		Korstanje	T.J.		PD	01/09/2013	01/09/2015
		Sluijter	S.N.		PhD	01/06/2011	01/06/2015
		Ernsting	J.M.		OBP		
1	Organic and Organometallic Chemistry (VU, EMS)	Lammertsma	K.		Emeritus		
		Grossmann	T.N.		HGL		
		Ehlers	A.W.		UD		
		Slootweg	J.C.		UD		
		Joost	M.G.		PD	15/12/2014	01/01/2016
		Aydin			PhD	01/01/2015	01/01/2019
		Blom			PhD	01/01/2015	01/01/2019
		Boom	D.H.A.		PhD	01/11/2013	01/11/2017
		Boon	L.J.P.	van der	PhD	16/12/2011	16/12/2015
		Borger	J.E.		PhD	15/12/2013	15/12/2016
		Enter			PhD	01/01/2015	01/01/2019
		Habraken	E.R.M.		PhD	15/12/2014	15/12/2018
		Hendriks			PhD	01/01/2015	01/01/2019
		Holtrop	f.		PhD	01/09/2015	01/09/2019
		Holtrop	F.		PhD	01/01/2015	31/12/2019
		Krachko	T.		PhD	01/09/2013	01/09/2017
		Mens			PhD	01/01/2015	01/01/2019
		Nicolas	E.C.		PhD	01/08/2013	01/08/2016
		Rong	M.K.		PhD	15/12/2010	01/01/2015
		Boer	M.	de	OBP		
		Jong	G.B.	de	OBP		
		Smits-Weijers	M.C.H.		SECR		
		Rombouts	J.A.		PhD	01/05/2011	01/09/2015

1	Synthetic Chemistry (VU, EMS)	and	Orru	R.V.A.		HGL		
			Ruijter	E.		UD		
			Braun	J.		PhD	11/11/2014	11/11/2018
			Cioc	R.		PhD	15/11/2012	15/11/2016
			Collet			PhD	01/01/2015	01/01/2019
			Estévez Closas	V.		PhD	01/05/2013	01/05/2017
			Graaff	C.		PhD	15/08/2011	15/08/2015
			Heijden	G.	van de	PhD	01/11/2012	01/11/2016
			Kraakman			PhD	01/01/2015	01/01/2019
			Laan			PhD	01/01/2015	01/01/2019
			Lint	M.J.	van	PhD	01/01/2011	01/01/2015
			Mampuys	P.		PhD	01/09/2013	01/09/2017
			Saya	J.M.		PhD	01/12/2014	01/12/2018
			Schaapkens			PhD	01/01/2015	01/01/2019
			Schaik			PhD	01/01/2015	01/01/2019
			Vicente Garcia	E.		PhD	01/03/2013	01/03/2017
			Janssen	A.C.		OBP		
1	Synthetic Organic Chemistry (UvA, HIMS)		Hiemstra	H.		HGL		
			Maarseveen	J.H.	van	HGL		
			Timmerman	P.		HGL BZ		
			Maarseveen	J.H.	van	UHD		
			Fernández-Ibáñez	M.A.		Tenure Tracker		
			Ingemann Jørgense	S.		UD		
			Kanner	C.B.		WP Guest	01/03/2010	01/03/2015
			Valderas Cortina	C.		PD	01/05/2015	31/07/2016
			Naksomboon	K.		PhD	01/09/2015	01/09/2019
			Popovic	S.		PhD	01/02/2010	01/06/2015
			Richelle	G.J.J.		PhD	01/11/2013	01/11/2017
			Steevers	L.		PhD	01/01/2012	01/01/2016
			Streefkerk	D.E.		PhD	01/06/2014	01/06/2018
			Wijsman	L.		PhD	01/09/2015	28/02/2019
			Žari			PhD	01/11/2014	31/03/2015
			Bieraugel	H.		OBP Guest		
			Klein Nijenhuis	R.		OBP		
Wanner	M.J.		OBP					
Zuidinga	E.		OBP					
2	Biomolecular Spectroscopy (VU, EMS)		Ariese	F.		UHD		
			Gooijer	C.		Emeritus		
			Zwan	G.	van de	Gepensioneerd	01/06/2012	31/12/2099

		Hoorn	C.	van		01/07/2012	01/07/2016
		Mooij	B.		PhD	01/10/2015	01/10/2019
		Moester	M.J.B.		PhD	01/01/2011	01/01/2015
		Zada	L.		PhD	01/11/2014	01/11/2018
2	Biophysical Organic Chemistry (UL, LIC)	Groot	H.J.M.	de	HGL		
		Alia	A.		UD		
		Buda	F.		UD		
		Ganapathy	S.		PD	15/05/2012	13/11/2016
		Miloslavina	Y.		PD	01/02/2012	31/01/2015
		Thomas	B.		PD	31/01/2012	16/07/2016
		Augustijn	D.		PhD	01/08/2014	31/07/2018
		Miloslavina	Y.		PD	02/01/2012	31/01/2015
		Monti	A.		PhD	01/06/2011	30/09/2015
		Roy	U.		PhD	01/01/2012	31/01/2016
		Ruiter	J.M.	de	PhD	01/09/2013	06/12/2017
		Schadewijk	R.	van	PhD	01/02/2014	31/01/2018
		Sevink	G.J.A.		PhD	01/01/2016	31/12/2099
		Sun	Z.		PhD	02/09/2014	31/08/2018
		Sai sankar Gupta			OBP		
		Velden	E.	van de	SECR		
2	Laboratory Astrophysics Astrochemistry (UL, LION)	Linnartz	H.V.J.		HGL		
		Doney	K.D.		PhD	07/01/2014	30/06/2018
	Molecular Spins (UL, LION) (MONOS)	Nano Groenen	E.J.J.		Emeritus		
		Völker	S.L.		Emeritus		
		Orrit	M.		HGL		
		Gast	P.		UD		
		Huber	M.		UD		
		Azarkh	M.		PD	01/03/2012	31/12/2015
		Ebrahimi Pour Fa	S.		PD	01/08/2013	01/07/2015
		Caldarola			PhD	01/01/2015	01/01/2019
		Carattino	A.		PhD	01/02/2013	01/02/2016
		Hou	L.		PhD	15/08/2012	15/08/2016
		Kumar	P.		PhD	15/06/2012	15/06/2016
		Nami	F.		PhD	01/03/2012	01/03/2016
		Panarelli	E.G.		PhD	01/06/2014	01/06/2018

		Pradhan	B.		PhD	01/02/2014	31/01/2018
		Verhart	N.R.		PhD	09/07/2012	09/07/2016
		Zhang	W.		PhD	01/09/2014	31/08/2018
		Zurlo	E.		PhD	01/02/2015	31/01/2019
		Leeuwen	H.C.M. van		SECR		
2	Molecular	Schenk	H.		Emeritus		
	Photonics	Verhoeven	J.W.		Emeritus		
	(UvA, HIMS)	Aalders	M.C.G.		HGL BZ		
	(MOLPHOT)	Bakker	H.J.		HGL		
		Brouwer	A.M.		HGL		
		Buma	W.J.		HGL		
		Oomens	J.		HGL BZ		
		Woutersen	S.		HGL-BZ		
		Zhang	H.		UD		
		Jing	P.		HRSMC- fellow	01/08/2015	01/01/2015
		Rijs	A.M.		Ass. Prof		
		Williams	R.M.		UD		
		Bakker	J.M.		WP Guest	01/01/1994	31/12/2099
		Sitters	R.		WP Guest	01/01/2013	01/01/2015
		Bloem	R.		PD	03/07/2015	31/12/2015
		Dijk	C.N.	van	PD	01/07/2011	01/10/2019
		Nicu	V.P.		PD	01/06/2015	01/06/2019
		Ottoson	N.E.		PD	01/02/2015	01/06/2015
		Petrignani	A.		Postdoc	01/01/2015	01/01/2018
		Shen	S.		PD	01/05/2015	01/05/2016
		Chen	H.C.		PhD Guest	01/09/2011	01/09/2016
		Cota	R.O.		PhD	01/06/2015	01/06/2019
		Ding	Y.		PhD Guest	01/02/2013	01/04/2015
		Gutierrez Cota	R.O.		PhD	01/06/2015	01/06/2019
		Haitjema	J.		PhD	15/09/2015	15/09/2019
		Koenis	M.A.J.		PhD	01/09/2015	01/09/2019
		Kumpulainen	T.		PhD Guest	01/10/2014	01/04/2015
		Loop	T.F.	van der	PhD Guest	01/11/2014	01/06/2015
		Lugier	O.C.M.		PhD Guest	20/03/2015	01/07/2015
		Maltseva	E.		PhD	01/08/2012	01/08/2016
		Martens			PhD	01/01/2015	01/01/2019
		Meuzelaar	H.		PhD	01/10/2014	01/07/2015
		Petrova	D.		PhD	01/04/2015	01/04/2019
		Raeisolsadati	M.		PhD	01/11/2012	01/01/2015

		Oskouei				
		Rocha Martins	B.M.	PhD	01/11/2014	01/11/2018
		Roeters	S.J.	PhD	15/10/2011	15/10/2015
		Strazdaite	S.	PhD Guest	01/11/2011	01/11/2015
		Strudwick	B.H.	PhD	01/08/2014	01/08/2015
		Suhina	T.	PhD	01/09/2012	01/09/2016
		Zhang	Y.	PhD	01/01/2015	01/01/2019
		Zheng	D.	PhD	01/09/2014	01/09/2018
		Talavera Ormeno	C.	Guest	01/09/2014	01/02/2015
		Bakker	B.H.	OBP		
		Bebelaar	D.	OBP		
		Groeneveld	M.M.	OBP Guest		
		Hilbers	M.F.	OBP		
		Ramesdonk	H.J.	van	OBP Guest	
		Reinders	P.P.		OBP	
		Sanders	H.J.		OBP	
2	Surface Chemistry and Catalysis (UL, LIC)	Kleijn	A.W.		HGL BZ	
		Koper	M.T.M.		HGL	
		Fu	W.T.		UD	
		Groot	I.M.N.		Tenure Tracker	
		Heering	H.A.		Research Fell	01/04/2012 31/10/2015
		Hetterscheid	D.G.H.		Tenure Tracker	
		Juurlink	L.B.F.		Ass. Prof	
		Calle Vallejo	F.	PD (Veni)	01/04/2015	30/03/2018
		Figueiredo	M.	PD	01/11/2014	30/04/2017
		Göttle	A.	PD	01/09/2014	14/03/2017
		Huang	Y.	PD	16/10/2013	31/03/2017
		Walsh	A.J.	PD	01/06/2014	17/08/2016
		Auras	S.	PhD	15/12/2015	15/12/2019
		Badan	C.	PhD	16/07/2012	31/07/2017
		Birdja	Y.Y.	PhD	16/12/2013	15/12/2017
		Bremmer		PhD	01/10/2013	30/09/2017
		Cao	K.	PhD	01/09/2014	31/08/2018
		Chen		PhD	01/09/2015	31/08/2019
		D'Agostini	S.	PhD	01/12/2014	30/11/2018
		Den Dunnen	A.	PhD	01/02/2011	01/05/2015
		Diaz Morales	O.A.	PhD	01/06/2011	31/08/2016

		Dijk	B.		PhD	01/01/2016	31/12/2020
		Ham	C.J.M.	vd	PhD	01/09/2013	31/08/2017
		Hersbach	T.		PhD	01/10/2014	30/09/2018
		Jacobse	L.		PhD	16/09/2013	16/09/2017
		Kolb	M.J.		PhD	01/01/2012	01/05/2016
		Kortlever	R.G.H.		PhD	16/11/2011	15/11/2015
		Ledezma Yanez	I.D.		PhD	28/11/2011	31/05/2016
		Lent	R.	van	PhD	01/05/2014	30/04/2018
		Mom			PhD	01/01/2013	31/12/2016
		Perez Gallent	E.		PhD	16/11/2013	15/11/2017
		Plas	M.	vd	PhD	22/04/2014	23/04/2018
		Rossius	S.G.H.		PhD	01/11/2011	30/11/2016
		Shen	J.		PhD Guest	17/11/2011	16/11/2015
		Spronsen			PhD	01/01/2012	31/03/2016
		Vos	J.		PhD	01/05/2015	30/04/2019
		Dijkzeul	J.C.M.		SECR		
		Tapan	N.A.		Guest	01/01/2015	01/01/2015
3	Computational Chemistry (UvA, HIMS)	Bolhuis	P.G.		HGL		
		Meijer	E.J.		Hgl		
		Lowe	C.		UHD		
		Dubbeldam	D.		UD		
		Ensing	B.		UD		
		Vreede	J.		UD		
		Cruz Cabeza			PD	01/10/2011	22/02/2015
		Ni	R.		PD	01/09/2012	31/08/2017
		Rudavskiy	A.		PD	01/10/2015	01/10/2016
		Sun	D.		PD	21/10/2013	21/10/2015
		Swenson	D.W.H.		PD	01/01/2012	01/01/2015
		Brandeburgo	W.		PhD	15/01/2011	15/01/2015
		Brotzakis	Z.F.		PhD	01/09/2012	01/09/2016
		Burtch	N.C.		PhD	01/06/2015	01/09/2015
		Diaz Leines	G.		PhD Guest	01/05/2014	01/05/2015
		Govindarajan	N.		PhD	01/01/2016	31/12/2020
		Heinen	J.		PhD	01/09/2014	31/08/2018
		Homs Brandenbu	W.		PhD	15/01/2011	15/01/2015
		Kumar	A.		PhD	01/09/2010	31/01/2016
		Newton	A.C.		PhD	15/04/2012	15/04/2016
		Nowosielski	M.		PhD	15/04/2011	15/04/2015
		Putenkhalatil	R.C.		PhD	01/01/2016	31/12/2020

		Tiwari		PhD	01/01/2015	01/01/2019
		Torres Knoop	A.	PhD	01/03/2012	01/03/2016
		Vijaykumar	A.	PhD Guest	01/06/2013	01/06/2017
3	Theoretical Chemi (VU, EMS)	Baerends	E.J.	Emeritus		
		Bickelhaupt	F.M.	HGL		
		Gori Giorgi	P.	HGL		
		Visscher	L.	HGL		
		Fonseca Guerra	C.	UD		
		Gori Giorgi	P.	UD		
		Gritsenko	O.V.	UD		
		Infante	I. A. C.	UD		
		Cosseddu	S.M.	PD	01/02/2015	01/02/2017
		Giesbertz	K.J.H.	PD	09/01/2012	09/01/2015
		Heshmat	M.	PD	02/02/2013	02/02/2015
		Kazaryan	A.K.	PD	01/01/2014	04/01/2015
		Lani	G.	PD	01/04/2013	01/04/2016
		Malet Giralt	F.	PD	01/03/2012	01/06/2016
		Paragi	G.T.	PD	01/05/2013	01/02/2016
		Wagner	L.O.	PD	01/11/2013	01/11/2015
		Boughlala	Z.	PhD	01/08/2013	01/08/2017
		Cózar		PhD	01/01/2015	01/01/2019
		de Cózar Ruano	A.	PD	01/09/2015	01/09/2017
		Franchini	M.	PhD	01/01/2014	01/01/2016
		Gangarapu		PhD	01/01/2015	01/01/2019
		Giarrusso		PhD	01/10/2015	01/10/2015
		Grossi		PhD	01/09/2015	01/09/2019
		Handzik	M.	PhD	01/01/2015	01/01/2019
		Hernandez Fernandez F.		PhD	01/01/2016	01/06/2016
		Juliaci Rocha		PhD	01/01/2015	01/01/2019
		Lopez Tariva	P.	PhD	01/01/2016	31/12/2020
		López-Tarifa		PhD	01/01/2015	01/01/2019
		Lubbe	S. van der	PhD	01/01/2016	31/12/2020
		Meer	R. van	PhD	01/01/2011	01/01/2015
		Mulder	J.R.	PhD	01/10/2011	01/10/2015
		Sun	X	PhD	01/11/2014	01/11/2018
		Vuckovic	S.	PhD	01/01/2013	01/01/2017
		Zaccaria	F.	PhD	01/09/2014	01/09/2018
		Zapata		PhD	01/01/2015	01/01/2019
	Theoretical Chemistry	Meyer	J.	Dr	01/01/2015	31/12/2099
		Nattino	F.	PD	01/01/2015	01/01/2017

(UL)						
		Nattino	F.		PhD	01/11/2015 01/11/2019
		Rasti	S.		PhD	01/01/2016 31/12/2020
		Seal	S.		PhD	01/01/2016 01/01/2020
		Spiering	P.		PhD	01/09/2015 01/09/2019
1,2,3	Excellence Master	Abad Torres	J.			01/09/2015 01/09/2016
		Bouwens	T.			01/01/2014 01/01/2019
		Brinck	S.C.	ten		01/09/2013 01/09/2015
		Bruijn	H.	de		01/01/2014 01/09/2015
		Doorn	I.	van		01/01/2015 01/01/2017
		Heuvel	N.	vd		01/09/2015 01/09/2017
		Keijer	T.			01/09/2015 01/09/2017
		Klein	D.			01/09/2015 31/12/2019
		Landman	I.			01/01/2014 01/01/2019
		Opdam	L.			01/09/2015 01/09/2017
		Schaap	I.L.			01/10/2013 01/10/2017
		Venne	M.			01/09/2013 01/09/2016
		Vliet	K.M.	van		01/09/2013 01/10/2015
	WAR	Briels	W.		WARlid	Tot 5/11/2015
		Hage	R.		WARlid	
		Reedijk	J.		WARlid	
		Verhoeven	J.W.		WARlid	
		Vogt	E.		WAR	
		Vries	J.G.	de	WARlid	Tot 5/11/2015



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## 4.4 Annex 4 – Publications

### **Biocatalysis (UvA, HIMS)**

Dr. F. Mutti

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Prof. dr.G. Rothenberg<sup>1</sup>, Dr. S. Grecea, Dr. N.R. Shiju, Dr. N. Yan

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**Homogeneous, Supramolecular and Bio-Inspired Catalysis (UvA, HIMS)**

Prof. dr. B. de Bruin<sup>1</sup>, Prof. dr. J.N.H. Reek<sup>1</sup>, Dr. M. Tromp, Dr. Ir. J.I. van der Vlugt

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Prof. dr. E. Bouwman <sup>1</sup> , Dr. S. Bonnet, Dr. D. Hettterscheid
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Prof. dr. C.J. Elsevier<sup>1</sup>

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Prof. dr. K. Lammertsma, Dr. A.W. Ehlers, Dr. J.C. Slootweg

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### **Synthetic and Bio-organic Chemistry (VU, EMS)**

Prof. dr. ir. R.V.A. Orru, Dr. E. Ruijter

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### **Synthetic Organic Chemistry (UvA, HIMS)**

Prof. dr. H. Hiemstra<sup>1</sup>, Prof. dr. J.H. van Maarseveen, Prof. dr. P. Timmerman, Dr. M.Á. Fernández-Ibáñez, Dr. S. Ingemann

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### **Biomolecular Spectroscopy (VU, EMS)**

Dr. F. Ariese

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Prof. dr. H. Linnartz

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Prof. dr. A.M. Brouwer, Prof. dr. W.J. Buma, Prof. dr. S. Woutersen,
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Prof. dr. M. Koper<sup>1</sup>, Dr. W.T. Fu, Dr. I.M.N. Groot, Dr. D. Hetterscheid,  
Dr. L.B.F. Juurlink

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Dr. D. Dubbeldam, Dr. J. Vreede

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<b>Theoretical Chemistry (UL, LIC)</b>
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Dr. J. Meyer
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## 4.5 Annex 5 – The HRSMC Education Programme

The management of the school administers the credit points obtained by the PhD students and presents HRSMC certificates to those students who have fulfilled their education programme with a minimum of 15 ECTS.

<b>ECTS system</b>	1 ECTS = 28 h
Literature research, Paper (see remarks for explanation) and Colloquium (see remarks for explanation)	6, all three together
HRSMC school	2-3
HRSMC course	2-3
External course of + 1 week	1-3, the validation of the responsible organization will be used.
Course on didactics	1-2
Presenting a poster at an (inter)national conference	1
Giving a lecture at an (inter)national conference	2
2x attendance of a guest lecture and a scientific discussion	10 attendances=1 EC
Research in another laboratory (preferring outside Holland)	max. 6
<b>Minimum</b>	<b>15</b>

### Remarks:

- Every PhD needs to follow at least one HRSMC course and one HRSMC school for the HRSMC certificate. If there is no HRSMC school or course available supporting the aspects of the PhD research, an external course can be chosen instead (but for 95% of the PhD student this is not necessary). The other items are optional: for the certificate it is not 'a must' to do a course on didactics or a research in another laboratory, but when this is done a maximum of 6 ECTS can be given for this activity.
- The Han-sur-Lesse Winter school 'Theoretical Chemistry & Spectroscopy' is not organized by the HRSMC, but many HRSMC staff members are involved. Therefore, this course is considered as a HRSMC school for the HRSMC certificate.
- A colloquium is a presentation, which a PhD gives at the beginning (normally after 3-6 months). A PhD researcher presents his/her research plans and gives a general background of the project. This colloquium can be based on the paper.
- A paper should not be confused with a scientific article. A paper is a document, which a PhD researcher normally makes at the beginning of his/her research. This paper includes items like:
  - The general background of the research project
  - The plans a PhD researcher has for the first years of his/her research project
- When the following Courses and Schools were followed with a validation of 3 EC according to the old rating (instead of 2 according to the new validation):
  - HRSMC Course: Physical Methods in Inorganic Chemistry (2011, 2013)
  - HRSMC Summer School on Photochemistry (2012)
  - HRSMC Tulip School 'Modern Developments in Spectroscopy' (2012)
  - HRSMC Summer School Synthetic Bio-organic Chemistry (2013)
  - HRSMC Autumn School Advanced Metal-Organic Chemistry (2012)

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For each of these Courses with a validation of 3 EC instead of 2, one extra EC should be done for the total ECs for the certificate.

E.g. if you have followed the 2012 Tulip School for 3 EC, you should have 16 ECs in total.

15 points is a minimum and can, of course, be exceeded.