

## ABSTRACTS

# SSIEM 2016 Annual Symposium - Content

Rome, Italy, September 2016

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- O-002** A double-blind placebo-controlled trial of triheptanoin in adult polyglucosan body disease  
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*D Van Vliet, V M Bruinenberg, P N Mazzola, K Anjema, H J R Van Faassen, P De Blaauw, I P Kema, M R Heiner-Fokkema, E A Van der Zee, F J Van Spronsen*

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- O-019** Genetic cause and prevalence of hydroxyprolinemia  
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- O-041** Cytosolic phosphoenolpyruvate carboxykinase deficiency presenting with acute liver failure following gastroenteritis  
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- O-044** Long-term outcomes with rhGUS in a phase I/II clinical trial in MPS VII  
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- O-045** Increased collagen glycosylated hydroxylysine in the urine of MPS I, II and VI patients  
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- O-046** Initial, 24 week results of heparan sulfate levels in cerebrospinal fluid, brain structural MRI and neurocognitive evaluations in an open label, phase I/II, first-in-human clinical trial of intravenous SBC-103 in mucopolysaccharidosis IIIB  
*C B Whitley, M L Escolar, S Vijay, G Parker, C Roberts, X Zhang, A Cinar, G Bubb, K C Paiki, S Rojas-Caro*

- O-047** ZFN-mediated correction of murine MPS I and MPS II models by expression of the human alpha-L-iduronidase and iduronate-2-sulfatase cDNAs from the albumin locus  
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- O-052** Intracerebroventricular cerliponase alfa (BMN 190) in children with CLN2 disease: results from a phase 1/2, open-label, dose-escalation study  
*A Schulz, N Specchio, P Gissen, E De los Reyes, R Williams, H Cahan, P Slasor, D Jacoby*
- O-053** Novel treatment for Fabry disease—IV administration of plant derived alpha-gal-a enzyme safety and efficacy, 1 year experience  
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- O-054** The emerging neurocognitive profile of classic infantile Pompe disease  
*B J Ebbink, E Poelman, F K Aarsen, I Plug, M H Lequin, P A Van Doorn, A T Van der Ploeg, J M P Van den Hout*

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- O-055** A novel group of metabolic disorders due to tissue-specific defects in V-ATPase assembly  
*Jos C. Jansen<sup>1</sup>, Sharita Timal<sup>1</sup>, Monique van Scherpenzeel<sup>1</sup>, Angel Ashikov<sup>1</sup>, Eric Jansen<sup>1</sup>, Ron Wevers<sup>1</sup>, Martijn Huynen<sup>1</sup>, Francois Foulquier<sup>2</sup>, Joris Veltman<sup>1</sup>, Tom Stevens<sup>3</sup>, Dirk J. Lefebvre<sup>1</sup>*
- O-056** A novel sugar metabolic pathway in humans: ISPD synthesises CDP-ribitol  
*M Riemersma, S D Froese, W Van Tol, H Van Bokhoven, W W Yue, D J Lefebvre*
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*I Gerin, B Ury, I Breloy, C Bouchet-Seraphin, J Bolsee, M Halbout, J Graff, D Vertommen, G G Muccioli, N Seta, J M Cuisset, I Dabaj, S Quijano-Roy, A Grahn, E Van Schaftingen, G T Sommer*

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*P Yuste-Checa, S Brasil, A Gamez, J Underhaug, L R Desviat, M Ugarte, C Perez-Cerda, A Martinez, B Perez*

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*R Peanne, E Blommaert, V Race, E Souche, L Keldermans, D Rymen, J Jaeken, G Matthijs*

**O-060** NANS-mediated synthesis of sialic acid is required for brain and skeletal development  
*C Van Karnebeek, L Bonafe, X Y Wen, D Lefeber, R Wevers, A Superti-Furga*

**O-061** SLC39A8 deficiency is a novel treatable disorder of manganese metabolism and glycosylation  
*J H Park, M Hogrebe, M Grueneberg, J Reunert, S Rust, T Marquardt*

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*L Baroncelli, M G Alessandri, A Molinaro, F Cacciante, D Napoli, J Tola, E Putignano, E Amendola, F Zonfrillo, C Grossi, M C Mazzanti, V Leuzzi, G Cioni, T Pizzorusso*

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*F R Danti, M Romani, S Galosi, M Montomoli, K J Carss, F L Raymond, D D D Study, E M Valente, V Leuzzi, R Guerrini, M A Kurian*

## 24. Disorders of vitamins, cofactors and trace elements

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*V Fettelschoß, P Burda, S Lutz, T Suormala, B Fowler, B Bornhauser, S D Froese, M R Baumgartner*

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*D E Smith, M I Mendes, M Coker, A J Rennings, J Leandro, M Fernandez Ojeda, A Pop, P Leandro, G S Salomons*

**O-068** Developments in the diagnosis and treatment of PNPO deficiency  
*M P Wilson, E J Footitt, A H A Mohamed-Ahmed, E S Reid, A Papandreou, C Gabriel, C Tuleu, P T Clayton, P B Mills*

**O-069** The low-density lipoprotein receptor-related protein 2 is essential for the exosome-dependent cerebral folate transport  
*R Steinfeld, K Kaczmarek, J Gaertner*

## 25. Miscellaneous/new disease group

**O-070** The immunological basis of Vici syndrome  
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## 01. Inborn errors of metabolism in adults

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**P-002** Updates in lysinuric protein intolerance, a multi-faceted disease  
*W Mauhin, F Habarou, S Gobin, A Servais, A Brassier, C Grisel, C Roda, D Moshous, C Ottolenghi, J De Blic, J B Arnoux, P De Lonlay*

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*P S Kishnani, C Rockman-Greenberg, K L Madson, M Gayron, U Illoeje, M P Whyte*

**P-004** Hypogonadotropic hypogonadism in males with glycogen storage disease type 1  
*S M Sirrs, E M Wong, A Lehman, P Acott, J Gillis, D L Metzger*

**P-005** *ELOVL4* mutation in a family with dominant cerebellar and brainstem atrophy (SCA34): clinical, radiological, and metabolic findings  
*C Marelli, D Cheillan, C Guissart, M Koenig, P Labauge*

**P-006** Transition in patients with inborn errors of metabolism: a continuous challenge  
*D Piel, F K Trefz, D Haas, S Koelker, E Vogel, H Fluhr, P Nawroth, G F Hoffmann*

**P-007** French cohort of maple syrup urine disease: assessment of neuropsychiatric outcome  
*M T Abi-Warde, C Roda, J B Arnoux, F Habarou, C Grisel, A S Guemann, A Brassier, V Barbier, S Dubois, M Assoun, S Leverage, V Leboeuf, M Bayart, J M Alili, R Barouki, F Lesage, L Dupic, V Valayannopoulos, A Servais, C Ottolenghi, P De Lonlay*

**P-008** Cerebrospinal fluid neurotransmitter depletion in adult PKU patients  
*A Pilotto, N Blau, E Charyasz, P Freisinger, G Gramer, G F Hoffmann, K Scheffler, D Berg, F K Trefz*

**P-009** A coordinated transition model for patients with cystinosis in Spain: from pediatric to adult care  
*G Ariceta, J A Camacho, A Fernandez-Polo, J Gamez, J Garcia-Villoria, E Lara, P Leyes, N Martin-Begue, M Perello, G Pintos-Morell, R Torra, J V Torregrosa, S Torres-Sierra, A Vilà-Santandreu, A Guell*

**P-010** Nitisinone in alkaptonuria—quantifying the pigmentary pathway  
*L R Ranganath*

- P-011** Transition from pediatric to adult care in patients with inborn errors of metabolism in Spanish referral centers  
*M Morales-Conejo, M Morales-Conejo, J Perez-Lopez, J S Garcia-Morillo, L Ceberio-Hualde, J M Grau-Junyent, A Hermida Ameijeiras, M Lopez-Rodriguez, J J Nava Mateos, J Ortiz-Imedio, J C Milisenda, M Molto-Abad*
- P-012** Intrafamilial phenotypic variations in adult onset classical homocystinuria  
*C Tran, C Buerer, M R Baumgartner, D Ballhausen*
- P-013** Clinical characteristics of adult patients with inborn errors of metabolism from Spanish referral centers  
*J Perez-Lopez, L Ceberio, J S Garcia-Morillo, J M Grau-Junyent, A Hermida Ameijeiras, M Lopez-Rodriguez, J C Milisenda, M Molto-Abad, M Morales-Conejo, J J Nava Mateos*
- P-014** Cystinosis in adult and adolescent patients: recommendations for the comprehensive care of the disease in Spain  
*G Ariceta, J A Camacho, M Fernandez-Obispo, A Fernandez-Polo, J Gamez, J Garcia-Villoria, E Lara, P Leyes, N Martin-Begue, F Oppenheimer, M Perello, G Pintos-Morell, R Torra, A Vilaseca-Santandreu, A Guell*
- P-015** Hyperammonaemia secondary to chemotherapy: unmasking and exacerbation of underlying urea cycle defects in two patients  
*V Powers, W Mbagaya, C Stockdale, C Dawson*
- P-016** Severe missense *ASL* mutation causing relatively mild argininosuccinic aciduria in a Cypriot adult patient with learning difficulties, epilepsy and generalized whole-body tremor  
*G A Tanteles, T Georgiou, G Mavrikou, V Christopoulou-Anastasiadou, Y Christou, S S Papacostas, A Drousiotou*
- P-017** Phenylketonuria: an analysis of 67 adult patients after a transition process from a pediatric hospital  
*N Bulto, G Garrabou, J M Grau, F Cardellach*
- P-018** Altered osteoclast activity in a group of young patients affected by alkaptunuria  
*A Tummolo, G Brunetti, S Colucci, M Grano, L Piacente, A M Ventura, C Rizzo, M F Faenza, F Papadia*
- P-019** Adult Niemann-Pick type C mimicking Wilson disease: the importance of oxysterols and lysosphingolipids pattern  
*A P Burlina, G Polo, I Mammì, C Gallera, F Furlan, A B Burlina*
- P-020** Psychiatric and neurological symptoms in patients with Niemann-Pick disease type C: findings from the International NPC Registry  
*O Bonnot, C S Gama, E Mengel, M Pineda, M T Vanier, L Watson, M Watissee, B Schwierin, M C Patterson*
- P-021** Food neophobia, olfactory and gustatory functions in Brazilian patients with hepatic glycogen storage disease type I  
*C Caldeira Martinez, T Tonon, C Fischinger Moura de Souza, F Pinto e Vairo, I V Doederlein Schwartz*
- P-022** New consensus recommendations for the detection and diagnosis of Niemann-Pick disease type C  
*T Marquardt, P Clayton, P Gissen, M C Patterson, N P C Diagnostics Working Group*
- P-023** A novel mutation in *LPIN1* associated with different phenotypes in the same family  
*L Vilarinho, D Nunes, C Nogueira, A Lopes, P Chaves, E Rodrigues, T Cardoso, E Leao Teles*
- P-024** A ceroid lipofuscinosis 11 patient in a frontotemporal lobar degeneration family due to progranulin gene mutation  
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- P-025** Woodhouse-Sakati syndrome: a rare cause of leukodystrophy  
*P Louro, J Duraes, S Paiva, P Tavares, M C Macario*
- P-026** Argininosuccinic aciduria—an atypical presentation  
*D Vieira, B Silva, L Vilarinho, C Fonseca, E Louro, M C Macario*
- 02. Novel diagnostic/laboratory methods**
- P-027** Pompe disease—the proportion of fatty and muscle tissues as an indicator of progression and severity of the disease  
*A Rozdzynska-Swiatkowska, E Jurkiewicz, A Tylik-Szymanska*
- P-028** Diagnosing inborn errors of metabolism using next generation sequencing  
*K Brion, T Pyragius, M Gurner, S Chin, S Stark, K Kassahn, J Fletcher*
- P-029** A rapid procedure for the detection of 4-hydroxyglutamate in urine by LC-MS/MS for screening for primary hyperoxaluria type 3  
*U Holwerda, M M C Wamelink, G S Salomons, A Bokenkamp, E A Struys*
- P-030** A sensitive LC-MS/MS method for the quantification of urinary 8-iso-prostaglandin F<sub>2α</sub> as an oxidative stress biomarker  
*X Fu, Y Xiao, Y Xu, P Pattengale, J Dien Bard, M O Gorman*
- P-031** A novel method for inclusion of all urea cycle disorders into newborn screening  
*R Fingerhut, S Sluka, J Haeberle, M Halme, G Carrard*
- P-032** A new multiplex method for the diagnosis of peroxisomal disorders allowing simultaneous determination of plasma very-long-chain fatty acids, phytanic, pristanic, docosahexaenoic and bile acids by LC-MS/MS with atmospheric pressure chemical ionization  
*M Semeraro, C Rizzo, S Boenzi, M Cappa, E Bertini, G Antonietti, C Dionisi-Vici*
- P-033** Analysis of bile acid profiles by liquid chromatography–tandem mass spectrometry (LC-MS/MS)  
*X Fu, Y Xiao, J Golden, C Gayer*
- P-034** A new optimization approach for liquid chromatography ion mobility–mass spectrometry untargeted metabolomics method using experimental design  
*A Tebani, I Schmitz-Afonso, D N Rutledge, B J Gonzalez, S Bekri, C Afonso*
- P-035** Mass spectrometry based metabolomics: a promising tool for the diagnosis of inborn errors of metabolism  
*A Tebani, L Abily-Donval, I Schmitz-Afonso, S Marret, C Afonso, S Bekri*
- P-036** Selective screening for inborn errors of metabolism (IEM) in urine: automatic high throughput analysis using nuclear magnetic resonance spectroscopy (NMR)  
*C Cannet, L Beedgen, F K Trefz, J G Okun, C D Langhans, H Schaefer, M Spraul, G F Hoffmann*

<b>P-037</b>	Untargeted metabolomics in a diagnostic setting using dried blood spots <i>J J M Jans, M Willemse, M G M De Sain-van der Velden, H C M Prinsen, M Van der Ham, J Gerrits, M L Pras-Raves, N M Verhoeven-Duif</i>	<b>P-049</b>	Detection of large deletions in the genes <i>FMO3</i> and <i>PHKB</i> by use of novel analysis techniques <i>E Maurer, U Schatz, J Zschocke, M Witsch-Baumgartner</i>
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<b>P-039</b>	The effectiveness of whole exome sequencing in unsolved patients with the clinical suspicion of mitochondrial disease <i>K Reinson, S Pajusala, S Puusepp, U Murumets, R J Rodenburg, K Ounap</i>	<b>P-051</b>	To study the additive predictability of non-HLA marker amino acid citrulline as a metabolomic signature in children with celiac disease and in their first degree relatives <i>A Lomash, S Kumar, S K Polipalli, S Kapoor</i>
<b>P-040</b>	Quantification of plasma lysosphingolipids using LC-MS/MS: a new tool for diagnoses of sphingolipidoses <i>G Polo, A P Burlina, M Zampieri, E Viggiano, E Zanonato, A B Burlina</i>	<b>P-052</b>	Optimization of liquid chromatography and mass spectrometric parameters for untargeted metabolomics of dried blood spots <i>A Oestebj, H B Skogvold, C E Arnesen, H Rootwelt, K B P Elgstoen</i>
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<b>P-042</b>	Targeted NGS for 3-methylcrotonylglycinuria <i>C Cavicchi, L Ferri, D Malesci, C Chilleri, D Mei, E Parrini, I Bettocchi, F Baronio, R Ortolano, C Galimberti, M Rigoldi, S Gasperini, R Guerrini, A Morrone</i>	<b>P-054</b>	Screening of multiple inborn errors of metabolism in urine by LC-MS/MS <i>D Friedecky, H Janeckova, E Hlidkova, J Jacova, T Adam</i>
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<b>P-045</b>	Knowledgebase of inborn errors of metabolism (IEMBASE): validation and performance <i>J Lee, W Wasserman, G F Hoffmann, C Van Karnebeek, N Blau</i>	<b>P-057</b>	Whole exome sequencing, consanguinity and inborn errors of metabolism: when you need more than one genetic disease to explain the phenotype <i>F Monti, F Piazzon, F Monteiro, L Costa, J P Kitajima, C Bueno, G Porta, H Wanderley, I Schwartz, F Kok</i>
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<b>P-048</b>	Development and analytical validation of a next generation sequencing panel to assess lysosomal storage diseases <i>B Sudrie Arnaud, F Charbonnier, H Dranguet, S Coutant, M Mezain, P Saugier Veber, S Bekri</i>	<b>P-060</b>	The specificity and sensitivity of next generation semiconductor DNA sequencing in detecting mitochondrial DNA heteroplasmy <i>F Ezgu, B Topcu, B Ciftci, I Okur, L Turner</i>

### 03. Newborn screening

<b>P-061</b>	Supporting parents with following positive newborn screening results for an inherited metabolic disorder <i>J R Bonham, L Moody, L Atkinson</i>
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<b>P-062</b>	Multiplex screening for lysosomal storage diseases (LSDs) <i>F J M Eyskens, S Devos</i>	<b>P-075</b>	Identification of patients suspected of clinically significant very-long chain acyl CoA dehydrogenase deficiency (VLCADD) from newborn screen positive babies <i>K Bhattacharya, K Carpenter, G Ho, B Devanapalli, B Wilcken, V Wiley</i>
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<b>P-064</b>	Pilot study for evaluation of 21 additional metabolic disorders for the German newborn screening panel <i>G Gramer, J G Okun, G F Hoffmann</i>	<b>P-077</b>	Genotype-phenotype correlation study through protein model of 3-methylcrotonyl-CoA carboxylase <i>M Tolve, A Paiardini, G Janson, C Artiola, G Scarno, T Giovannillo, A Pasquali, A Angeloni, C L Carducci, V Leuzzi, C A Carducci</i>
<b>P-065</b>	Serendipity in newborn screening work flow: a case report of a methylenetetrahydrofolate reductase deficiency <i>F Ion Popa, M Vincenzi, N Campostrini, F Teofoli, A Pasini, E Maines, G Gugelmo, A Dianin, A Bordugo, M Camilot</i>	<b>P-078</b>	Newborn screening for lysosomal storage disorders in Tuscany and Umbria (Italy): current overview and first preliminary results <i>G La Marca, G Forni, D Ombrone, S Catarzi, S Poggiali, M Daniotti, L Ferri, S Malvaglia, S Funghini, C Chilleri, L Zavattaro, E Pasquini, A Morrone, M A Donati</i>
<b>P-066</b>	MCAD deficiency with severe neonatal onset, fatal outcome, and normal acylcarnitine profile <i>R Fingerhut, P Juset, S Sluka, T Herget, S M Azzarrello-Burri, A Rauch, M Baumgartner</i>	<b>P-079</b>	Outcome in short chain acyl-CoA dehydrogenase deficiency (SCADD) detected by newborn screening (NBS) <i>T Giovannillo, F Nardocchia, M Tolve, C Artiola, S Santagata, C A Carducci, C L Carducci, A Angeloni, V Leuzzi</i>
<b>P-067</b>	Japan-wide gene panel study for target metabolic diseases in newborn mass screening using tandem mass spectrometry <i>H Sasai, H Otsuka, R Fujiki, O Ohara, Y Nakajima, T Ito, M Kobayashi, G Tajima, O Sakamoto, S Matsumoto, K Nakamura, T Hamazaki, H Kobayashi, Y Hasegawa, T Fukao</i>	<b>P-080</b>	Prematurity and lysosomal enzymes activities: a caveat for the newborn screening <i>G Polo, E Viggiano, E Zanonato, M Zampieri, C Cazzola, A B Burlina</i>
<b>P-068</b>	Second tier test for isovaleric acidemia using LC-MS/MS in Tokyo, Japan <i>N Ishige, K Watanabe, S Hasegawa, K Konishi, M Mashita, Y Sera, M Ishige, M Owada</i>	<b>P-081</b>	Expanded newborn screening for inborn errors of metabolism: when appearances are deceptive! <i>O Mazza, M Cassanello, A Fantasia, A Mascagni, U Caruso, M C Schiaffino, R Cerone</i>
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<b>P-091</b>	Breast milk feeding in inherited metabolic disorders other than phenylketonuria—a 10 year single center experience <i>K Pichler, M Michel, M Zlamy, S Scholl-Buerki, E Ralser, M Joerg-Streller, D Karall</i>	<b>P-105</b>	Classical galactosaemia in infants: the Russian experience of dietary treatment <i>T Bushueva, T Borovik, V Skvortsova, G Yatsyk, E Roslavtseva</i>
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	<i>H Lau, N Belmatoug, P Deegan, O Goker-Alpan, I V D Schwartz, S P Shankar, Z Panahloo, A Zimran</i>	<b>P-529</b>	30 Infantile Pompe patients with 40 mg/kg/biweekly enzyme replacement treatment and 23 out of 30 survivors: a single center experience from Turkey <i>N Onenli Mungan, D Kor, B Seker Yilmaz, F D Bulut, S Erdem, F Demir, H Eren, N Ozbarlas</i>
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<b>23. Neurotransmitter and creatine related disorders</b>		<b>P-583</b>	Abnormal CSF phenylalanine level in patients presenting with disorders of tetrahydrobiopterin metabolism with hyperphenylalaninemia <i>A Celato, M Mastrangelo, A P Burlina, G Polo, C Carducci, C Carducci, V Leuzzi, A B Burlina</i>
<b>P-570</b>	Challenges in diagnosis and treatment of dopa-responsive dystonia due to tyrosine hydroxylase deficiency in a single patient in Indonesia <i>C N Hafifah, D R Sjarif</i>	<b>24. Disorders of vitamins, cofactors and trace elements</b>	
<b>P-571</b>	Dopamine and serotonin turnover in neuronal cell models of mitochondrial complex I deficiency and Gaucher disease <i>C De La Fuente Barrigon, M Garcia Gomez, D G Burke, S Eaton, S J R Heales</i>	<b>P-584</b>	Biodistribution of copper with disulfiram administered perorally in Menkes disease model mouse: new potential treatment to avoid subcutaneous injection <i>T Hoshina, S Nozaki, S Kudo, T Hamazaki, Y Nakatani, E Hayashinaka, Y Wada, H Kodama, Y Watanabe, H Shintaku</i>
<b>P-572</b>	Brain development in qdpr (dihydrobiopterin reductase)-deficient zebrafish <i>M Breuer, T Opladen, M Carl, S W Sauer</i>	<b>P-585</b>	Secondary coenzyme Q <sub>10</sub> deficiencies in mitochondrial and non-mitochondrial diseases <i>R Artuch, D Yubero, R Montero, M A Martin, M Grazina, I Hargreaves, L Salviati, A Ribes, P Navas</i>
<b>P-573</b>	Secondary brain creatine deficiency and neurological impairment in BDL rats, an <i>in vivo</i> model of chronic cholestatic liver disease <i>V Rackayova, M Loup, H Henry, V A McLin, C Cudalbu, O Braissant</i>	<b>P-586</b>	Rare inborn error of cobalamin metabolism (cobalamin J deficiency) presenting as deficiency of vitamin B <sub>12</sub> <i>P Jesina, P Chrustina, J Krijt, J Bartl, L Dvorakova, H Vlaskova, M R Baumgartner, B Fowler, P Burda, M Hrebicek, J Stary, V Kozich</i>
<b>P-574</b>	IPSCs from a patient suffering from tyrosine hydroxylase deficiency <i>S Jung-Klawitter, A Sebe, N Shen, G F Hoffmann, N Blau, T Opladen</i>	<b>P-587</b>	Molecular characterization of the cblC disease reveals new pathways in pathogenesis <i>L Hannibal, S Behringer, M Klenzendorf, D W Jacobsen, U Spiekerkoetter, H J Blom</i>
<b>P-575</b>	Two siblings with a new genotype of GAMT deficiency and response to sodium benzoate therapy <i>L Fiori, V Leuzzi, C L Carducci, C A Carducci, C Uggetti, A F Podesta'</i>	<b>P-588</b>	Disruption of the metabolome in a zebrafish model of PNPO deficiency <i>M Albersen, S M C Savelberg, M Bosma, J Gerrits, M Willemse, M G M De Sain-van der Velden, H C M Prinsen, M Van der Ham, M L Pras-Raves, J Bakkers, F G Tessadori, J J M Jans, G Van Haften, N M Verhoeven-Duif</i>
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<b>P-589</b>	Vitamin B6 is essential for serine de novo biosynthesis <i>R J Ruben, M L Pras-Raves, J Gerrits, M Bosma, H C M Prinsen, J J M Jans, N M Verhoeven-Duif</i>	<b>P-602</b>	Mutations in <i>PYCR2</i> define a lethal syndrome of failure to thrive, microcephaly, and brain atrophy in 10 Egyptian families <i>M S Zaki, G Bhat, M Y Issa, E Dikoglu, L A Selim, I Gamal, M S Abdel Hamid, I Marin-Valencia, J G Gleeson</i>
<b>P-590</b>	Long-term visual and electrophysiological follow-up in early onset cblC patients <i>N Garcia Segarra, F Rigaudiere, J F Benoist, E Delouvier, S Pichard, H Ogier De Baulny, M Schiff</i>	<b>P-603</b>	Asfotase alfa treatment in a prematurely born baby with hypophosphatasia <i>H Niinikoski, K Nanto-Salonen, K Korhonen</i>
<b>P-591</b>	Role of intramuscular levofolinate in treatment of hereditary folate malabsorption <i>E Manea, P Gissen, S Pope, S J R Heales, S Batzios</i>	<b>P-604</b>	Gene therapy for Canavan disease in the knockout mouse using rAAVs at a 20-fold lower dose <i>R Matalon, S Ahmed, Q Su, J Trapasso, G Gao</i>
<b>P-592</b>	Early onset of cobalamin C deficiency in 3 neonates: clinical and biochemical features following parenteral hydroxycobalamin dose intensification strategy <i>E Scalais, E Osterheld, D Amrom, C Geron, C Pierron, L Bindl, V Schlessner, L Regal, G Martens, L De Meirleir, A Olgac, L Turner L, A Inci, B Karaoglu, I Okur, F S Ezgu</i>	<b>P-605</b>	Increase in the diagnostic rate by exome sequencing in patients with neurometabolic disorders <i>E Kilic, M Kilic, R K Ozgul, D Yucel-Yilmaz, P Kavak, B Yuceturk, H Demirci, M S Sagiroglu</i>
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<b>P-596</b>	Postnatal hepatocyte transplantation in a child with molybdenum cofactor deficiency type B <i>B C Schwahn, S Bansal, E Fitzpatrick, H Lemonde, M Champion, C Turner, L Fairbanks, R Mitry, S Lehec, C Philippe, K Chong, F White, E V E Okokon, A Dhawan</i>	<b>P-608</b>	High incidence of hereditary liver diseases as an indication for pediatric liver transplant in Saudi Arabia: comparison to the Hungarian data <i>M A Barr, J Burkholder, M A Shagran, T Algoufi, A Dezsofi, L Szonyi</i>
<b>P-597</b>	Preponderance of c.394C>T mutation in <i>MMACHC</i> gene in Indian patients with combined methylmalonic aciduria and homocystinuria due to cobalamin C deficiency <i>S Bijarnia-Mahay, D Gupta, R D Puri, S Kohli, R Saxena, Y Shigematsu, S Yamaguchi, O Sakamoto, R Deb, V Udani, I C Verma</i>	<b>P-609</b>	Glycolysis and the formation of building blocks in proliferating epithelial cells <i>S A Fuchs, I Schene, P M Hasselt, R H L Houtkooper, N M Verhoeven-Duif, E E S Nieuwenhuis</i>
<b>P-598</b>	The challenge of treatments in three patients affected by pyridoxine dependent epilepsy <i>A Celato, I Fasan, E Zanonato, C Cazzorla, I Toldo, S Sartori, G Polo, A B Burlina</i>	<b>P-610</b>	Diagnostic biochemical abnormalities masked by early testing or prospective treatment in newborns at risk of multiple acyl-coA dehydrogenase deficiency and maple syrup urine disease <i>H Aitkenhead, A J Lam, H Prunty, M A Cleary, J Davison</i>
<b>25. Miscellaneous/new disease group</b>			
<b>P-599</b>	Recessive pathogenic variants in the <i>MICU1</i> gene: expanding the phenotypic and genotypic spectrum <i>T Ben-Omran</i>	<b>P-611</b>	Developing next-generation pharmacological chaperones by fragment screening and crystallography <i>S R Mackinnon, J Kopeć, F Von Delft, P E Brennan, W W Yue</i>
<b>P-600</b>	<i>MBTPS2</i> mutations in X-linked osteogenesis imperfecta <i>U Lindert, WA Cabral, S Ausavarat, S Tongkobpatch, K Ludin, A M Barnes, P Yeetong, M Weis, B Krabichler, C Srichomthong, E Makareva, A R Janecke, S Leikin, B Roethlisberger, M Rohrbach, I Kennerknecht, D R Eyre, K Suphapeetiporn, C Giunta, J C Marini, V Shotelersuk</i>	<b>P-612</b>	Follow-up of a patient with cobalamin F deficiency <i>M El Habbas, C Sechter, M Joncqvel, M Fontaine, G Morin, D Dobbelare, J F Benoist, K Mention</i>
<b>P-601</b>	Clinical and biochemical spectrum of metabolic cardiomyopathies in Egyptian children <i>N M Al Menabawy, R I Ismail, M A Mohamed, D Mehany, S ElSaeedy, I Abdel Sattar, R Amar, L A Selim, Z S Seliem</i>	<b>P-613</b>	Minimal prevalence and incidence of inherited metabolic disorders in Austria <i>D Karall, S Herbst, S Scholl-Buerghi, M Brunner-Krainz, J Emhofer, M Huemer, S G Kircher, J Koch, V Konstantopoulou, F Lagler, W N Loescher, E M Maier, J A Mayr, D Moeslinger, G Sunder-Plassmann, W Sperl, T M Stulnig, S B Wortmann, J Zschoke</i>
<b>P-614</b>	Artefactual increase in urine thymine concentration affecting GC-MS but not HPLC analysis <i>E Mozley, L Fairbanks, R Carling</i>		

<b>P-615</b>	GMP isolation and biodistribution of human amnion epithelial cell for clinical therapy <i>C Raghuraman Srinivasan, K Kannisto, C Hammarstedt, M Zabulica, C S Strom, R Gramignoli, U Askelof</i>	<b>01. Inborn errors of metabolism in adults</b>
<b>P-616</b>	Congenital myopathy associated with splice mutation in <i>PAX7</i> gene <i>U Ahting, C Makowski, H Juenger, B Schoser, J Mayr, B Alhaddad, H Prokisch, B Rolinski, T Haack, P Freisinger, T Meitinger</i>	<b>A-001</b> Screening for Fabry disease using dried blood spots: an Australasian experience <i>S L Stark, J R Dobbins, B Fong, S Chin, M Fuller, J M Fletcher</i>
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<b>P-618</b>	Bi-allelic variants in <i>PRUNE</i> cause early manifestation of severe epileptic encephalopathy with muscular hypotonia <i>B Alhaddad, A Schossig, T Haack, R Kovacs-Nagy, W Sperl, H Prokisch, J Mayr, J Senderek, J Zschocke, F Distelmaier, J Koch</i>	<b>A-003</b> Valproic acid-induced severe hyperammoniemia unmasked by a protein loading test <i>C Tran, B Royer Bertrand, A O Rossetti, L Bonafe</i>
<b>P-619</b>	Mutations in <i>RC3H1</i> in a boy with ethylmalonic aciduria and hemophagocytic lymphohistiocytosis <i>P Verloo, D Bogaert, F Haerynck, A Vanlander, B Menten, R Van Coster, M Dullaers</i>	<b>A-004</b> An unexpected differential diagnosis for a severe deterioration in an adult with glycogen storage disease type 1 <i>L Bosanska, T Schroeder, U Hoff, R Koerner, J M Kruse, R Senf, P Enghard, M Vietzke, N Tiling, U Ploeckinger</i>
<b>P-620</b>	Diagnosis and discovery of treatable neurometabolic diseases via an integrated -omics approach <i>T Dalkeith, K Bhattacharya, A Biggin, J Christodoulou, Y Zurynski</i>	<b>02. Novel diagnostic/laboratory methods</b>
<b>P-623</b>	The burden endured by caregivers of metabolic patients: mucopolysaccharidoses compared to intoxication disorders <i>F Nichelli, P Meregalli, S Gasperini, C Galimberti, E Schivalocchi, R Parini</i>	<b>A-005</b> GC/MS analysis of urinary mono- and disaccharides following mixed-bed resin purification and acetylation in methyl sulfoxide/1-methylimidazole reagent <i>M Z Habbal</i>
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<b>P-625</b>	Modulation of sirtuins under ketogenic diet <i>A B Potthast, A M Das</i>	<b>A-007</b> Spectrum of metabolic diseases identified by clinical whole exome sequencing <i>H Lee, Y Ko, C Lee, J S Lee, H D Kim, J S Lee</i>
<b>P-626</b>	Influence of altered ROS levels on expression and activity of sirtuins <i>A B Potthast, A Fitter, A M Das</i>	<b>A-008</b> UV-light microscopy and its application to visualize detailed cataractogenic structures in the zebrafish lens <i>L Rumping, A Graaff, de, P A W Schellekens, F Tessarori, G W Haafken, van, R H J Houwen, J J M Jans, P M Hasselt, van, N M Verhoeven-Duif</i>
<b>P-627</b>	Sirtuin 4 is up-regulated in the HELLP-syndrome <i>M Sandvoss, A B Potthast, A M Das</i>	<b>A-009</b> Complementary test for the diagnosis of Pompe disease <i>A B Schenone, J Frabasil, C Durand, C Bambara, S B Sokn</i>
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<b>P-629</b>	Synthetic cyclic pyranopterin monophosphate (scPMP) rescues the lethal phenotype of molybdenum cofactor (MoCo) deficient mice: relationship of scPMP doses, liver sulfite oxidase activity, body weight, and the detoxification of sulfite in vivo <i>S Liu-Chen, E Watsky, D Devore, N Kuklin, A Marozsan, Y Wang</i>	<b>A-010</b> Withdrawn
		<b>A-011</b> Classical PKU with unusual neonatal presentation <i>R Fingerhut, N Lehnher, V Pfeifle, S Holland-Cenz, S Sluka, G Szinnai, M Huemer, M Rohrbach</i>
		<b>A-012</b> Free ethylmalonic acid (EMA) measurement for newborn screening of short chain CoA dehydrogenase deficiency: preliminary results <i>F Baronio, F Righetti, I Bettocchi, R Ortolano, G Monti, A Pession, A Cassio</i>
		<b>A-013</b> Ratio C8/C10 as a discriminative predictor for MCADD in NBS <i>E Glab-Jablonska, T Polawski, J Sykut-Cegielska, M Oltarzewski</i>
		<b>A-014</b> Newborn screening may detect inappropriately high protein intake in newborn infants <i>E Maines, G Gugelmo, M Vincenzi, N Camponstrini, F Teofoli, M Camilot, A Bordugo</i>

- A-015** Biotinidase deficiency: evaluation of patients diagnosed with newborn screening  
*M Demirkol, E Cakar, K Bas, M Karaca, C Balci, G Gokcay*

- A-016** Profile of patients with hyperphenylalaninemia followed by the neonatal screening program of Minas Gerais, Brazil  
*V C Kanufre, M R A Alves, R D L Soares, G C Camatta, L M Almeida, C A A Souza, M J B Aguiar, R C Norton, A L P Starling*

#### 04. Dietetics and nutrition

- A-017** Phenylketonuria and obesity in pregnancy: a case study  
*A Guerra, P A Nunes, A Oliveira, D C Gomes*

- A-018** Impact of specific diet therapy on controlling late onset glutaric acidemia type II (a case report)  
*M Ziadlou, M Shakiba*

#### 05. Phenylketonuria: general

- A-019** Does metabolic control influence bone mineral density in adult PKU patients?  
*A Barta, E Kiss, E Simon, A Patocs, P Reismann*

- A-020** Spectrum of *PAH* variants in phenylketonuria patients from the Republic of Moldova and identification of a novel p.M1T missense allele  
*C Boiciuc, C Gemperle-Britschgi, D Sato, N Rimann, D Badicean, D Blanita, V Hlistun, V Sacara, B Thony, N Usurelu*

- A-021** Spectrum and outcome of phenylketonuria (PKU) in India  
*R A Jalan, A B Jalan, K V Kudalkar, D H Shinde, M M Joshi, M A Borugale, S M Shirke, A P Mahamunkar, R J Tawde*

- A-022** Bone mineral density in children, adolescents and young adults with phenylketonuria and hyperphenylalaninemia  
*C A Leiva, V Cornejo, P Bravo*

- A-023** PKU is still late diagnosed in Morocco: urgency to establish a systematic neonatal screening  
*S Dahri, H Talbaoui, Y Kriouile, A Agadr, S Chaouki, L Chabraoui*

#### 06. Phenylketonuria: treatment, BH4

- A-024** The first experience with a BH4 loading test for PKU patients in Kazakhstan  
*D N Salimbayeva, G S Svyatova, A Ormankzyz, G Musabalaeva*

#### 07. Sulphur amino acid disorders

- A-025** Thromboembolic manifestations in classical homocystinuria  
*R Ben Abdelaziz, M Nammouchi, A Ben Chehida, H Hajji, H Boudabous, H Ben Turkia, M S Abdelmoula, N Kaabachi, H Azzouz, N Tebib*

- A-026** Sulfite intrastriatal administration induces mitochondrial dysfunction and alters antioxidant defenses in rat striatum: protective effects of bezafibrate  
*M Grings, A P Moura, B Parmeggiani, L M Alvorcem, R Boldrini, M M Motta, J T Pletsch, G M Cardoso, P M August, C Matte, A T S Wyse, M Wajner, G Leipnitz*

#### 08. Other amino acid disorders

- A-027** The effects of methylphenidate on processing speed and executive functioning in a 12-year-old girl with tyrosinemia type 1: a case report  
*E Raets, F J M Eyskens, A Simons*

- A-028** The multiple faces of lysinuric protein intolerance with a novel mutation  
*E Ozaydin, M Gunduz, D Tural, H Altan, O Unal*

- A-029** Pyroglutamic aciduria: a splice site mutation (IVS9 G>A) in GSS in a Tunisian child  
*E Kerkeni, N Ghedira, R Sakka, H Ben Hmida, K Ben Ameur, M Bizid, N Kaabachi, F Z Chioukh, K Monastiri*

- A-030** Behavioral responses in an animal model of maple syrup urine disease treated with tianeptine  
*G Scaini, F A Morais, H M Abelaira, G Z Reus, J Quevedo, P F Schuck, G C Ferreira, E L Streck*

- A-031** Nonketotic hyperglycinemia: different and atypical manifestations of the disease  
*C Galimberti, A Brambilla, M Pasetti, S Tursi, C Corbetta, V Ravazzani, R Pretese, S Gasperini*

- A-032** Nutritional monitoring of patients with maple syrup urine disease  
*J C C Lopes, V C Kanufre, A F Cruz, T U Maioli, R R Arantes, E R Valadares*

#### 09. Urea cycle disorders

- A-033** Clinical, laboratory data, molecular features and outcome of 14 citrullinemia type 1 patients  
*T Zaman, S H Moarefiān, B Behnam, A Rahmanifar, M Nagel*

- A-034** Autism spectrum disorder as a clinical presentation of undiagnosed urea cycle defects  
*W G Wilson, E D Black*

- A-035** Argininosuccinic aciduria: from identification to management of paucisymptomatic late onset forms  
*S Paquay, B Desnous, M Paviolo, A Imbard, S Pichard, J F Benoit, M Schiff*

- A-036** Identification of three novel mutations in patients with citrullinemia type 1  
*N Arslan, E Kose, O Unal, M Gunduz, J Haberle, S Bulbul*

#### 10. Organic acidurias: branched-chain

- A-037** Different clinical course of two Korean maple syrup urine disease patients with novel mutations of *BCKDHB* gene  
*Y M Kim, Y S Park, S W Nam, G H Kim, H W Yoo, C K Cheon*

- A-038** Influenza A (H1N1) virus-associated acute pancreatitis and posterior reversible encephalopathy syndrome (PRES) in a patient with mut0 methylmalonic acidemia (MMA)  
*O Unal, M Gunduz, N Koc, U Bayrakci, H Genc, A Yaman, D Ademhan*

<b>A-039</b>	Disorders of isoleucine degradation: diagnostic problems in two patients <i>M Sredzinska, D Rokicki, M Pajdowska, D Kozlowski, A Bogdanska, D Piekutowska-Abramczuk</i>	<b>A-050</b>	10-year follow-up of 3 patients with long-chain 3-hydroxyacyl-CoA dehydrogenase deficiency treated with heptanoate <i>M Zlamy, K Pichler, M Michel, S Scholl-Buerghi, D Karall</i>
<b>A-040</b>	Insulin resistant hyperglycemia in methylmalonic aciduria decompensation in a 1-year-old child <i>E Chavez Lopez, S Redecillas, R Lorite, J Ortega Lopez, I Valenzuela, J A Arranz Amo, M Del Toro</i>	<b>A-051</b>	Severe rhabdomyolysis and dilated cardiomyopathy: unusual clinical presentation of primary carnitine deficiency <i>A Madeo, A S Guemann, F Iserin, J B Arnoux, A Brassier, P De Lonlay</i>
<b>A-041</b>	Propionic aciduria with severe decompensation despite normal newborn screening results <i>D Olsson, R H Zetterstrom, R Nergardh, C Heidenborg, S Lajic, A Nordenstrom</i>	<b>A-052</b>	Prenatal findings and autopsy examination in a newborn with multiple acyl-CoA dehydrogenase deficiency <i>Y Yildiz, R Sirma Dokuzboy, B Talim, S Yigit, S Ceylaner, H S Sivri, A Tokatli, T Coskun, A Dursun</i>
<b>A-139</b>	Two patients with neonatal-onset MSUD in Slovakia with different clinical courses <i>Brennerova K, Bzduch V, Behulova D, Skodova J, Krajciova A, Hikellova M</i>	<b>A-053</b>	First Slovak patients affected by two primary defects in mitochondrial energy metabolism <i>D Behulova, M Ostrozlikova, D Holesova, C Sebova, J Saligova, L Potocnakova, M Skoknova, V Bzduch, K Brennerova, J Skodova, J Pereckova, S Dluholucky, M Knapkova, R Gorova, I Ostrovsky, J Lisyova, J Chandoga</i>
<b>11. Organic acidurias: others</b>		<b>A-054</b>	Thermolabile long-chain ketoacyl-CoA thiolase variant of MTP deficiency presenting with a myopathy-only phenotype <i>D S Cole, S Olpin, S Ferdinandusse, S J Moat</i>
<b>A-042</b>	Internal quality control (IQC) of qualitative organic acid analysis using numerics allows improved monitoring <i>G Urbano Blanco, P E Fitzsimons, P D Mayne</i>	<b>A-055</b>	From exercise intolerance to functional improvement: multiple acyl-CoA dehydrogenase deficiency in an adult patient <i>G Kilic Yildirim, S Aydogdu, D Uskudar Cansu, B Erdogan</i>
<b>12. Carbohydrate disorders</b>		<b>14. Mitochondrial disorders: nuclear encoded, disorders of pyruvate metabolism and the Krebs cycle</b>	
<b>A-043</b>	Detection through newborn screening versus clinical symptoms of galactosemia: phenotype and genotype of two cases <i>A Lopez-Uriarte, M R Torres-Sepulveda, A B Hinojosa-Amaya, M C Ruiz-Herrera, E De la Rosa-Marban, A Sanchez-Pena, L E Martinez-Garza</i>	<b>A-056</b>	Neuroradiological findings in children with mitochondrial disorders <i>T Zubarioglu, E Kiykim, M S Cansever, A C Aktuglu-Zeybek, C Yalcinkaya</i>
<b>A-044</b>	Pompe disease and Hirschsprung disease: a case report of a rare association <i>C Kasapkara, F Ozbay-Hosnut, G Evirgen-Sahin, B Ardicli, M Kilic, E Aksoy</i>	<b>A-057</b>	An ethylmalonic encephalopathy case, mimicking meningococcemia <i>M Kilic, O Dedeoglu, S Kesici, R Gocmen, D Yuksel</i>
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<b>A-046</b>	Coexistence of glycogen storage disease type III and haemophilia B in two brothers <i>D F Bulut, B S Yilmaz, D Kor, Y S Shin, G Leblebisatan, G Tumgor, S Gonkek, B Yuksel, H N O Mungan</i>	<b>A-059</b>	Neonatal congenital lactic acidosis with pyruvate carboxylase deficiency in an Omani neonate <i>N AL Hashmi, M Othman</i>
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