



HZB Helmholtz
Zentrum Berlin



Sciencefood

INTERNATIONAL
Recipes by Researchers





Some conversions:

500 g \approx 1 lb (or 4 cups flour)

30 g \approx 1 oz

250 ml \approx 1 cup

175 °C oven \approx 350 °F or gas mark 4

200 °C oven \approx 400 °F or gas mark 6

3 cl = 1 fl oz

40 cl = 1 shot



International specialities recommended by our researchers

Guten Appetit!

कृपया भोजन का आनंद लीजिये!

Buon appetito!

Bon appétit!

Eet smakelijk!

Smacznego!

Jó étvágyat!

Приятного аппетита!

祝胃口好!

Afiyet olsun!

Karibu chakula!

ദയവായി രുചിയോടുകൂടി ഭക്ഷിക്കുക!

Research and cooking can be a thoroughly delightful combination! A good recipe, the right choice of ingredients and a good dose of passion are just as important in cooking as they are in research. In this cookbook, young scientists from around the world recommend traditional specialities from their home countries. Be inspired by this culinary journey across the globe. Happy cooking and bon appétit!



Burcu Kepsutlu is researching how nanoparticles interact with biological materials at the graduate school SALSA.

Burcu Kepsutlu grew up in Balıkesir, a small city on the Aegean Sea in Turkey. Before coming to Berlin, she lived for seven years in Istanbul – a lovely, if somewhat chaotic city. Since October 2013, she has been writing her thesis at the graduate school SALSA of Humboldt Universität and is a guest scientist at HZB. She tries to understand the interaction of different types of nanoparticles with cells via X-ray tomography and compares these results with other imaging techniques. In her spare time, Burcu Kepsutlu likes wandering around the streets of Berlin. She loves the cultural melting pot and enjoys the museums, art, lavish parks and unspoiled nature. From her home country, she has brought back a recipe of fava beans, fresh artichokes and olive oil. “These are typical of Aegean cuisine. The combination of fresh, sun-ripened ingredients makes this dish a real delicacy for me.”



Artichokes Stuffed with Fresh Fava Beans

By Burcu Kepsutlu

Ingredients

500 g or 7–8 pieces of peeled artichokes (fresh or frozen)
500 g fresh fava beans
1 onion, finely chopped
½ bunch spring onions, finely chopped
2 tbsp dried mint flakes or ½ bunch of fresh mint leaves
Juice of 2 lemons
½ cup olive oil
1 bunch of dill, chopped
1 tsp sugar
Salt
1 cup hot water

Heat the oil in a wide saucepan. Add the onions and spring onions and fry gently until soft. Add the fava beans, mint and half of the dill and continue to fry for 3 to 4 minutes, stirring continuously. Then add lemon juice, sugar and a cup of hot water. Next, place the artichokes into the pot with their tips pointing up. Cover the pot with aluminium foil and close the lid. Cook for 25 to 30 minutes on medium heat until the beans are soft. Let the artichokes cool down in the pot before placing them on a plate, then stuff the artichokes with the fava beans. Sprinkle the remaining dill over them and serve cold.

Tip: A perfect accompaniment is yoghurt or garlic sauce.

Afiyet olsun!



Even as a child, **Jaison Kavalakatt** was fascinated with how things work. While he was a student at the Student Lab of HZB, he passed on this enthusiasm for science to countless children. Following his physics studies, Jaison began his PhD thesis at HZB, but continued working at the Student Lab. Only in the last year did he concentrate fully on his thesis. He investigated how zinc oxide nanorods can be combined with kesterites in order to develop low-cost alternatives to conventional photovoltaic materials.

Jaison Kavalakatt was born in Berlin, but swears by traditional recipes from India, the native country of his parents. This Sabola-Motta Curry is quick to prepare from fresh ingredients.

Jaison Kavalakatt has been working at the Student Lab for years, before and during his doctoral studies, to get kids interested in physics.



Sabola-Motta Curry (Onion-Egg Curry)

By Jaison Kavalakatt

Ingredients

- 2 kg onions
- 3 garlic cloves
- 4 tomatoes (or canned diced
pizza tomatoes)
- 1 green capsicum
- 5-10 curry leaves
- Fresh chilli pepper
- 1-2 tsp curry powder
- Chilli powder
- Salt
- Pepper
- 4 eggs

Peel and dice the onions (about 2 × 2 cm cubes). Heat these in a pot and stir regularly until the onions start to go brown. Add finely chopped garlic, curry leaves and the chilli pepper (to taste) and heat. Add 1-2 teaspoons of curry powder, chilli powder (to taste) and a little salt. Dice and add tomatoes and green capsicum. Cook all together until the tomatoes have reduced. Season to taste with salt and pepper. Hard boil the eggs, remove the shells and place them whole into the curry.

Tip: This curry is served with rice. It goes very well with a fresh cucumber salad with yoghurt (raita).

ദയവായി രുചിയോടുകൂടി
ഭക്ഷിക്കുക!



HZB first got to know **Anastasia Irkhina** when she was a summer student. Back then, she was still enrolled in a master's course in Chemistry at the prestigious Lomonosov Moscow State University (MSU). After staying abroad in Greece and Japan to study, she returned to Berlin where she has been doing her PhD since the autumn of 2013 at HZB's graduate school MatSEC. For her thesis, she is researching kesterite nanocrystals. She thoroughly enjoys her work and wishes to help save the resources on Earth. "For me it has always been exciting to meet scientists who, like me, are motivated to develop something new, something unknown," she recounts. Anastasia recommends a Russian classic: A salad with potato, beetroot, pickled cucumber and egg.

Anastasia Irkhina is doing her doctorate at the HZB graduate school MatSEC.



Vinegret Salad

By Anastasia Irkhina

Ingredients

- 6 medium potatoes
- 3 carrots
- 2 beetroots
- 4 pickled cucumbers
- 250 g sauerkraut
- 1 egg
- 60 g onion
- 6 tbsp sunflower oil
- Vinegar (3 %)
- Salt
- Pepper

Carefully wash the vegetables (beetroot, potatoes, carrots) and boil in their skins until tender. Then allow them to cool down. Clean up and cut into small cubes of equal size. While the vegetables are cooking, boil an egg and cut it into pieces. Chop the onions and pour boiling water over them to remove the bitterness. Finely chop the pickles and gently squeeze out excess liquid. Now you can mix all the ingredients together with sauerkraut. Add vinegar, salt, pepper and dress with sunflower oil. You can also substitute some of the sauerkraut with pickled herring.

Приятного аппетита!





Stephan van Duren is from the Netherlands. There, he studied and completed his master's thesis on the impact of metal nanoparticles on thin-film solar cells. The topic interested him so much he decided to do his PhD in this field at HZB. What he likes best is being part of an international team. Everyone is working towards a common goal: to produce highly efficient thin-film solar cells using abundant, non-toxic elements.

One of the many things he likes about Berlin is the diversity of the city. He especially likes Berlin in the summer, when it becomes green and lively. Stephan van Duren mostly enjoys international cuisine. But when he does have a hankering for some Dutch food, then it is for the typical dish "rode kool met hachee".

Stephan van Duren is researching kesterites and enjoys being part of an international team.



Rode kool met hachee

Ingredients

- 2 × 375 g beef/steak
- 50 g butter
- 3 large onions, chopped
- 2 bay leaves
- 4 cloves
- 3 tbsp red wine vinegar
- 1 tbsp apple syrup
- 1 meat bouillon cube
- 1 slice gingerbread, 1 cm thick

By Stephan van Duren

Dry the meat on kitchen towel and cut into large chunks. Cook the meat with butter in a stewpan (medium heat) for 10 minutes until the meat looks brownish. Add the onions for 5 minutes. Add the other ingredients (except the gingerbread) plus 400 ml of water, until the meat is fully covered. Bring to the boil, then turn the fire low. Cover the pan with a lid and let it stew for 2 hours. Occasionally add water if too much evaporates. Next, crumble the gingerbread over the meat and stir it in until it dissolves. Heat for another 5 minutes and add salt and pepper. It tastes best if prepared 1 day ahead and left to stand overnight.

Tip: Serve with red cabbage and potatoes, separately or mixed together.

Eet smakelijk!





Sonya Calnan is developing low-cost methods for photovoltaics at the Competence Centre Thin-Film- and Nanotechnology for Photovoltaics Berlin - PVcomB.

Sonya Calnan grew up in Uganda, where she studied electrical engineering and worked at a local electric company. She developed an interest in solar energy, which could be of huge benefit for Uganda. For her master's degree, she inscribed at FH Aachen in Germany. During her practical training, she discovered that research would be her perfect future profession. She packed her bags and went to Loughborough University in England to earn her degree in electrical engineering. Now, she is working at PVcomB on developing higher efficiency solar cells using low-tech methods.

Sonya Calnan recommends a traditional and light dish from Uganda.

Katogo (with Cassava and Kidney Beans)

By Sonya Calnan

Ingredients

- 500 g cassava (e.g. frozen from an Asian supermarket)
- 250 g red kidney beans from the can (drained weight)
- 1 medium onion, finely chopped
- 1 tbsp tomato paste or one tomato, finely chopped
- 1 tsp curry with high turmeric content (curcuma)
- Chilli powder or one finely chopped chilli pepper
- Salt
- 2 tbsp vegetable oil

Karibu chakula!



Defrost the cassava roots and cut into cubes (2–3 cm a side). Heat the oil, glaze the onions, add the tomato or tomato paste and stir in the curry powder. Let it simmer for a short while. Then add the beans, allow it to simmer for another 2 minutes and then add the cassava cubes. Stir for 3 minutes and then add enough water to cover everything. Let it boil for 10 minutes, then continue to simmer on low heat for 10–15 minutes, until the cassava is soft. Add ghee (clarified butter) to taste and serve.

Tip: Optionally decorate with coriander leaves and serve with passion fruit juice.



Sándor Tóth completed his degree in the “Quantum Phenomena” department and is now working at the Paul Scherrer Institute.

Sándor Tóth grew up in the small Hungarian village Csanytelek, about 150 kilometres south-east of Budapest. But the big wide world called to him. At 19, he began studying physics in Budapest, after which he came to the HZB department “Quantum Phenomena” to do his thesis on magnetic structures in crystals. He conducted his experiments on BER II as well as many other European neutron sources. Now, Sándor Tóth is working as a postdoc at the Laboratory for Neutron Scattering of the Paul Scherrer Institute in Villigen. He recommends a typical Hungarian dish, which originated in the Hungarian plains. It can be eaten as an entree or as a main course.



Hortobágy Palacsinták (Savoury Pancakes)

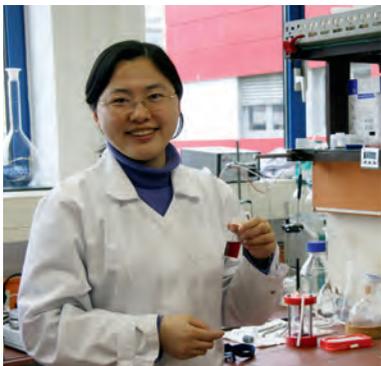
By Sándor Tóth

Ingredients

400 g veal or lean pork
1 large onion
1 green pointed pepper
1 tomato
50 g smoked bacon
Paprika powder
Salt
300 ml sour cream
Salted palacsinta dough

First fry the palacsinta dough into thin pancakes (crêpes). Then prepare the filling (pörkölt): Cut the bacon into small cubes and braise lightly with onions. Add paprika powder. Cut the meat into chunks and add it together with the pointed pepper and tomato, season and cook with the cover on. Next, take the meat out of the sauce and chop it into smaller pieces. Add the sour cream to the sauce and bring to the boil. Now add only enough sauce to the meat to create a spreadable filling. Place this filling onto the palacsinták and fold them up. Place the palacsinták into a casserole and spread the remaining sauce over them. Heat the entire casserole briefly in a preheated oven. Serve 2 palacsinták per person.

Jó étvágyat!



Yan Lu grew up in Wuxi, a city of four million in the east of China. She went to the nearby megacity Shanghai to study. There, she met her first PhD supervisor, a professor from TU Dresden who inspired her to come to Germany. She then moved to Bayreuth and began working with Matthias Ballauff, who came with her to Berlin in 2009. Yan Lu studies polymer colloids and metal nano-composite particles at HZB. She supervises chemistry labs that are also available for guest researchers. In 2011, Yan Lu was awarded the “Dr. Hermann-Schnell-Stipendium” for her work. The researcher is very comfortable in Berlin and enjoys the multiculturalism of the city. She especially likes the greenery and many parks in Berlin and Potsdam. Yan Lu has given us a tasty and easy recipe with lots of vegetables.

Yan Lu is a group leader in the Institute of Soft Matter and Functional Materials and is researching polymer colloids.



Glass Noodles with Vegetables

By Yan Lu

Ingredients

200 g bean sprouts
150 g mushrooms
200 g Chinese cabbage
3 large carrots
1 small zucchini (courgette)
3 eggs
100 g Chinese glass noodles
Oil
Water
Salt

Boil the glass noodles in water for about 10 minutes until they are soft. Wash the carrots, zucchini and Chinese cabbage and cut into strips. Heat some oil in a pan and sauté the carrots and zucchini in it. Then pour on some water and let the vegetables cook until they are nearly done. Next add the Chinese cabbage, mushrooms and bean sprouts, add salt to taste and let the water boil off, until the vegetables have soaked up the sauce. Put the glass noodles in with the vegetables and briefly fry them together. Whisk the eggs together and pour over the dish, wait for it to harden and then give it all one last stir.

祝胃口好!





Jatinkumar Rana is working on the batteries of the future: He is investigating why even the best lithium-ion batteries degrade with every charge cycle. He comes from a small city near Mumbai, India. It was never obvious that he would one day have a scientific career. After school, he learned a metalworking trade and spent two years saving up to study engineering. After completing his bachelor's with distinction, he continued working until he had enough money to do a master's degree. The exemplary student passed the strict qualifying exams at the renowned Indian Institute of Technology Madras without problems. In 2009, he came to HZB to do his PhD and now works as a postdoc in the "Microstructure and Residual Stress Analysis" department. He likes to cook for his family, including this recipe with lots of Indian spices.

Jatinkumar Rana had several hurdles to clear before he could begin his thesis on lithium-ion batteries at HZB.

कृपया भोजन का आनंद लीजिये!

Paneer Butter Masala

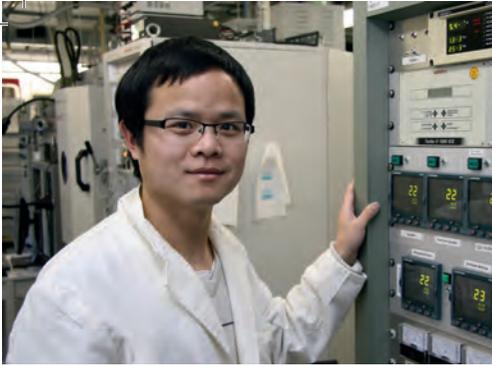
By Jatinkumar Rana

Ingredients

- 5 tbsp butter
- 3-4 onions
- 1 pinch of asafoetida
- 2-3 bay leaves
- 4 cloves
- 2-3 cinnamon sticks
- 1-2 tsp cumin
- 3 cardamoms
- 5-6 puréed tomatoes
- 3-4 green chillies
- 1 tbsp turmeric (curcuma)
- 10 cashew nuts (soaked for 1 hour in milk)
- 1 tbsp grated ginger
- 100 g cream
- 1 EL garam masala powder
- 2-3 tsp fenugreek leaves
- 500 g paneer (curd cheese)
- Coriander leaves



Fry the chopped onions until golden, take them off the stove and work into a paste. Brown the asafoetida, cumin, bay leaves, cloves, cinnamon and cardamoms in butter, add the puréed tomatoes and finely chopped chillies and let simmer for a few minutes. Add in the onion paste and cook until oil starts to escape. Mash the cashew nuts and add some sugar, freshly grated ginger and cream. Then add garam masala and fenugreek leaves and simmer for 3 minutes. Add the diced paneer with $\frac{1}{2}$ cup of water and cook for 12-15 minutes. Decorate with coriander leaves and a little cream and serve with rice or Indian chapatti.



Right up until he started his doctoral thesis, physicist **Guanchao Yin** had not left his home town of Wuhan, a four-million metropolis in central China. Then, at a lecture, he met a researcher from HZB and successfully applied to the Chinese government for a research grant. Since August 2011, he has been researching ultra-thin chalcopyrite solar cells for his thesis. The aim of his group is the reduction of the absorber material whilst maintaining or increasing the efficiency of the solar cells. They follow this aim by integrating optical concepts on the nano- and the micro-meter scales.

Guanchao Yin has got quite used to life in Berlin – and European food, which was very unusual to him at first. Whenever he yearns for a bit of home, he cooks Chinese food – such as this traditional fish recipe from the Yangzi region.

Guanchao Yin from Wuhan is doing his PhD in the Young Investigator Group “Nano-optical Concepts for Photovoltaics”.



Fanned Peacock Tail

By Guanchao Yin

Ingredients

1 medium bream
3 spring onions
1 small piece of ginger
2-3 garlic cloves
1 red capsicum
Salt
White pepper
Soy sauce
Oyster sauce

Clean and prepare a medium-sized bream. Cut the fish into relatively equal, narrow portions without cutting all the way through, so that it can later be spread out like a fan. Marinate in salt, pepper, soy sauce and oyster sauce for 20 minutes. Then season and garnish with onions, capsicum, ginger and garlic. Next, steam for 6 to 7 minutes and then sprinkle with a few more drops of oyster sauce. Cook for another 2-3 minutes until done. Spread the fish out on a plate so that it looks like a fanned peacock tail.

祝胃口好!



When tourists come to Florence, they marvel at the architecture and art. **Fany Di Lorenzo** grew up in this beautiful city – but her eyes truly light up when she talks about soft matter. “We are studying substances here that form the bridge between atoms and the macroscopic objects we can see.” She began her PhD thesis at HZB in 2012, for which she is researching the behaviour of polymer gels. Simultaneously, she is working together with other partners on polymer particles that can be used in blood dialysis. This could help improve the lives of patients with kidney diseases.

In her spare time, she likes to cook for friends. She has revealed one recipe to us here.

Fany Di Lorenzo is studying polymer gels for diverse applications.



Pastry Filled with Pears, Gorgonzola and Walnuts

By Fany Di Lorenzo

Ingredients

500 g flour
300 ml water
15 g fresh yeast, or
3.5 g dry yeast
1 tbsp sugar
1 level tsp salt
2 pears
150 g gorgonzola cheese
100 g walnuts
1 EL olive oil

Buon appetito!

Mix the flour, half of the water, yeast, sugar and salt together until the mixture has a stiff consistency. Add the remaining water and mix until the dough is no longer sticky. Knead, pound and roll the dough thoroughly for 5 minutes until it has become elastic, then sprinkle it with flour and leave it to rise in a container covered with cling film in a warm, humid, draught-free place for at least 30 minutes.

In the meantime, chop the walnuts into somewhat small pieces, dice the pears and gorgonzola and mix together. Once the dough has about doubled in volume, knead out the air and then roll it out. Brush olive oil over the dough. Now place all the filling into the middle of the dough and wrap it up. Let it sit for another 30 minutes and then carefully slide it onto a baking tray dusted with flour and into the oven. Bake at 200 °C for about 30 minutes.



Marika Letilly was at Helmholtz-Zentrum Berlin for two years. Born in France, she studied physics, chemistry and materials sciences in Nantes before working as a postdoc at the Institute for Solar Fuels. There, she did her research on nano-emitter solar cells – photoelectrochemical cells in which light splits water into hydrogen and oxygen. Now the open-minded physicist has moved on to Munich, where she has started an entirely new career: as a patent examiner at the European Patent Office.

Marika Letilly has brought us a recipe from her homeland Brittany: Crêpe caramel au beurre salé. This filling with sea-salted butter, cream and caramel is very popular in France.

Marika Letilly worked as a postdoc at the Institute for Solar Fuels and is now a patent examiner.



Crêpe Caramel au Beurre Salé

By Marika Letilly

Ingredients

For the crêpes:

- 200 g flour
- ¼ tsp salt
- 3 eggs
- 300 ml milk
- 50 ml mineral water
- 50 g butter

For the filling:

- 180 g cane sugar
- 100 g butter with sea salt crystals
- 250 ml cream
- Small pinch of fleur de sel

The crêpes: Beat the ingredients for the pancake batter together in the given order until frothy. Allow the batter to sit for 1 hour in the refrigerator. Grease a flat pan using kitchen towel soaked in sunflower oil. Pour appropriate portions of the batter into the pan and brown the crêpes slowly.

The filling: Heat the sugar in a pan on medium heat until it caramelizes and becomes slightly brown. Take the pan off the heat and gradually mix pieces of the salted butter into the caramel. Then add a pinch of fleur de sel. Next, place the pan back onto the heat and very slowly mix the cream into it. While stirring, bring to the boil until the cream combines with the caramel. Now let it cool down before filling the caramel mix into the crêpes.

Tip: This dish tastes best with a “bolée de cidre”.

Bon appétit!





Sandra Pühringer worked as a post-doc at the Joint Berlin MX-Lab and is now at the University of Salzburg.

When she was a teenager, **Sandra Pühringer** wanted to become an archaeologist. But then she discovered her love of genetics. After her studies at the University of Salzburg, she got her PhD in structural biology. With her doctorate in the bag, the biologist looked around for a new challenge and landed at the Joint Berlin MX-Lab. She received a prestigious Erwin-Schrödinger grant for her research. Sandra Pühringer particularly enjoyed the contact with external users of the HZB MX beamlines. In 2013, she returned to Austria to work in the Molecular Biology department at Salzburg University.

Sandra Pühringer learned how to cook from her grandma, including how to make Kaiserschmarrn mit Zwetschenröster. There are countless recipes for this – Sandra Pühringer swears by this one.



Kaiserschmarrn mit Zwetschenröster

By Sandra Pühringer

For two people

Ingredients for the Kaiserschmarrn

150 g flour
3 eggs
30 g sugar
Pinch of salt
Milk as required
Cooking fat

Ingredients for the Zwetschenröster

1 kg plums
10 g sugar
 $\frac{1}{8}$ l water
2 cloves
1 cinnamon stick
Juice and zest of one lemon



Kaiserschmarrn: Separate the eggs. Mix the egg yolk with flour, sugar, salt and enough milk to make a thick batter. Beat the egg whites until stiff and fold them into the mix. Heat ample cooking fat in a pan and pour in the dough to the thickness of a finger. Fry on both sides until brown, use 2 forks to pull it apart into small pieces and briefly fry until done. Sprinkle with sugar and keep warm.

Zwetschenröster: Bring water and spices to the boil, add the plums and boil while stirring until the plums are half falling apart.

Guten Appetit!



As a child, **Karol Palczynski** wanted to reach for the stars. This dream became a reality for his diploma thesis at the DLR Institute of Planetary Research, where he embarked on the search for life-harboring extrasolar planets. On the computer, at least: The physicist has been working on theoretical models ever since. He is now doing his PhD in the Collaborative Research Centres “HIOS” (Hybrid Inorganic/Organic Systems for Opto-Electronics), in which the Humboldt-Universität zu Berlin and HZB are collaborating among others. His current models are helping to improve our understanding of hybrid inorganic-organic systems.

Karol Palczynski came from Poland to Germany when he was three years old. He has brought with him a recipe for a delicious, fluffy cake that is quick to prepare.

Karol Palczynski is doing his PhD in the Collaborative Research Centres “HIOS” of the Deutsche Forschungsgemeinschaft.



Madeira Cake

By Karol Palczynski

Ingredients

- ¾ glass of flour
- ¾ glass corn flour
- ¾ glass sugar (maximum)
- 250 mg baking margarine
- 5 eggs
- 1 tsp baking powder
- Optional: a couple of drops
of bitter almond essence

Separate the egg yolks from the whites. Blend the margarine and sugar together and then mix in one egg yolk at a time. Mix the flour well with the corn flour and baking powder and add this to the egg mixture. Beat the egg whites until stiff and carefully fold them into the cake mix. Finally, add some bitter almond essence if desired.

Grease the cake pan and dust it with bread-crumbs or semolina before adding the mix. Bake on the middle rack at 175 °C for about 50 minutes.

Tip: The cake becomes especially loose and airy if all ingredients are at room temperature before starting.

Smacznego!



Caipiroska de Kiwi

By Jan-Hendrik Alsmeier

PhD student in the Young Investigator Group
"Interface Design"

Ingredients

- 1 ripe kiwi
- 1 tbsp white sugar
- Ice cubes
- 4–6 cl vodka

Peel a ripe kiwi and place it in a sturdy glass. Crush it with a pestle or spoon. Add sugar and stir together. Fill the glass with ice cubes and add 4–6 cl of vodka.

If the kiwi is not juicy enough, or if you simply prefer, you can add a little water or kiwi juice.

Tip: The fruity variant also works very well with fresh strawberries instead of kiwi.



Cocktails

Submitted for the 2012 Summer Festival

Pineapple Mix

By Jacqueline Höhnsch

Employee in the "Finance and Accounting"
department

Ingredients

1 cl almond syrup
6 cl cranberry juice
12 cl pineapple juice
Ice cubes

Add all ingredients into a shaker with ice and shake vigorously.

Strain into a cocktail glass. Decorate and serve.





Imprint

Helmholtz-Zentrum Berlin für Materialien und Energie GmbH

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Translation: Peter Gregg, PRG Translation; **Design:** Josch Politt, graphilox;

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